Revised Supplemental Phase II Comprehensive Site Assessment Report

Sediments Adjacent to the Former Everett Staging Yard
1 Horizon Way, Everett, Massachusetts

Release Tracking Number (RTN) 3-13341

Submitted by:

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EXECUTIVE SUMMARY

The sediments in a portion of the Mystic River adjacent to the Former Everett Staging Yard property have been impacted by:

- Metals (arsenic, lead, mercury and vanadium) from historical chemical manufacturing processes and operations on the upland portions of the property,
- Phthalates and polychlorinated biphenyls (PCBs) associated with the historical operations on the adjacent Monsanto West property, and
- Low levels of PAHs and petroleum hydrocarbons attributed to other industrial and anthropogenic sources (e.g., stormwater runoff, industrial releases, and shipping-related impacts).

The primary potential human exposure pathway is dermal contact with sediment when wading in the nearshore. Catching and consuming fish which are contaminated with Site-related chemicals is not a significant pathway. A Method 3 risk assessment for sediments concluded that a condition of No Significant Risk exists for human health.

The primary exposure pathways for ecological receptors are direct contact with sediments, incidental sediment ingestion, and consumption of contaminated prey. A previous Stage I Environmental Screening documented a condition of No Significant Risk for exposure to surface water, and No Significant Risk for exposure of birds and mammals to shoreline sediment. A second Stage I Environmental Screening (presented herein) for the Former Everett Staging Yard Site (Release Tracking Number 3-13341) concluded there are potentially significant exposure pathways with respect to the benthic community exposed to sediment. Therefore, remedial actions are necessary to address exposure to impacted sediments by benthic organisms in order to achieve a condition of No Significant Risk.

Remedial actions which are likely to achieve a condition of No Significant Risk and a Permanent Solution based on these goals will be developed and evaluated as part of Massachusetts Contingency Plan (MCP) Phases III and IV. These actions will likely include dredging, capping, or some combination of the two. In order to achieve a Permanent Solution, a condition of No Significant Risk for all chemicals not attributable to local conditions will need to be achieved, and issues associated with survival, growth, and reproduction identified in toxicity tests will need to be addressed.

The purpose of this Revised Supplemental Phase II Comprehensive Site Assessment Report (Revised Phase II Report) is to summarize the site history and site characterization work completed to date, present the Conceptual Site Model (CSM), assess risks to human health and the environment, and define the limits of those areas which could pose a risk. This Revised Phase II Report was prepared in order to address questions raised by the Massachusetts Department of Environmental Protection (MassDEP) with an earlier Supplemental Phase II Report. AMEC Massachusetts, Inc. (AMEC) has prepared this report for Wynn MA, LLC and Everett Property, LLC the current owners of the property on which the Site is located.

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LIST OF ACRONYMS AND ABBREVIATIONS

ACEC	Areas of Critical Environmental Concern
ACO	Administrative Consent Order
ADD	Average Daily Dose
AET	Apparent Effects Thresholds
AMEC	AMEC Massachusetts, Inc.
BEHP	bis(2-ethylhexyl)phthalate
BSS	below sediment surface
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CES	Consulting Engineers & Scientists
CMR	Code of Massachusetts Regulations
CRCRL	Cumulative Receptor Cancer Risk Limit
CRNCRL	Cumulative Receptor Non-cancer Risk Limit
CRNCR	Cumulative Receptor Non-cancer Risk
CRCR	Cumulative Receptor Cancer Risk
CSA	Comprehensive Site Assessment
CSF	Cancer Slope Factor
CSM	Conceptual Site Model
DDT	dichlorodiphenyltrichloroethane
DEQE	Department for Environmental Quality Engineering
DO	Dissolved Oxygen
DPH	Department of Public Health
ELCR	Excess Lifetime Cancer Risk
EPC	Exposure Point Concentration
EPH	Extractable Petroleum Hydrocarbons
ERC	Environmental Risk Characterization
ER-L	Effect Range-Low
ER-M	Effects Range-Median
ES	Environmental Screening
ESS	ESS Laboratory
FBT	FBT Everett Realty, LLC
ft	feet
GEI	GEI Consultants, Inc.
GZA	GZA GeoEnvironmental, Inc.
HEAST	Health Effects Assessment Summary Tables

HHRA	human health risk assessment
HI	hazard index
HQ	hazard quotient
IRA	Immediate Response Action
IRIS	Integrated Risk Information System
ISCR	In-Situ Chemical Reduction
MassDEP	Massachusetts Department of Environmental Protection
MBTA	Massachusetts Bay Transit Authority
MCA	Menzie-Cura & Associates, Inc.
MCP	Massachusetts Contingency Plan
mg/Kg	milligrams per kilogram
mg/L	milligrams per liter
MNA	monitored natural attenuation
Monsanto	Monsanto Chemical Company
Mystic Landing	Mystic Landing, LLC
NAVD88	North American Vertical Datum of 1988
NCEA	National Center for Environmental Assessment
NOAA	National Oceanic and Atmospheric Association
NOR	Notice of Responsibility
O'Donnell	O'Donnell Sand & Gravel, Inc.
OEHHA	Office of Environmental Health and Hazard Assessment
OHM	oil and/or hazardous materials
OHMPC	oil or hazardous material of potential concern
O&M	operation and maintenance
ORNL	Oak Ridge National Laboratories
ORP	oxidation-reduction potential
PAH	polycyclic aromatic hydrocarbons
PCB	polychlorinated biphenyls
PID	photoionization detector
PPRTV	Provisional Peer-Reviewed Toxicity Values
QA/QC	quality assurance/quality control
RAF	Relative Absorption Factor
RAM	Release Abatement Measure
RAO	Response Action Outcome
RCRA	Resource Conservation and Recovery Act
RfDs	Reference Doses

RTN	Release Tracking Number
SC	specific conductance
SVOC	semi-volatile organic compounds
TOC	total organic carbon
USEPA	United States Environmental Protection Agency
USFWS	The US Fish and Wildlife Service
USGS	United States Geological Survey
UST	underground storage tank
UTM	Universal Transverse Mercator
VOC(s)	volatile organic compound(s)
Wynn	Wynn MA, LLC and Everett Property, LLC
Wehran	Wehran Engineering Corporation
Williams	Williams Environmental Services, Inc.
WQB	water quality benchmark

1.0 INTRODUCTION

1.1 Purpose and Scope

AMEC Massachusetts, Inc. (AMEC) has prepared this Revised Supplemental Phase II Comprehensive Site Assessment Report (herein "Revised Phase II Report") for the Mystic River sediment portion the Former Everett Staging Yard Disposal Site (the "Site"). The Site, which includes both uplands and a portion of the Mystic River, is identified by Release Tracking Number (RTN) 3-13341. This Revised Phase II Report was completed for Wynn MA, LLC and Everett Property, LLC (collectively, "Wynn") the current owners of the property on which the Site is located.

A 2012 Phase II Report prepared by GEI Consultants, Inc. (GEI), which included a 2006 Ecological Risk Characterization completed by Menzie-Cura & Associates, Inc. (MCA), concluded that the sediments adjacent to the property located at 1 Horizon Way in Everett had been impacted by releases from historical chemical manufacturing processes and operations and posed a potential risk to benthic invertebrates (GEI, 2012; MCA, 2006). In December 2015, GZA GeoEnvironmental, Inc. (GZA) submitted a Supplemental Phase II Report (the "GZA Supplemental Phase II Report") which contained the results from an extensive sampling program as well as an updated Site boundary and risk characterization (GZA, 2015b). In May 2016, the Massachusetts Department of Environmental Protection (MassDEP) issued a letter outlining a number of questions it had regarding the Supplemental Phase II Report and requesting additional assessment and/or data review (MassDEP, 2016b, 2016c).

AMEC has prepared this Revised Phase II Report on behalf of Wynn in order to order to address MassDEP's concerns.

1.2 Report Organization

This Revised Phase II Report summarizes the site history and site characterization work completed to date, presents the Conceptual Site Model (CSM), and assesses risks to human health and the environment. The format of this report closely follows that of the 2015 GZA Supplemental Phase II Report, and relies heavily on information presented therein. This Revised Phase II Report also meets the specific requirements for a Phase II Report outlined in the Massachusetts Contingency Plan (MCP) at 310 CMR 40.0835.

The remainder of this Revised Phase II Report consists of the following sections:

- Section 2: Background – Presents the site description, an expanded site history (ownership, operations, and releases), and a discussion of regulatory history and status.
- Section 3: Field Investigations - Presents a brief summary of previous site investigations (2005-2007) and those conducted by GZA in 2013-2015. Section 3

includes information previously presented in Sections 2.2 and 3.0 of the GZA Supplemental Phase II Report.

- Section 4: Conceptual Site Model - Presents a new discussion of sources and release mechanisms, migrations pathways, and potential exposure routes.
- Section 5: Local Conditions and Site Boundary – Describes development of local conditions database, selection of Site-related chemicals of concern and determination of the extent of contamination in sediments. This replaces the discussion in Section 4 of the GZA 2015 Supplemental Phase II Report.
- Section 6: Ecological Risk Characterization – Documents the updated evaluation of risk to the environment. This replaces the discussion in Section 5 of the GZA Supplemental Phase II Report.
- Section 7: Human Health Risk Characterization – Documents the updated evaluation of risk to human health. This replaces the discussion in Section 6 of the GZA Supplemental Phase II Report.
- Section 8: Delineation of Area Posing a Risk – Identifies the portion of the property which poses a risk based on Site-related chemicals. This replaces the discussion in Section 5 of the GZA Supplemental Phase II Report.

Supporting data are provided in figures, tables, and appendices referenced throughout the report.

2.0 BACKGROUND

2.1 Site Location and Locus Map

For the purposes of this report, the "property" refers to the combined areas of land and water which are currently owned by Wynn and are located at 1 Horizon Way in Everett and an unnumbered parcel on Alford Street in Boston (**Figure 1**). The Wynn property encompasses approximately 35 acres, which includes an upland portion (approximately 22 acres) and a portion of the adjacent Mystic River to the southwest (approximately 13 acres). The approximate latitude and longitude for the Site are 42.39 degrees north and 71.07 degrees west, respectively. The Universal Transverse Mercator (UTM) coordinates are approximately 4,695,650 meters north and 329,600 meters east.

The upland portion of the property is an irregularly shaped, approximately 22-acre parcel of land roughly bounded by Alford Street/Broadway (Route 99) to the east, Massachusetts Bay Transit Authority (MBTA) railroad tracks to the west, an MBTA bus repair and maintenance facility to the north, and the Mystic River to the south. The sediment portion of the property in the Mystic River consists of an approximately 13-acre embayment of the Mystic River which is bounded to the northwest and north by the upland portion of the property and to the northeast and east by the Boston Water and Sewer Commission's Material Handling Facility (180-220 Alford Street).

Under the MCP, a "site" is an area or place from or at which a release of oil and/or hazardous materials (OHM) has occurred or exists.[1] A "disposal site" is the place or area where an "uncontrolled release" of OHM from a site has come to be located.[2] For the purposes of this report, the "Site", or more formally the Former Everett Staging Yard Disposal Site, includes the uplands where chemical manufacturing occurred and the portion of the sediment in the Mystic River which has been impacted by chemicals from the uplands.

Figure 2 is a detailed plan for the sediment portion of the property and depicts physical features, and sampling locations. The Site boundary in the Mystic River, which encompasses those areas where Site-related chemicals of concern have been detected at concentrations higher than local conditions, is discussed in Section 5 of this report.

2.2 Disposal Site History

A detailed history of the Site was included in a 2007 Phase II CSA Report prepared by Tetra Tech Rizzo (formerly Rizzo Associates) and in GEI's February 2012 Phase II CSA Report. Tetra Tech Rizzo's Site history was developed based on a review of Sanborn Fire Insurance maps, Registry of Deeds maps and documents, aerial photos, and other sources (Tetra Tech Rizzo, 2007). The

[1] 310 CMR 40.0006
[2] 310 CMR 40.0006

following is an abbreviated summary of key Site information as it pertains to the Mystic River sediment portion of the Site.

2.2.1 Ownership History

The Site is a portion of a larger property which was used by various chemical companies, including Cochrane Chemical Company, the Merrimac Chemical Company, and the Monsanto Chemical Company (Monsanto), from the 1860s until the late 1960s. These same companies also had operations on an adjacent property (referred to as "Monsanto West") which has since been redeveloped as the Gateway Center (response actions for that property were handled under RTNs 3-0313, 3-4200, and 3-4425). The buildings associated with chemical manufacturing at the Site were demolished in the late 1960s and 1970s. According to Tetra Tech Rizzo (2007), the Site was generally vacant by about 1980.

According to a 1997 Phase I Initial Site Investigation prepared by Consulting Engineers & Scientists (CES), Boston Edison acquired the property from Monsanto (no date given for the purchase). O'Donnell Sand & Gravel, Inc. (O'Donnell) acquired the property in the 1990s and used it as a storage area for equipment and excavated rock and tunnel muck from the construction of the Deer Island Outfall project (Tetra Tech Rizzo, 2007; GEI, 2012). Mystic Landing, LLC (Mystic Landing) acquired the Site from O'Donnell Sand & Gravel, and leased the property to Modern Continental Construction Co., Inc. as a materials and equipment laydown yard for the Central Artery Project (TetraTech Rizzo, 2007; GEI, 2012). FBT Everett Realty, LLC (FBT) purchased the property from Mystic Landing in 2009 (GEI, 2012). Wynn purchased the property from FBT in January 2015.

2.2.2 Operation History

Facilities operated by the Cochrane Chemical Company on the property included a boiler house, carpentry shop, and "lead storage house" from the late 1800s until at least 1903 (Tetra Tech Rizzo, 2007). Based on Tetra Tech's review of information available through the Registry of Deeds, several permits were issued to fill the present day central and southern portions of the Site with dredged material. Additional filling of the Site occurred from 1910 to 1935, with the present day limits of the upland portion of the property being roughly established by 1935 (Tetra Tech Rizzo, 2007). Fill material may also have included waste material from chemical production and manufacturing. A 1993 sketch of the Merrimac Chemical Company operations indicated buildings on the property were being used for storing or manufacturing sulfuric acid, sodium bisulfate, and ferric sulfate (CES, 1997). In addition, this sketch indicates the presence of an alum mud pond, a 35-foot high sulfur pile and a 30-foot high pile of pyrite cinders. A docking facility was located at the southern end of the Site adjacent to the large piles of materials.

Monsanto had acquired the property by 1943, and by 1950 was conducting large-scale chemical production on it. A 1950 Sanborn Fire Insurance map reviewed by Tetra Tech Rizzo[3] showed:

- numerous sulfuric acid tanks in the southwestern portion of the Site;
- alcohol production, including several large storage tanks for molasses, by the New England Alcohol Company in the central portion of the Site; and
- Monsanto administration buildings and laboratories in the northern portion of the property.

At the same time, operations on the Monsanto West property involved the manufacture and storage of phthalate ester plasticizers, polymeric plasticizers, and Therminol (an oil containing polychlorinated biphenyls, or PCBs). The buildings associated with chemical manufacturing on the property were demolished in the late 1960s and 1970s. According to Tetra Tech Rizzo (2007), the property was generally vacant by about 1980.

Beginning in the mid-1990s, the property was primarily used for material storage and as a construction staging yard (Tetra Tech Rizzo, 2007; GEI, 2012) with an office trailer complex, storage and maintenance garage, and miscellaneous storage sheds. According to GZA, the majority of the structures and materials associated with the laydown yard had been removed and the property was largely vacant at the time of Wynn's acquisition of the property from FBT (GZA, 2016a).

2.2.3 Release History

No specific discrete releases have been reported or documented at the Site. Releases to the upland and river portions of the Site likely occurred sporadically over the more than 100 year period of chemical manufacturing on the Site. As first noted by Tetra Tech Rizzo (2007), the highest concentrations of potentially Site-related chemicals have been measured in areas along the embayment and shoreline where materials were historically loaded and unloaded. Releases to the sediment may also have continued after chemical manufacturing ended due to the erosion of contaminated soil from the upland portion of the Site, and discharge of potentially contaminated groundwater through the sediments in the cove.

2.2.4 Regulatory History and Status

O'Donnell submitted the initial notification of a release to MassDEP in January 1996 based on the presence of elevated concentrations of certain metals and petroleum hydrocarbons in soil as well as areas of low pH. CES filed a Phase I Initial Site Investigation and Tier Classification (classifying the Site as Tier II) on behalf of O'Donnell in January 1997 (CES, 1997). No additional MCP Phase reports were submitted on behalf of O'Donnell resulting in multiple missed MCP compliance deadlines.

[3] The Sanborn maps were not included in the Tetra Tech Rizzo report. Only a discussion of what was observed.

Following Mystic Landing's purchase of the property in 2001, additional subsurface and sediment investigations were completed under Tetra Tech Rizzo and a Phase II Report was submitted in December 2007. According to Tetra Tech Rizzo, Mystic Landing was unable to meet MCP deadlines as "[m]*uch of the surface of the Site was not accessible, as it was covered with construction equipment and materials.*"[4] Therefore, Tetra Tech Rizzo proposed a modified schedule for completing the Phase III and IV Reports as well as achieving a Response Action Outcome (RAO) or entering Remedy Operation Status by October 31, 2008.[5]

FBT purchased the property in October 2009 and in February 2010 GEI filed an Eligible Person Certification and Revised Tier II Classification on FBT's behalf (GEI, 2010). This filing re-established MCP compliance deadlines which were set out in a 2010 Notice of Responsibility (NOR) issued by MassDEP. In February 2012, GEI submitted a Phase II CSA along with a Notice of Delay for the Phase III and IV reports which attributed the delays to a property access dispute (GEI, 2012). FBT subsequently submitted additional Notices of Delay as the selected remedial approach could vary depending on whether the construction of casino on the property was approved (MassDEP, 2014b). On June 10, 2014, FBT and MassDEP entered into an Administrative Consent Order (ACO) establishing revised deadlines for the Phase IV Report and RAO (MassDEP, 2014b).

Wynn purchased the property in January 2015 and in February 2015 an Eligible Person Certification and Revised Tier II Classification were submitted by GZA on Wynn's behalf (GZA, 2015a). This document included a "Supplemental Sampling and Analysis Plan" outlining an extensive sampling program to refine the Site boundary (GZA, 2015a). MassDEP issued a NOR in March 2015 which established interim deadlines for supplemental Phase II and Phase III reports for the Mystic River portion of the property[6]. In December 2015, GZA submitted a Supplemental Phase II Report which contained the results from the sediment sampling program as well as an updated Site boundary and risk characterization. In May 2016, MassDEP issued a letter outlining a number of concerns they had with the Supplemental Phase II Report and requesting additional assessment and/or data review (MassDEP, 2016b and c). This letter also established interim deadlines for submittal of a Revised Phase II Report, Phase III and Phase IV reports, and a Permanent or Temporary Solution or Remedy Operation Status. MassDEP supplied additional comments via email (MassDEP, 2016d) subsequent to a meeting between MassDEP, Wynn, and GZA in June 2016 and GZA's submittal of a sediment CSM (GZA, 2016a).

In September 2016, Wynn proposed an alternative approach to characterizing the Site and potential risks and supplied additional information requested by MassDEP (Wynn, 2016). On November 18, 2016, MassDEP, Wynn, GZA, and AMEC met to discuss the status of the project and agreed upon an approach which would allow the project to move forward (MassDEP, 2016e). This Revised Supplemental Phase II Report has been prepared to respond to MassDEP

[4] Tetra Tech Rizzo, 2007; p. 4.
[5] Tetra Tech Rizzo, 2007; p. 4.
[6] As well as a deadline for either a Permanent Solution, Temporary Solution, or Remedy Operation Status. See MassDEP, 2015 p. 2.

comments and provide an approach to Site assessment and closure that eliminates the causes of MassDEP's concerns.

3.0 FIELD INVESTIGATIONS

This section summarizes information previously presented in presented in Section 2.2 (Previous Environmental Investigations) and Section 3 (Field Investigation) of the GZA' Supplemental Phase II Report (GZA, 2015b).

3.1 Previous Site Investigations (2005-2007)

From December 2005 through May 2007, sediment samples were collected from 19 sampling locations in the Mystic River adjacent to the property by MCA, Tetra Tech Rizzo, and Williams Environmental Services, Inc. (Williams). These investigations are described in detail in Tetra Tech Rizzo's 2007 Phase II Report. Summaries of these investigations were also included in GEI's 2012 Phase II Report and the GZA Supplemental Phase II Report. GEI used the data from these investigations to infer the limits of contaminated sediments associated with the Site as depicted on Figure 2 in the 2012 GEI Phase II Report.

Sediment samples were analyzed for various chemical constituents, including Resource Conservation and Recovery Act (RCRA) 8 metals, semi-volatile organic compounds (SVOCs), extractable petroleum hydrocarbons (EPH) with target polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), and volatile organic compounds (VOCs) by Alpha Analytical, Inc. (Alpha, formerly Alpha Woods Hole Laboratory). Some samples were also analyzed for sediment grain size distribution. MCA also collected three sediment samples in the river approximately 1.3 miles downstream of the Site to "*…assess the concentrations of contaminants in 'local conditions'*."[7] These samples were analyzed for MCP 14 metals, PAHs, total organic carbon (TOC) and grain size.

MCA also submitted eight sediment samples (five from the property and three local conditions samples) to Springborn-Smithers Laboratories in Wareham, Massachusetts for 28-day toxicity tests for survival, growth (biomass), and reproduction using the marine amphipod *Leptocheirus plumulosus.* According to MCA's Stage I Environmental Screening and Stage II Environmental Risk Characterization, four of the five samples from the property showed significantly reduced survival, growth, or reproduction relative to the local conditions samples. MCA also collected soft-shell clams (*Mya arenaria*) for tissue analyses and determined that arsenic and copper exceeded the levels associated with adverse toxicological effects to benthic invertebrates. Based on the results of these two lines of evidence, MCA concluded that OHM in the sediment presented a significant risk of harm to benthic invertebrates.

[7] MCA used the following criteria to determine where the local conditions samples were to be collected: located on the Mystic River, not in a dredged channel, sediment types representative of those found at the site, and not located near any point sources of contamination. See page 21 of MCA's 2006 Stage I Ecological Screening and II Environmental Risk Characterization for more details.

In 2006, MCA also collected general water quality measurements (temperature, specific conductance, dissolved oxygen (DO), and pH) and concluded that surface water was not a significant exposure pathway.

3.2 GZA Investigations (2013-2015)

GZA performed a sediment coring and sampling program in August 2013 and March-April 2015. GZA also sampled surface water and groundwater seeps in May 2015. These programs were previously described in detail in the GZA Supplemental Phase II Report (GZA, 2015b). As this Revised Phase II Report relies heavily on the data collected by GZA, a brief summary of GZA's sampling programs is presented below. Copies of GZA's laboratory analytical reports and sediment core logs are included in **Appendices A to F**.

3.2.1 Surface Water and Groundwater Seep Sampling

3.2.1.1 Methods

Four near-shore surface water (SW) samples and two groundwater seep samples (SWS) were collected form the intertidal zone on May 21 and 22, 2015 (**Figure 2**). Surface water and seep samples were analyzed for SVOCs, PAHs, EPH fractions, dissolved MCP 14 metals, and hexavalent chromium by ESS Laboratory (ESS). The analytical laboratory reports for the surface water and groundwater seep samples are presented in **Appendix A**. Field parameters (temperature, pH, DO, conductivity, and turbidity) were also measured at each sample location.

3.2.1.2 Results & Interpretation

Table 1 (originally presented in GZA, 2015b) shows field parameters measured at each surface water and groundwater seep sampling location. **Table 2A** (originally presented in GZA, 2015b) summarizes analytical results for SVOCs, and **Table 2B** (originally presented by GZA, 2015b) summarizes results for dissolved metals and EPH along with surface water quality benchmarks (WQBs). The concentration of arsenic in one groundwater seep (SWS-3) was above the WQB; however, the concentration in the nearby surface water sample (SW-3) was below the WQB. Therefore, GZA concluded "*…arsenic is diluted to concentrations below toxic levels upon discharge to surface water, and this mitigative effect is likely to be more pronounced during high tide.*"[8] Concentrations of SVOCs and PAHs in the surface water and groundwater seep samples were below WQBs. EPH fractions were detected in only two samples, SWS-3 and SW-6, and at concentrations above WQBs. GZA concluded that these detections were likely due to particulates in the samples and therefore were not considered toxic[9]. AMEC agrees with this conclusion.

[8] GZA, 2015b p. 11.
[9] GZA, 2015b p. 11.

3.2.2 Sediment Sampling

3.2.2.1 Methods

GZA performed sediment coring and sampling programs in August 2013 and March-April 2015. Approximately 200 sediment samples from 60 locations were collected from within and upstream of the Site on an approximately 100-foot grid pattern (locations denoted as "GZ-101 to GZ-140 and GZ-201 to GZ-226 on **Figure 2**)**.**

In addition, GZA collected samples from the Mystic River channel upstream and downstream of the Amelia Earhart Dam at the locations shown on **Figure 3**. These samples were collected as part of GZA's efforts to characterize local conditions. The samples from the upstream locations (GZ-LC-1 through -10 on **Figure 3**) were not used by GZA in their evaluation as GZA did not consider those locations to be representative of local conditions.[10] As described in Section of this Report, a subset of these samples have been included in an updated local conditions dataset.

GZA collected a sediment core and a grab sample at each sample location. Sediment core logs are included in **Appendix B**. Targeted depth intervals for samples in the sediment cores were 0.5 to 2 feet (ft), 2 to 4 ft, 4 to 6 ft, 6 to 8 ft and 8 to 10 ft below the sediment surface (bss), though not all intervals were characterized at all locations. GZA divided the sediment samples into the following categories based on depth:

- "surficial" = 0 to 0.5 ft bss (grab samples);
- "shallow" = 0 to 2 ft bss (includes samples from both the 0 to 0.5 ft bss and 0.5 to 2 ft bss depth intervals);
- "deeper" = those samples collected at depth intervals greater than 2 ft bss.

Sediment samples were analyzed by ESS Laboratory. Samples were analyzed for SVOCs, PAHs, EPH fractions, MCP 14 metals, and total organic carbon (TOC), though not all samples were analyzed for all targeted compounds.[11] The analytical laboratory reports for the chemical analyses of sediment samples are presented in **Appendix C**.

Grain size sieve analyses were also performed for 62 of the sediment samples collected during the 2013 sampling round. Laboratory reports for the sieve analyses are presented in **Appendix D**.

Six samples from the property collected in 2013 and nine samples collected from the property in 2015 were subjected to 28-day whole sediment toxicity tests with the same marine amphipod (*Leptocheirus plumulosus)* used by MCA in the previous toxicity testing[12]. As with the MCA

[10] GZA stated "Because most of the 2013 upstream sample locations were in close proximity to other former MCP release sites, and several of the samples were highly contaminated, GZA was concerned that those samples may be within the boundaries of other MCP Sites and not representative of Local Conditions. GZA, 2015b, p. 13.
[11] GZA justified this approach as providing "general data coverage within the study area and at various depths." GZA, 2015b; p. 13.
[12] In 2015, GZA also performed toxicity test on three samples originally identified as local conditions samples (LC-102, LC-105, and LC-112). However, as described in Section 5 these samples have subsequently been removed from the local conditions dataset.

toxicity tests, endpoints were amphipod survival, growth (biomass), and reproduction. Sediment toxicity testing was performed by New England Bioassay of Manchester, Connecticut, a division of GZA. According to GZA, "[s]*amples used for toxicity tests were 'co-located' with chemical analysis samples; the samples for chemical analyses and toxicity tests were field split samples collected from the same mixing bowl after homogenization.*"[13] Laboratory reports for these toxicity tests are included in **Appendix E**.

In 2015, GZA also collected samples from 18 locations (GZ-1 through GZ-18 on **Figure 2**) from the eastern portion of the embayment in the 0-3 ft interval to support a 401 Water Quality Certification application for proposed navigational dredging. These samples were analyzed for SVOCs, PAHs, EPH fractions, MCP 14 metals, and total organic carbon (TOC); 13 samples were also analyzed for VOCs. GZA did not include data from those locations in the GZA Supplemental Phase II Report[14] and these data were not further discussed by GZA. AMEC has not used the data in this report as the analytical samples were composites rather than from discrete locations.

3.2.2.2 Results & Interpretation

GZA described the sediments as generally consisting of "*…fine-grained material with varying amounts of organics* [i.e., organic sediments]. *The material within about 0 to 5 feet bss was predominately clayey silt with varying amounts of organics. Below about 5 feet bss sediments were typically stratified layers of sand and silt, with some locations containing organic silt and clay*."[15]

Table 3A – Table 3E (originally presented in GZA, 2015b) summarize the analytical data for the sediment samples along with sediment screening benchmarks for the protection of benthic organisms in marine environments. The primary source of the sediment benchmarks were the Effect Range-Low (ER-L) and Effects Range-Median (ER-M) values developed by Long *et al.* (1995). If an ER-L or ER-M was not available for a contaminant, GZA consulted other sources of comparable marine sediment benchmarks published by regulatory agencies or otherwise available in the scientific literature. The table notes cite the sources of the sediment benchmarks used by GZA.

Table 4A (originally presented in GZA, 2015b) and **Table 4B**[16] (modified from Table 4B originally presented in GZA, 2015b) summarize the results of the 2013 and 2015 toxicity tests, respectively. None of the 2013 samples resulted in statistically significantly lower survival rates compared to the lab control (**Table 4A**). Four of the six samples resulted in reduced biomass compared to the lab control (GZ-104, GZ-114, GZ-126, and GZ-137; **Table 4A**). Each of the six samples exhibited statistically significant reproductive impairment relative to the lab control. Therefore, GZA

[13] GZA, 2015b; p. 15.

[14] "*Sediment represented by those samples will be dredged for navigation regardless of whether they present a risk to the environment…"* GZA, 2015b; p. 12.

[15] GZA, 2015b; p. 14.

[16] Table 4B has been modified from what was presented in the GZA Supplemental Phase II Report to remove comparisons to local conditions samples. This was done as the local conditions dataset has changed as discussed in Section 5 of this report.

considered each of the 2013 samples to exhibit toxicity. As discussed in Section 6, AMEC's ecological risk characterization did not require the use of the toxicity test results.

As shown on **Table 4B,** survival in both the artificial and natural laboratory control sediments in 2015 was below 80%, which is outside the permissible test tolerance limits (USEPA, 2001). Low survival rates in the lab control may suggest that the test specimens were unhealthy or otherwise defective, or that they were improperly handled by the lab. In AMEC's opinion, this calls into question the validity of the survival, growth, and reproduction measurements of the remaining Site samples. As discussed in Section 6, AMEC's ecological risk characterization did not require the use of the toxicity test results.

4.0 CONCEPTUAL SITE MODEL

4.1 Potential Sources and Release Mechanisms

4.1.1 Site-Related Sources

The Site includes both an upland area and sediments in the Mystic River. The upland portion consists of approximately 22 acres above mean high water. This area was the location of chemical manufacturing facilities (primarily sulfuric acid and alcohols) for over 100 years. Portions of the upland property were also filled at various times with dredged materials (and potentially manufacturing wastes) which resulted in the current configuration[17]. Chemical manufacturing operations began in the 1800s and continued through the late 1960s. The buildings were demolished in the late 1960s and 1970s and the property was generally vacant by about 1980. Beginning in the mid-1990s the upland areas were used as a material storage and staging yard. Remediation of the upland portion of the Site is currently being conducted under a Release Abatement Measure (RAM).

Historical manufacturing operations and processes resulted in the release of metals (e.g., arsenic, lead, and vanadium) to the upland portion of the Site, evidenced by the presence of impacted subsurface soil (e.g., the CES-2 Area shown on **Figure 2**). Based on historical information, specific metals of concern are arsenic, lead and vanadium:

- A material used to dry sulfur during on-Site sulfuric acid production reportedly contained arsenic,
- A "lead storage house" formerly occupied a portion of the Site, and
- Vanadium was widely used as a catalyst in the production of sulfuric acid beginning in the 1930s.

In addition, the production of sulfuric acid on the upland portion of the Site resulted in areas of low pH in groundwater (**Figure 2**).

Spillage during loading and unloading of raw materials on and near the water, principally along the northern and northeastern side of the embayment, likely contributed contaminants directly to sediment. As first noted by Tetra Tech Rizzo (2007) and subsequently confirmed by GZA (2015b), the highest concentrations of metals have generally been measured in the northern and northeastern parts of the embayment where materials were historically loaded and unloaded.

[17] Dredging and filling occurred over time and under a number of different licenses. As noted in the Combined 401 Water Quality Certification (MassDEP, 2016a), the last known dredging of the embayment occurred in 1943.

4.1.2 Non-Site Sources

A secondary area of high metals concentrations has been observed along a tidal channel in the flats on the south side of the embayment. This is likely associated with a drain pipe outlet located on Boston Water and Sewer Commission property to the south.

Phthalates and PCBs associated with the historical operations on the adjacent Monsanto West property have also been detected in sediments on the Wynn property. However, the spatial distribution of phthalates and PCBs in sediments is different than that of the metals which are attributed to Site operations. The distribution of phthalates and PCBs is consistent with a different (non-Site) source of these chemicals.

The widespread presence of low levels of PAHs and petroleum hydrocarbons in sediments on the property can, at least partially, be attributed to other industrial and anthropogenic sources (e.g., stormwater runoff[18], industrial releases, and shipping-related impacts). The Mystic River is a very urbanized watershed and the river and adjacent land areas have a very long history of commercial and industrial uses.

4.2 Potential Migration Pathways

Contaminated soils from the upland portion of the Site likely eroded and migrated directly to the Mystic River via overland flow. This migration path is likely to be eliminated in the future due to ongoing remediation and redevelopment of the upland portion of the Site.

Low pH soil has caused metals (released from Site operations and naturally occurring) to leach from the subsurface fill into groundwater which discharges into the Mystic River. Under neutral pH conditions, the migration of metals in groundwater is limited by their low solubility and their tendency to adsorb to soil particles or precipitate out of groundwater. This migration path is likely to be limited in the future due to the recently completed in-situ treatment of soil and groundwater in the low pH area and excavation and off-site disposal of soil from the CES-2 area. Based on the results of surface water investigations performed by MCA and GZA prior to treatment, discharge of impacted groundwater is not significantly or negatively impacting surface water because of dilution.

The embayment has reportedly not been dredged since 1943 which predates the end of chemical manufacturing operations.[19] Sediments within the embayment do not appear to be transported out of the embayment by tidal currents. The low concentrations in sediment on the northern tidal flats (e.g. GZ-125, GZ-129, GZ-130, and GZ-131) compared to concentrations in the channel (e.g., GZ-112, GZ-115, and GZ-117) indicate little to no tidal transport in an upstream direction (towards the dam). The presence of higher concentrations at depth in the channel and close to

[18] For example, historical plans of the property indicate a drain pipe outlet located on the Boston Water and Sewer Commission property to the south and a 36-inch drain leading from the MBTA property to the north.
[19] MassDEP, 2016a; p. 2.

the uplands indicates that the embayment is a depositional area (i.e., sediment from other areas is being deposited on top of the sediment impacted by historical releases related to the Site). This is supported by the relatively narrow range in concentrations observed along the channel bottom (e.g., GZ-117, GZ-119, GZ-121, GZ-123, GZ-128, GZ-134, and GZ-138). If the historic contamination was eroding and being transported into the Mystic River, the contaminant concentrations would increase towards the river (i.e., to the south) and impacted sediment would be expected to accumulated in the deeper hole at the edge of the property (i.e., where GZ-201 is located). However, the analytical data do not support this erosional scenario. Based on the evidence, migration of sediment out of the embayment via natural processes is not expected to have been a significant migration pathway in the past or be one in the future.

4.3 Potential Exposure Routes and Receptors

The primary potential human exposure pathway is dermal contact with sediment when wading in the nearshore. However, access to sediment is partially limited by a fence and bulkhead. Another potential exposure route for humans is the consumption of fish which might have accumulated Site-related chemicals in their tissues. The Massachusetts Department of Public Health (DPH) has placed a P6 fish advisory[20] on fish consumption for the freshwater portion of the Mystic River upstream of the dam (which therefore does not cover the Site). In addition, DPH has separately placed a less stringent advisory for certain marine species within Boston Harbor.[21] While DPH does not appear to have mapped the extent of their definition of Boston Harbor, it is presumed to extend upstream in the Mystic River to the dam. Therefore, it is possible, but unlikely, that humans could be catching and consuming fish which are contaminated with Site-related chemicals.

The Mystic River below the Amelia Earhart Dam serves as habitat for fish, shellfish, benthic invertebrates, waterfowl, and semi-aquatic mammals (GZA, 2015b). The primary exposure pathways for ecological receptors are direct contact with sediments, incidental sediment ingestion, and consumption of contaminated prey.

[20] DPH defines P6 as “no one should consume any fish from this waterbody.” See MassDPH, 2016a.
[21] MassDPH, 2016b.

5.0 LOCAL CONDITIONS AND SITE BOUNDARY

The MassDEP's Guidance for Disposal Site Risk Characterization in Support of the Massachusetts Contingency Plan (MassDEP, 1996) defines "local conditions" as "…*levels of OHM present consistently and uniformly throughout the surface water body, or throughout a larger section of a river that contains the area potentially affected by contamination at or from the site.*"[22] The "local conditions" concept acknowledges that sediments in certain water bodies, particularly those located in industrial urban areas, contain constituents from sources such as other disposal sites, permitted discharges, and non-point sources.

The concept of "local conditions" is fundamental to determining the boundary of contamination from the Site which extends into a highly urbanized and industrialized waterway like the Mystic River. Local conditions represent the point beyond which exposure to potentially Site-related constituents may not be discernible from ubiquitous conditions that would likely exist in the absence of releases from the Site. Therefore, it also represents a point beyond which the incremental Site-related risks may not be quantifiable.

5.1 Development of Local Conditions Dataset

MassDEP guidance states that local conditions samples should be collected from "*Physically similar nearby sections of a river…*"[23] MassDEP has also stated that their preference is for locations which are upstream from the site of interest in order to avoid questions about whether specific chemicals detected in sediment are site-related or not.[24] The presence of the dam upstream from the Wynn property, which separates tidal/non-tidal and freshwater/brackish sections of the Mystic River, complicates the selection of potential local conditions sample locations.

As previously noted, in 2013, GZA collected samples from 10 locations upstream of the Wynn property (both upstream and downstream of the dam) for potential use as a local conditions dataset (locations LC-1 through LC-10 on **Figure 3**). However, for the 2015 Supplemental Phase II Report, GZA ultimately selected 12 different locations in the Mystic River downstream of the dam (locations LC-101 through LC-112 on **Figure 3)** for use as a local conditions dataset. However, MassDEP questioned the representativeness of these local conditions samples that had been collected to date, and requested samples from upstream of the dam and Monsanto West be included in the CSA[25]. MassDEP subsequently provided a report by Wehran Engineering Corporation (Wehran) prepared for MassDEP (then known as the Department for Environmental Quality Engineering, or DEQE) which included chemical concentrations in sediment in the Mystic, Malden, and Island End rivers (Wehran, 1989). A 2005 United States Geological Survey (USGS) report that characterizes sediment quality of lakes, rivers, and estuaries in the Mystic River Basin

[22] MassDEP, 1996. Section 9.4.2.1, p. 9-56.
[23] MassDEP, 1996. Section 9.4.2.1, p. 9-56.
[24] Personal communication from John Fitzgerald (MassDEP) during meeting with Wynn, AMEC, and GZA on November 18, 2016.
[25] MassDEP, 2016d.

(Breault *et al.*, 2005) was also identified. By agreement with MassDEP (MassDEP, 2016e), a local conditions dataset has been developed using a subset of the local conditions samples collected by GZA, and supplemented with selected data from the Wehran and USGS reports. The local conditions dataset is presented in **Table 5** and the sample locations are shown on **Figure 4**. Specific details of the datasets and the rationale for the inclusion or exclusion of certain samples are provided below:

- **Wehran (1989).** Approximately 60 sediment samples were collected from 44 locations in the Mystic River between the General Lawrence Bridge (Route 16 overpass on the Mystic River) in Medford down to the Tobin Bridge, as well as along the Malden River down from Charles Street, Malden. Sample intervals varied from the top six inches of the sediment surface down to ten feet and were analyzed for numerous chemicals including PAHs, PCBs, and metals. According to the study report, sample locations were selected in order to target known or suspected releases. In AMEC's opinion, this resulted in a study with sediment concentrations that were biased high compared to local conditions, and so many of these locations were excluded from the local conditions dataset. Five of the Wehran samples (SD-28, SD-34, SD-41, SD-42, and SD-44 on **Figure 4**) were included in the local conditions dataset because they were 1) located upstream of the Site, 2) not believed to be associated with specific known or suspected releases and discharges, and 3) collected from the 0-6 inch depth interval.

- **USGS/Breault *et al.* (2005)**. Over 100 sediment samples were collected from the Lower Mystic Lake, Mystic River, Alewife Brook, Malden River, Island End River, Chelsea and Mill creeks, and Boston Inner Harbor sediments. Samples targeted substrate two to four inches below the sediment surface and were analyzed for the presence of numerous chemicals including PAHs, PCBs, and metals. AMEC considers the USGS study to be unbiased in that it did not directly target known or suspected releases and discharges. Nevertheless, some of these data did characterize sediment affected by known or suspected releases, and thus were excluded from the local conditions dataset.[26] In addition, all samples located downstream of the Wynn property were also eliminated from the local conditions dataset. In total, 43 samples from the USGS report (Samples 8-42, and 44-50 on **Figure 4**) were retained as local conditions samples.

- **GZA (2013-2015)**. As previously noted, sediment samples were collected from 22 locations in an effort to characterize local conditions. Of these, five samples (GZ-LC-6 through GZ-LC-10 on **Figures 3 and 4**) collected in 2013 were included in the local conditions dataset. These samples were collected from the 0-6 inch interval and are located immediately upstream of the Amelia Earhart Dam. MassDEP had expressed concern that the other samples may be associated with other known or suspected releases or discharges.

[26] For example, MassDEP expressed concern that samples collected from Mystic Lake (samples 1 through 7) were likely affected by the Industriplex Superfund site, especially with respect to arsenic. Sample 44 is associated with Little Creek, a tributary to the Malden River which was historically affected by manufacturing activities and which is a major receiving body of stormwater runoff. Therefore, this sample was excluded. MassDEP also expressed concern that Samples 51 through 56 may have been affected by the former Monsanto West site.

In total, the local conditions dataset agreed upon with MassDEP consists of 53 samples collected from the Mystic River between its outflow at Mystic Lake and the Amelia Earhart Dam, and from the Malden River between Charles Street (Malden) and its confluence with the Mystic River. Samples were limited to the 0-6 inch depth interval because this interval is considered the zone of highest biological activity, particularly for fine grained sediments. The local conditions dataset is large enough to minimize the influence of localized sources. In addition, the larger dataset provides significant statistical power and is well-suited for calculating descriptive statistics.

For some chemicals, the local conditions dataset consists of a subset of these 53 samples.

- Mercury was not analyzed in any of the USGS samples included in the 53 sample local conditions database, but were analyzed in the five Wehran samples and five GZA samples. Though not as robust as the full 53 sample dataset, ten samples is above the minimum of eight samples which MassDEP and USEPA recommend to support a statistical analyses of environmental samples (MassDEP, 2011; USEPA, 2009; USEPA 2016a).
- Phthalates, specifically bis(2-ethylhexyl)phthalate or BEHP which is known to be associated with the Monsanto West property, and EPH factions were analyzed in only the five GZA samples, fewer than the minimum recommended number of eight. Therefore, local conditions statistics were not calculated for BEHP.

5.2 Site-Related Chemicals of Concern

As discussed in Section 4.1, the sediments in the Mystic River adjacent to the Wynn property have been impacted primarily by metals due to historical manufacturing processes and operations on the uplands. In addition, chemicals associated with operations on the former Monsanto West property (i.e., phthalates and PCBs) and chemicals which are likely attributable to local conditions (PAHs and petroleum) have also been detected.

In order to more quantitatively define the Site-related chemicals of concern for which Wynn bears responsibility, the compounds detected in the 0-6 inch interval on the property were compared to the local conditions dataset described in the previous section. This was done through a comparison of the Site concentrations to local conditions concentrations using the maximum concentration and median concentration of each chemical (**Table 6**). This process is analogous to the one for evaluating background in soil laid out in Section 2.3.3.2 of MassDEP's Guidance for Disposal Site Risk Characterization (MassDEP, 1995). While initially developed for background comparisons, MassDEP also supports this process for comparing site conditions to local conditions

Through this process and by agreement with MassDEP, we have identified arsenic, lead, mercury, and vanadium as the Site-related chemicals of concern. The concentrations of these four chemicals in sediment are depicted on **Figures 5 to 8**.

5.3 Disposal Site Boundary

The disposal boundary depicted on **Figure 9** was drawn to separate areas where concentrations of Site-related chemicals are above a local condition value from areas where concentrations are generally at or below the local condition value. The disposal boundary was also drawn considering the CSM (Section 4) and principles of sediment transport dynamics. Delineating the extent of Site-related chemicals in sediment based on the local conditions data indicates the maximum potential extent of the aquatic boundary. Given the many historical and ongoing sources of contamination to the Mystic River (as well as natural sources of the same chemicals) this may still be an over-estimate of the impacts directly associated with chemical manufacturing on the upland portion of the Wynn property.

By agreement with MassDEP, the 75th percentile statistic was conservatively used to determine the local condition concentration for each chemical (**Table 8**).These local condition concentrations were then used to draw the disposal site boundary. The 75th percentile concentration is the more conservative than the 90th percentile concentration that MassDEP used to derive background soil values for metals (MassDEP, 1995), and more recently, PAHs (MassDEP, 2002). As explained in Section 2.3.2.1 of MassDEP's Guidance for Disposal Site Risk Characterization (MassDEP, 1995), *"…a high (e.g., 90th) percentile was chosen in order to insure that chemicals which are truly present at background levels would be correctly identified as such."* MassDEP has previously accepted a 90th percentile statistic to define the "aquatic site boundary" for the Former Coal Tar Processing Facility Site on the Island End River (AMEC, 2003 and ARCADIS, 2009).

The disposal site boundary on **Figure 9** includes those areas where one or more Site-related chemicals was present at concentrations above the 75th percentile value. Three locations (GZ-124, GZ-136, and GZ-211) were not included within the disposal site boundary for the following reasons:

- one constituent only (arsenic) slightly exceeded the 75th percentile value,
- the surrounding samples were consistent with local conditions, and
- sediment transport mechanisms are not likely to have resulted in the deposition of Site-related chemicals at these locations.

The disposal site boundary on **Figure 9** is approximately 7.8 acres. This main area in the embayment encompasses approximately 7.3 acres and the smaller area to the west is approximately 0.5 acres.

The disposal site boundary does not extend beyond the Wynn property boundary. AMEC believes that the extent of Site-related chemicals has been delineated to the extent practical. Concentrations of each Site-related chemical in sediment are either below or approaching the conservative 75th percentile value at the property boundary. In addition, as discussed in Section 4.2, AMEC believes the embayment to be a depositional environment rather than an erosional

one. Therefore, concentrations within and on the periphery of the deep channel are more representative of recent sediment being transported into the embayment (i.e., local conditions).

6.0 ECOLOGICAL RISK CHARACTERIZATION

This Method 3 Stage I Environmental Screening (ES), which identifies whether potentially significant exposures exist in the sediment within the Disposal Site boundary, was performed following:

- Regulations for a Method 3 Environmental Risk Characterization (310 CMR 40.0995) (MassDEP, 2014)
- Guidance for Disposal Site Risk Characterization (MassDEP, 1995; 1996),
- MassDEP Interim Technical Updates (MassDEP, 2006), and
- Other ecological risk assessment best management practices.

The objective of the Stage I ES is to identify and document conditions which do not warrant a Stage II Ecological Risk Characterization (ERC), either because of the absence of a potentially significant exposure pathway or because environmental harm is readily apparent and therefore additional assessment would be redundant.

Following a Stage I Environmental Screening, it may be concluded that:

1. A Stage II ERC is not required because there are no complete exposure pathways that could result in potentially significant exposures, and a condition of No Significant Risk of harm to Site biota and habitats clearly exists;
2. A Stage II ERC is not required because, for each contaminated medium, harm is readily apparent; therefore a condition of No Significant Risk of harm to the Site biota and habitats clearly does not exist, and a Stage II Environmental Risk Characterization would be redundant;
3. A Stage II ERC is required because, for one or more contaminated media, there is not enough information to determine whether or not a condition of No Significant Risk of harm exists, and therefore those media are considered to present "potentially significant exposures."

If potentially significant exposures exist, the Stage I ES can be used to guide further response actions including removal actions.

MCA previously conducted a Stage I ES and a Stage II ERC (MCA, 2006) which demonstrated:

- A condition of No Significant Risk to surface water based on modeled groundwater discharge from Site uplands to the embayment.
- A condition of No Significant Risk to shorebirds and other wildlife populations exposed to sediment based food chain models.

Based on the findings of the previous risk assessments, the present Stage I ES only evaluates risk to benthic invertebrates exposed to Site sediment.

6.1 Environmental Setting and Complete Exposure Pathways

As previously noted, the Wynn property includes approximately 13 acres of sediment within the Lower Mystic River. As explained in Section 5, the Site boundary encompasses approximately 7.8 acres **(Figure 9)**. Located downstream of the Amelia Earhart Dam, this portion of the Lower Mystic River has been classified by MassDEP and other state and federal agencies as a marine surface water body that serves as habitat for fish, shellfish, benthic invertebrates, waterfowl, and semi-aquatic mammals (GZA, 2015b). A detailed description of the ecological resources, and sediment and aquatic communities present at and around the Site was previously presented in Section 2.3 of the GZA Supplemental Phase II Report which is included as **Appendix G**.

The MassDEP Bureau of Waste Site Cleanup Phase I Site Assessment Map for the Site **(Figure 10)** does not identify any areas of Critical Environmental Concern (ACEC) within 0.5 miles of the Site. The Site Assessment Map also indicates that no state-listed species are located within 0.5 miles of the Site. The US Fish and Wildlife Service (USFWS) online mapper does not identify any critical habitat for threatened and endangered species within the Lower Mystic River (USFWS, 2016).

Considering the presence of aquatic and benthic species observed during previous Site investigations, sediment exposure pathways are considered potentially complete.

6.2 Evaluation of Readily Apparent Harm

Site conditions do not satisfy any of the three criteria listed in 310 CMR 40.0095(3)(b)(1) needed to meet Readily Apparent Harm:

- Stressed biota, including fish kills or abiotic conditions have not been reported.
- As previously demonstrated (MCA, 2006), estimated concentrations were below water quality benchmarks including USEPA Ambient Water Quality Criteria and Massachusetts Surface Water Standards, and a condition of No Significant Risk exists for surface water.
- Oil, tar, or other non-aqueous phase hazardous material have not been observed within one foot of the sediment surface.

Therefore, Readily Apparent Harm does not exist at the Site.

6.3 Effects-Based Screening

In this section, each complete exposure pathway is evaluated to determine whether the exposures are significant. If significant exposures are determined to be unlikely for any pathway, that pathway can be eliminated from further consideration in the risk assessment.

Screening criteria are used to rule out pathways, not individual chemicals. If a pathway is not ruled out, risks from all chemicals that result in exposure by that pathway should be further evaluated, even if some of the chemicals are present at levels below their screening criteria.

The effects-based screening was conducted by comparing the maximum detected bulk sediment concentrations to corresponding ecological screening benchmarks.

Consistent with MassDEP guidance (MassDEP, 1996), only those compounds with concentrations that are not consistent with local conditions and compounds for which local conditions data are unavailable (see Section 5.2) were compared to ecological sediment screening benchmarks.

Screening benchmarks are discussed in Section 6.3.1 and the benchmark comparison is presented in Section 6.3.2.

6.3.1 Ecological Screening Benchmarks

Marine sediment benchmarks **(Table 7)** were preferentially selected from the following source:

- NOAA Effects Range - Medium (ER-M) (Long *et al.*, 1995)

ER-Ms have been previously used on this project (GZA, 2015b), and have been agreed to with MassDEP (MassDEP, 2016b).

Where a compound lacked an ER-M, sediment benchmarks were selected from among the following sources:

- Washington State Apparent Effects Thresholds (AETs) (Washington State, 2013)
- NOAA Screening Quick References Tables (Buchman, 2008)

6.3.2 Benchmark Comparison

The maximum detected concentrations of Site-related compounds in sediment within the Disposal Site Boundary were compared to effects-based ecological screening benchmarks to determine whether current and potential future exposure could potentially be significant (**Table 7**). Note that when performing benchmark comparisons, Site concentrations were rounded to two digits in accordance with MassDEP's guidance on significant figures (MassDEP, 2009).

An analyte with a maximum detected concentration above its benchmark was identified as a potentially significant exposure.

- The maximum detected concentration of total PAHs, several individual PAHs, antimony, cadmium, and chromium were **below** conservative ecological screening benchmarks.
- The maximum detected concentration of several individual PAHs, arsenic, lead, mercury, nickel, selenium, silver, vanadium, and zinc were **above** conservative ecological screening benchmarks.
- EPH fractions lacked screening benchmarks and thus could not be evaluated. Beryllium also lacked a screening benchmark but was consistent with local conditions.

Since concentrations in sediment exceed benchmarks, a condition of No Significant Risk does not exist with respect to Site sediment.

6.4 Stage I ES Summary and Conclusions

The previous Stage I ES (MCA, 2006) demonstrated that a condition if No Significant Risk exists for surface water. The 2006 Stage II ERC (MCA, 2006) demonstrated that a condition of No Significant Risk exists for shorebirds and other shoreline wildlife.

The present Stage I ES concludes that there are potentially significant exposure pathways with respect to the benthic community exposed to sediment. Therefore, remedial actions are necessary to address these pathways in order to achieve a condition of No Significant Risk.

7.0 HUMAN HEALTH RISK CHARACTERIZATION

The purpose of the human health risk characterization is to address potential risks resulting from exposure to impacted sediment.

7.1 Previous Risk Assessments

GEI prepared a Method 3 Risk Characterization as part of the 2012 Phase II Report. However, human exposure to sediment was not evaluated. Contact with sediment was *"…unlikely because access is partially limited by a chain link fence and bulkhead."*[27]

GZA performed "screening-level risk calculations" for a trespasser exposed to intertidal sediment under current conditions. These calculations, presented in Appendix J of the GZA Supplemental Phase II Report, used the maximum detected contaminant concentrations in shallow sediment samples collected from "wadable"[28] portions of the Mystic River sediments, and assumed that trespassers would access the intertidal zone once per week from April through mid-November (31 events). Based on these assumptions, GZA determined that a condition of No Significant Risk existed for a trespasser.[29]

GZA did not quantitatively evaluate the risk to human health from fish consumption in part because a Massachusetts Department of Public Health fish advisory is in place for the Mystic River. However, MassDEP stated in their April 2016 letter that "*…MassDEP personnel have observed fishing and shellfishing at other sites where fish advisories were in effect. In addition, MassDEP has received credible reports of people fishing along the shoreline in the vicinity of the site within the past year."*[30] MassDEP also stated *"…it may not be possible to determine fish tissue contaminant levels that are attributable to this site. However, for the record, MassDEP does not consider fish advisories to be components of permanent solutions at waste sites. If fish consumption is a concern do in part to contaminants from this site, the risk assessment should discuss the pathway and note the possible risk."*[31]

In their Supplemental Phase II Report, GZA stated that *"…the potential exposure of humans to water-side site contaminants via consumption of fish is also de minimis. Game fish that may be found within the water-side site and Lower Mystic River are transient, and are likely to be present for relatively short periods. Furthermore, the currently degraded environmental conditions of the Lower Mystic River result in a perpetual early successional benthic community consisting of low abundances of small individuals of opportunistic species. Such a community provides poor feeding grounds for epibenthic species (including bottom feeding fish). These factors likely further*

[27] GEI, 2012, p. 24.
[28] GZA defined this as above elevation -5 feet relative to the North American Vertical Datum of 1988 (NAVD88). GZA, 2015b p. 31.
[29] GZA's calculated risk estimates for trespassers did not exceed MCP risk limits. The non-cancer Hazard Index (HI) was 0.4 (the MCP risk limit is 1), while the Estimated Lifetime Cancer Risk (ELCR) was $1x10^{-5}$ (which is the MCP risk), with arsenic and lead as the drivers of the calculated risks.
[30] MassDEP, May 2016; p. 3.
[31] MassDEP, April 2016. p. 7-8.

reduce typical residence time for game fish at the water-side site." AMEC agrees that there may be potential risk from the consumption of infrequent/illegally caught fish. However, in our opinion a full fish study is not warranted given the current condition of the embayment and nearby portion of the Mystic River and the transient nature of the fish. In addition, Wynn does not intend to permit fishing once the resort is complete. Signs prohibiting fishing will be posted and Wynn staff (dock attendants and security) will enforce the restriction.

7.2 AMEC Method 3 Calculations

AMEC has prepared updated Method 3 calculations for OHM present in shallow (0 to 6 inches) sediment on the Wynn property. The human health risk associated with the sediment exposure by trespassers wading into the river has been evaluated based on shallow, "wadable" areas (i.e., areas above mean low water or elevation -5 ft NAVD88), which is a subset of the total area shown on **Figure 2**. The current evaluation includes a larger dataset from the wadable area than what was evaluated by GZA[32]. The risk from ingestion of locally caught fish has also been discussed. Primary OHM of concern from historical use of the Site and the river are: arsenic, lead, mercury, and vanadium.

The purpose of this risk characterization is to identify whether a condition of "No Significant Risk" of harm to human health exists or has been achieved at the Site.

7.2.1 Methodology

The Method 3 calculations are consistent with the requirements of 310 CMR 40.0000 Subpart I of the MCP and generally consistent with MassDEP's Guidance for Disposal Site Risk Characterization - In Support of the Massachusetts Contingency Plan (MassDEP, 1995) and current risk assessment practices in Massachusetts. The risk characterization evaluates potential risks to human health posed by Site conditions.

The Method 3 Human Health risk characterization evaluates the risk to current and foreseeable future land use and activities. Boating is a potential current and future use of the river; however, boating elicits minimal contact with sediment and surface water. As there are no current or foreseeable future uses of the Mystic River surface water or sediment that are likely to result in significant exposure to Site media, a conservative repeat trespasser scenario has been evaluated. This scenario is considered unlikely due to the degraded quality of the river, the local industrial development, and the current poor aesthetic conditions of the area. While Wynn's proposed efforts will certainly improve the conditions in the embayment, measures will also be taken to prevent resort patrons (or trespassers) from wading.

[32] GZA evaluated data from only seven locations (GZ-214, GZ-215, GZ-216, GZ-220, GZ-221, GZ-222, and GZ-223) rather than each location above -5 ft NAVD88.

It is also noted that Massachusetts DPH has placed a P6 fish advisory ("*no one should consume any fish from this water body*"[33]), on fish consumption for the stretch of the Mystic River located between the outlet of Lower Mystic Lake and Amelia Earhart Dam, which is approximately 600 feet upstream of the Site. The fish advisory is due to PCBs, Chlordane, and DDT which are not Site-related chemicals of concern. This fish advisory also refers to the freshwater habitat upstream of the dam, and is not applicable to the estuarine habitat below the dam. There is a separate fish advisory which covers Boston Harbor which may be more applicable to the habitat at the Site.[34] This advisory identifies lobsters, flounder, soft-shell clams, and bivalves, as animals that should be avoided for sensitive receptors. Given the industrial nature of the area and the difficulty of accessing the Site, use of the Site for recreational purposes including high frequency or subsistence fishing is highly unlikely. In addition, as previously noted Wynn does not intend to permit fishing once the resort is complete. Signs prohibiting fishing will be posted and Wynn staff (dock attendants and security) will enforce the restriction.

7.2.2 Human Health Conceptual Site Model

The CSM describes sources of releases to the environment, the receiving media, the migration pathways through which OHM may be transported or trans-located, and the possible receptors, including both human and environmental that may be exposed to OHM. The physical CSM for the Site (sources, migration pathways, receiving media) is described in detail in Section 4.0.

The relevant sources of contamination for sediment and fish tissue are summarized below:

- Waste chemicals and on-Site material storage: Historical use of upland portion of the Site as a chemical manufacturing facility up to the 1960s and subsequent use for material storage and staging.
- Local conditions: The Mystic River has historically been used as an industrial waterway, receiving various chemical wastes from upstream properties.

The relevant pathways are:

- Direct contact with sediment: Receptors may potentially be exposed to sediment 0 to 2 ft bss under a wading scenario by ingestion and dermal contact.
- Ingestion of fish: Receptors may be exposed to fish tissue through ingestion if they catch fish on the property. This pathway will only be assessed qualitatively.

The relevant receptors:

- Current and future trespassers: May be exposed to sediment 0 to 2 ft bss and may also catch local fish and ingest fish tissue.

[33] Massachusetts DPH, 2016a; p. 6.
[34] Massachusetts DPH, 2016b.

7.3 Hazard Identification

The dataset comprises 58 samples of shallow sediment (0 to 2 ft bss) collected from 34 locations in the area considered “wadable”, which AMEC defined as areas above mean low water (elevation -5 ft NAVD88). The dataset includes a larger area than GZA evaluated, and includes only field samples, no field duplicates were collected in this area. Samples were collected during sampling events conducted by GZA in 2013 and 2015 as part of the Phase II sampling program (**Figure 2**). OHM detected at least once are listed in **Table 9** and evaluated in this assessment.

All detected fractions/compounds were considered oil or hazardous material of potential concern (OHMPC).

No fish surveys were performed and no fish tissue samples were collected.

7.4 Exposure Assessment

In order to estimate daily intake, exposure assumptions are required. The exposure assessment assumes the same default trespasser exposure assumptions used in the MassDEP short forms for an 11 to 18 year old adolescent (**Table 10**), including a very conservative exposure frequency of 60 days per year (2 days per week in the warmer months of the year) for seven years. The only relevant exposure pathway is direct contact with shallow sediment by trespassers. In order to evaluate these pathways, the concentration at the point of exposure (EPCs) have been calculated for each OHMPC.

7.4.1 Identification of Exposure Point Concentrations

EPCs represent the concentration of OHM that a receptor is assumed to be exposed to. As no particular area of the Site is more likely for exposure than any other, and it is likely a trespasser would not be exposed to the whole area, a maximum detected value has been conservatively selected as the EPC. The EPC for all compounds detected at least once is shown on **Table 11**.

7.4.2 Quantification of Exposure Dose

Exposure dose equations estimate a receptor's daily intake of each compound. They are defined as the amount of a given OHMPC taken into the receptor, expressed in units of milligrams of OHMPC per kilogram of body weight per day (mg/kg-day). Procedures and equations were taken from the MCP risk characterization guidance (MassDEP, 1995). The exposure dose for the oral and dermal pathway is termed the Average Daily Dose (ADD). Chronic ADD is calculated for non-carcinogenic hazard calculations and Lifetime ADD is calculated for carcinogenic risk calculations.

7.5 Dose Response

The purpose of the dose-response assessment is to characterize the relationship between the quantity of OHM administered or received (dose) and the likelihood of adverse health effects in

the exposed population (response). The information on dose response is combined with the results of the exposure assessment to provide an estimate of potential health risk.

Selection of toxicity values for use in the risk assessment shall be in accordance with 310 CMR 40.0993(5); preference has been given to dose-response values derived by the MassDEP. MassDEP obtains dose-response values from:

- USEPA Integrated Risk Information System (IRIS) (USEPA, 2016b).
- USEPA Health Effects Assessment Summary Tables (HEAST) (USEPA, 1997)
- California EPA's Office of Environmental Health and Hazard Assessment (OEHHA) (CalEPA 2016a and 2016b)
- Provisional Peer-Reviewed Toxicity Values (PPRTVs) from the USEPA National Center for Environmental Assessment (NCEA) in Cincinnati, Ohio (ORNL, 2016).

Dose-response values for which the sources are IRIS were checked against the most recent update to the IRIS database (December 2016) to verify that up-to-date dose-response values were used in the risk assessment. The Reference Doses (RfDs) used in this evaluation are shown in **Table 12** and Cancer Slope Factors (CSFs) are shown in **Table 13**.

The algorithms for exposure are based on an absorbed dose; however, risk is calculated using toxicity factors, which are typically based on applied dose. MassDEP applies Relative Absorption Factors (RAFs) to account for the difference between absorbed dose and applied dose. If no value was available from MassDEP, a generic default was used. RAFs used in the risk characterization are presented in **Table 14**.

7.6 Risk Characterization

In this section, potential risks to human health associated with possible exposure to OHMPCs at the Site are characterized. Risk is a function of both exposure and toxicity. The magnitude of risk depends on the nature, duration, and frequency of exposure to OHM and characteristics of the exposed population. The calculations are presented in **Table 15**. A summary of cancer risk and non-cancer hazard for receptors is shown in **Table 16**.

7.6.1 Direct Contact with Sediment

Cancer risk is calculated as the Excess Lifetime Cancer Risk (ELCR). For a given OHMPC, the ELCR provides an upper-bound estimate of the potential cancer risk associated with a receptor's exposure to that chemical by that pathway. The ELCR is also called the Cumulative Receptor Cancer Risk (CRCR). The chemical-specific cancer risk is calculated as:

$$\text{CRCR/ELCR} = \text{Lifetime ADD (mg/kg/day)} \times \text{CSF (mg/kg/day)}^{-1}.$$

The non-cancer hazard is calculated as the hazard quotient (HQ) for individual chemicals and as the hazard index (HI) for multiple chemicals. The HI is also called the Cumulative Receptor Non-cancer Risk (CRNCR). The chemical-specific noncancer hazard quotient is calculated as:

CRNCR/HQ = Chronic ADD (mg/kg/day) / RfD (mg/kg/day)

To assist in interpretation of the calculated values, the CRNCR has been compared to the MCP Cumulative Receptor Non-cancer Risk Limit (CRNCRL) which is HI = 1. The CRCR has been compared to the Cumulative Receptor Cancer Risk Limit (CRCRL) which is 1×10^{-5}.

The HI for the current and future trespasser is 0.4. This is below the CRNCRL of 1. The Cumulative Receptor Cancer Risk is 5×10^{-6}, which is below the CRCRL of 1×10^{-5}.

7.6.2 Fish Ingestion

The Mystic River is a known fish habitat, however a fish survey was not considered necessary. Due to the transient nature of game fish, it would be difficult if not impossible to quantify the incremental risk from exposure to sediment at the Site. Therefore, no fish tissue data were available to evaluate the potential risk from fish tissue ingestion. However, given the limited fish advisory for the Boston Harbor, which is more lenient than the fish advisory upstream of the dam, it is considered likely that estuarine game fish at the Site would be less contaminated than the freshwater fish covered under the total fishing ban upstream. In addition, the degraded quality of the water body, the historical use by industrial properties, and the difficulty of accessing the Site, imply that any fishing would be infrequent. These factors, combined with the likely lower impacts to fish on the Site, indicate that additive risks from ingestion of locally caught fish by trespassers on-Site would not cause a condition of significant risk. The fish ingestion pathway is considered highly unlikely, and is likely to be incomplete currently due to the current poor aesthetics of the area, and the difficulty of accessing the river at the Site. While Wynn's proposed efforts will certainly improve the conditions in the embayment, measures will also be taken to prevent resort patrons (or trespassers) from wading. In the future, the pathway is likely to continue to be incomplete as fishing will be prohibited from the property and this restriction will be posted and enforced.

7.7 Human Health Risk Characterization Conclusions

A condition of No Significant Risk exists for current and future trespassers who might go wading along the shoreline. This conclusion is based on extremely conservative inputs (maximum detected concentration and 60 days of exposure per year for 7 years). A condition of No Significant Risk is also considered to exist for trespassers who catch and consume fish irregularly on the property. This pathway was not evaluated quantitatively as it is not considered a likely scenario.

8.0 DELINEATION OF AREA POSING A RISK

The risk characterizations presented in Sections 6 and 7 concluded that:

- A condition of No Significant Risk **has not** been achieved due to potentially significant ecological exposures of benthic invertebrates to sediment.
- A condition of No Significant Risk **does exist** for human health.

The Stage I ES (Section 6) considered all constituents present in the top six inches of sediment, including those attributable to non-Site sources (e.g. Monsanto West) and local conditions. As discussed above, per agreement with MassDEP, the chemicals for which Wynn has liability are arsenic, lead, mercury, and vanadium. The area where a condition of No Significant Risk has not yet been achieved for those chemicals has been defined using the higher of local conditions concentrations (75th percentile[35]) and ecological sediment screening benchmarks (ER-Ms or equivalent value) for arsenic, lead, mercury, and vanadium.

As shown on **Table 8**, the 75th percentile local conditions value for arsenic is below the ER-M, while the 75th percentile values for lead, mercury, and vanadium are above the ER-M. Therefore, the limits of risk for Site-related contaminants are defined by the ER-M for arsenic and the local conditions values for lead, mercury, and vanadium.

The areas where the concentrations of each chemical exceeded the applicable level (ER-M or local conditions) were plotted and then overlain on each other. The area of overlap between the areas where arsenic, lead, mercury, lead or vanadium would individually pose a risk produced the Site boundary shown on **Figure 9**. The area where lead exceeds local conditions and where arsenic exceeds the ER-M is limited to the northeastern portion of the embayment. Therefore, the limits of the area posing significant risk are largely defined by mercury and vanadium concentrations.

The total area within the Site boundary which poses a risk to benthic communities is approximately 7.4 acres. This includes 7.3 acres in the main embayment and 0.1 acres in the smaller area to the west (**Figure 9**).

- In the main embayment, the area posing a risk corresponds to the Site boundary. There are some locations which could be excluded from the area based strictly on concentration; however, AMEC has chosen not to do that as it did not make sense based on sediment transport mechanisms. For example, there are some locations near the tidal channel and grounded barges (e.g. GZ-221, GZ-222, and GZ-223) which could be excluded based on concentration; however, they are at the same depth as samples that do pose a risk (e.g. GZ-217 and GZ-224) and there is no clear mechanism to explain why erosion/sedimentation processes would differ between those locations.

[35] By agreement with MassDEP, the 75th percentile of the local conditions dataset has been used to estimate a local conditions concentration (MassDEP, 2016).

- In the small area to the west, defined by locations GZ-126, -127, -132, and -133, the area posing a risk (0.1 acres) is significantly smaller than the Site boundary (0.5 acres). This difference is due to the fact that only the concentration in GZ-127 exceeds the ER-M. The boundary of the area of risk has been estimated based on the concentrations present in the surrounding samples.

Remedial actions which are likely to achieve a condition of No Significant Risk and a Permanent Solution will be developed and evaluated as part of MCP Phase III and IV. These actions will likely include dredging, capping, or some combination of the two. The proposed navigational improvements and the impact of sediment transport dynamics will also be considered in the development and evaluation of remedial actions. By regulation (310 CMR 40.0995(3)(c)), concentrations that are less than or equal to the ecological screening benchmark meet a condition of No Significant Risk. Remediating to local conditions would also ensure that concentrations left in place would meet a condition of No Significant Risk. The MassDEP ecological risk assessment guidance document (MassDEP, 1996) states in Section 9.4.2.1 that *"…if concentrations of an OHM [oil and/or hazardous material] are consistent with local conditions, exposure to contaminants from the site may not be discernible, and thus the incremental risks may not be quantifiable*."

In order to achieve a Permanent Solution, a condition of No Significant Risk for all chemicals not attributable to local conditions will need to be achieved, and issues associated with survival, growth, and reproduction identified in toxicity tests will need to be addressed.

9.0 SUMMARY AND CONCLUSIONS

A 2012 Phase II Report prepared by GEI, which included a 2006 Ecological Risk Characterization completed by MCA, concluded that the sediments in the Mystic River adjacent to the Former Everett Staging Yard had 1) been impacted by releases from historical chemical manufacturing processes and operations and 2) posed a potential risk to benthic invertebrates. In December 2015, GZA submitted a Supplemental Phase II Report which contained the results from an extensive sampling program as well as an updated Site boundary and risk characterization. In May 2016, MassDEP issued a letter outlining a number of questions it had regarding the Supplemental Phase II Report and requesting additional assessment and/or data review. AMEC has prepared this Revised Phase II Report on behalf of Wynn in order to order to address MassDEP's questions.

A representative local conditions database was developed using samples collected by GZA as well as data from earlier studies by Wehran and the USGS. A comparison of the local conditions dataset to data from the Wynn property was used to help identify arsenic, mercury and vanadium as likely Site-related chemicals of concern. Lead was also identified as a likely Site-related chemical of concern based on historical land-side operations. Evaluation of the Wynn property data also identified chemicals associated with operations on the former Monsanto West property (i.e., phthalates and PCBs) and chemicals which are likely attributable to local conditions (PAHs and petroleum). The Site boundary for sediments, encompassing an area of approximately 7.8 acres, was delineated using the 75th percentile of the local conditions dataset for arsenic, lead, mercury, and vanadium. The area where a risk to the benthic community from Site-related chemicals exists encompasses an area of approximately 7.4 acres.

A Stage I Environmental Screening evaluated all constituents present in the top six inches of sediment, including those that are attributable to non-Site sources (e.g. Monsanto West) and local conditions. Based on a comparison of Site data to ecological benchmarks, AMEC concluded there are potentially significant exposure pathways with respect to the benthic community exposed to sediment. A Method 3 human health risk characterization concluded that a condition of No Significant Risk does exist for trespassers who might wade along the shoreline. A condition of No Significant Risk is also considered to exist for trespassers who might catch and consume fish irregularly on the property. Therefore, remedial actions are necessary to address exposure to impacted sediments by benthic organisms in order to achieve a condition of No Significant Risk.

Remedial actions which are likely to achieve a condition of No Significant Risk and a Permanent Solution will be developed and evaluated as part of MCP Phase III and IV. These actions will likely include dredging, capping, or some combination of the two. The proposed navigational improvements and the impact of sediment transport dynamics will also be considered in the development and evaluation of remedial actions. In order to achieve a Permanent Solution, a condition of No Significant Risk for all chemicals not attributable to local conditions will need to be

achieved, and issues associated with survival, growth, and reproduction identified in toxicity tests will need to be addressed.

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TABLES

TABLE 1
SURFACE WATER AND GROUNDWATER SEEP FIELD MEASUREMENTS
Wynn Resort Casino
Everett, Massachusetts

	Surface Water				Ground Water Seeps	
Sample ID	SW-3-05-21-15	SW-6-05-21-15	SW-10-05-22-15	SW-11-05-22-15	SWS-3-05-21-15	SWS-6-05-21-15
Sample Date	05/21/2015	05/21/2015	05/22/2015	05/22/2015	05/21/2015	05/21/2015
pH	6.76	8.35	8.1	8.3	5.95	7.15
Temperature (°C)	14.6	20.3	15.2	15.1	15.6	17.8
Conductivity (µS)	OR	OR	OR	OR	16.04	OR
Dissolved Oxygen (percent)	74.8	94.7	96	124	10.2	7.3
Turbidity (NTU)	14	6.79	14.5	11	3.88	8.2

Notes:
1. Field parameter collected by GZA personnel in the field using a YSI D.O. Meter on May 21 and 22, 2015.
2. "OR" = over range

Source: Table 1 from "Supplemental Phase II Comprehensive Site Assessment, Former Everett Staging Yard, Water-Side, Everett, Massachusetts, Release Tracking Number 3-13341", prepared by GZA, December 2015.

TABLE 2A
SURFACE WATER AND GROUNDWATER SEEP SEMI-VOLATILE ORGANIC COMPOUND RESULTS
Wynn Resort Casino
Everett, Massachusetts

		Surface Water Samples				Surface Water Seep Samples	
Sample ID Sample Date Analyte	Water Quality Benchmarks	SW-10-05-22-15 05/22/2015	SW-11-05-22-15 05/22/2015	SW-3-05-21-15 05/21/2015	SW-6-05-21-15 05/21/2015	SWS-3-05-21-15 05/21/2015	SWS-6-05-21-15 05/21/2015
Semi-Volatile Organic Compounds							
1,2,4-Trichlorobenzene	5.4	<9.3	<10.3	<9.3	<9.3	<9.3	<9.3
1,2-Dichlorobenzene	42	<9.3	<10.3	<9.3	<9.3	<9.3	<9.3
1,3-Dichlorobenzene	NA	<9.3	<10.3	<9.3	<9.3	<9.3	<9.3
1,4-Dichlorobenzene	129	<9.3	<10.3	<9.3	<9.3	<9.3	<9.3
2,4,5-Trichlorophenol	11	<9.3	<10.3	<9.3	<9.3	<9.3	<9.3
2,4,6-Trichlorophenol	NA	<9.3	<10.3	<9.3	<9.3	<9.3	<9.3
2,4-Dichlorophenol	NA	<9.3	<10.3	<9.3	<9.3	<9.3	<9.3
2,4-Dimethylphenol	NA	<46.7	<51.5	<46.7	<46.7	<46.7	<46.7
2,4-Dinitrophenol	NA	<46.7	<51.5	<46.7	<46.7	<46.7	<46.7
2,4-Dinitrotoluene	370	<9.3	<10.3	<9.3	<9.3	<9.3	<9.3
2,6-Dinitrotoluene	NA	<9.3	<10.3	<9.3	<9.3	<9.3	<9.3
2-Chloronaphthalene	NA	<9.3	<10.3	<9.3	<9.3	<9.3	<9.3
2-Chlorophenol	NA	<9.3	<10.3	<9.3	<9.3	<9.3	<9.3
2-Methylphenol	NA	<9.3	<10.3	<9.3	<9.3	<9.3	<9.3
2-Nitrophenol	NA	<9.3	<10.3	<9.3	<9.3	<9.3	<9.3
3,3´-Dichlorobenzidine	NA	<18.7	<20.6	<18.7	<18.7	<18.7	<18.7
3+4-Methylphenol	NA	<18.7	<20.6	<18.7	<18.7	<18.7	<18.7
4-Bromophenyl-phenylether	NA	<9.3	<10.3	<9.3	<9.3	<9.3	<9.3
4-Chloroaniline	129	<18.7	<20.6	<18.7	<18.7	<18.7	<18.7
4-Nitrophenol	NA	<46.7	<51.5	<46.7	<46.7	<46.7	<46.7
Acetophenone	NA	<9.3	<10.3	<9.3	<9.3	<9.3	<9.3
Aniline	NA	<9.3	<10.3	<9.3	<9.3	<9.3	<9.3
Azobenzene	NA	<18.7	<20.6	<18.7	<18.7	<18.7	<18.7
bis(2-Chloroethoxy)methane	6,400	<9.3	<10.3	<9.3	<9.3	<9.3	<9.3
bis(2-Chloroethyl)ether	NA	<9.3	<10.3	<9.3	<9.3	<9.3	<9.3
bis(2-chloroisopropyl)Ether	NA	<9.3	<10.3	<9.3	<9.3	<9.3	<9.3
bis(2-Ethylhexyl)phthalate	360	<5.6	<6.2	<5.6	**6**	<5.6	<5.6
Butylbenzylphthalate	3.4	<9.3	<10.3	<9.3	<9.3	<9.3	<9.3
Dibenzofuran	NA	<9.3	<10.3	<9.3	<9.3	<9.3	<9.3
Diethylphthalate	3.4	<9.3	<10.3	<9.3	<9.3	<9.3	<9.3
Dimethylphthalate	3.4	<9.3	<10.3	<9.3	<9.3	<9.3	<9.3
Di-n-butylphthalate	3.4	<9.3	<10.3	<9.3	<9.3	<9.3	<9.3
Di-n-octylphthalate	3.4	<9.3	<10.3	<9.3	<9.3	<9.3	<9.3
Hexachlorobutadiene	3.2	<9.3	<10.3	<9.3	<9.3	<9.3	<9.3
Hexachloroethane	94	<4.7	<5.2	<4.7	<4.7	<4.7	<4.7
Isophorone	1290	<9.3	<10.3	<9.3	<9.3	<9.3	<9.3
Nitrobenzene	668	<9.3	<10.3	<9.3	<9.3	<9.3	<9.3
N-Nitrosodimethylamine	NA	<9.3	<10.3	<9.3	<9.3	<9.3	<9.3
Phenol	400	<9.3	<10.3	<9.3	<9.3	<9.3	<9.3
Polycyclic Aromatic Hydrocarbons (SIM)							
2-Methylnaphthalene	72.16	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19
Acenaphthene	55.85	<0.19	<0.19	<0.19	<0.19	0.21	<0.19
Acenaphthylene	306.9	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19
Anthracene	20.73	<0.19	<0.19	<0.19	<0.19	0.2	<0.19
Benzo(a)anthracene	2.227	<0.05	<0.05	<0.05	**0.14**	0.05	<0.05
Benzo(a)pyrene	0.9573	<0.05	<0.05	<0.05	**0.18**	<0.05	<0.05
Benzo(b)fluoranthene	0.6774	<0.05	<0.05	<0.05	**0.28**	0.06	<0.05
Benzo(g,h,i)perylene	0.4391	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19
Benzo(k)fluoranthene	0.6415	<0.05	<0.05	<0.05	**0.1**	<0.05	<0.05
Chrysene	2.042	<0.05	<0.05	<0.05	**0.2**	0.06	<0.05
Dibenzo(a,h)Anthracene	0.2825	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Fluoranthene	7.109	<0.19	<0.19	<0.19	**0.33**	0.44	<0.19
Fluorene	39.3	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19
Hexachlorobenzene	NA	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19
Indeno(1,2,3-cd)Pyrene	0.275	<0.05	<0.05	<0.05	**0.17**	<0.05	<0.05
Naphthalene	193.5	<0.19	<0.19	<0.19	<0.19	0.42	<0.19
Pentachlorophenol	NA	<0.85	<0.84	<0.84	<0.84	<0.84	<0.84
Phenanthrene	19.13	<0.19	<0.19	<0.19	<0.19	0.27	<0.19
Pyrene	10.11	<0.19	<0.19	<0.19	**0.28**	0.29	<0.19

Notes:
1. Results are presented in µg/L unless otherwise noted
2. "<" indicates that an analyte was tested for but not detected above the Reporting Limit (RL).
3. Water Quality Benchmarks for semi-volatile organic compound list are from the National Oceanic and Atmospheric Association Screening Quick Reference Tables; 2013. The chronic concentration values for salt water is listed. (http://response.restoration.noaa.gov/sites/default/files/SQuiRTs.pdf)
4. Water Quality Benchmarks for polycyclic aromatic hydrocarbon list are Final Chronic Values (FCVs) used to develop equlibrium partitioning benchmarks for PAHs in sediment. These FCVs were developed by the U.S. EPA, and are presented in Procedures for the Derivation of Equilibrum Partitioning Sediment Benchmarks (ESBs) for the Proection of Benthic Organisms: PAH Mixtures, EPA-600-R-02-013. November, 2003.

Source: Table 2A from "Supplemental Phase II Comprehensive Site Assessment, Former Everett Staging Yard, Water-Side, Everett, Massachusetts, Release Tracking Number 3-13341", prepared by GZA, December 2015.

TABLE 2B

SURFACE WATER AND GROUNDWATER SEEP METALS AND EXTRACTABLE PETROLEUM HYDROCARBON RESULTS

Wynn Resort Casino

Everett, Massachusetts

			Surface Water Samples				Groundwater Seep Samples	
Sample ID Sample Date Analyte	Water Quality Benchmarks		SW-10-05-22-15 05/22/2015	SW-11-05-22-15 05/22/2015	SW-3-05-21-15 05/21/2015	SW-6-05-21-15 05/21/2015	SWS-3-05-21-15 05/21/2015	SWS-6-05-21-15 05/21/2015
Dissolved Metals								
Antimony	500	b	<2.5	<2.5	<5.0	<5.0	<5.0	<5.0
Arsenic	36	a	6.6	<2.5	18.1	<2.5	**348**	6.2
Barium	200	b	<50.0	<25.0	25.1	27.3	<25.0	<25.0
Beryllium	100	b	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Cadmium	8.8	a	<2.5	<2.5	<2.5	<2.5	7.6	<2.5
Chromium	27.4	b	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
Hexavalent Chromium	50	a	<10	<10	<10	<10	<10	<10
Lead	8.1	a	<25.0	<25.0	<10.0	<10.0	<10.0	<10.0
Mercury	0.94	a	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Nickel	8.2	a	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0
Selenium	71	a	<5.0	<5.0	<10.0	<10.0	<10.0	<10.0
Silver	NA		<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Thallium	17	b	<8.0	<10.0	<3.0	<3.0	<3.0	<4.0
Vanadium	50	b	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
Zinc	81	a	30.8	<25.0	<25.0	26.6	<25.0	30.9
Extractable Petroleum Hydrocarbons (EPH)								
C11-C22 Aromatics1,2	2.8	c	<93.5	<94.3	<93.5	<95.2	**122**	<93.5
C19-C36 Aliphatics1	0.0001	c'	<93	<94	<93	**134**	<93	<93
C9-C18 Aliphatics1	0.04	c	<93	<94	<93	<95	<93	<93

Notes:

1. Results are presented in µg/L unless otherwise noted
2. "<" indicates that an analyte was tested for but not detected above the Reporting Limit (RL).
3. Marine water benchmarks are from the following sources:
   a. US EPA National Recommended Water Quality Criteria; 2015. The criterion continuous concentration (CCC) for salt water is listed. (http://www.epa.gov/waterscience/criteria/). These valuses have been adopted by MassDEP as Massachusetts Water Quality Standards.
   b. Nation Oceanic and Atmospheric Administration (NOAA) Screening Quick Reference Tables; 2013. The chronic concentration for salt water is listed.(http://response.restoration.noaa.gov/sites/default/files/SQuiRTs.pdf)
   c. Final Chronic Values (FCVs) for surface water exposures developed by Battelle on behalf of MassDEP, presented in "Sediment Tocicity of Petroleum Hydrocarbon Fractions" 2007, and available at: http://www.mass.gov/eea/docs/dep/cleanup/laws/tphbat.pdf
   c'. Battelle notes that the C19-C36 Aliphatic fraction is likely NOT toxic because the LC50 (concentration that causes mortality of 50 percent of exposed organisms) is higher than the aqueous solubility. (For such chemicals, toxicity tests are performed with co-solvents.)
4. Bolded values indicate an exceedance of the Water Quality Benchmark concentration for the specific analyte.

Source: Table 2B from "Supplemental Phase II Comprehensive Site Assessment, Former Everett Staging Yard, Water-Side, Everett, Massachusetts, Release Tracking Number 3-13341", prepared by GZA, December 2015.

Table 3A
SEDIMENT METALS AND TOTAL ORGANIC CARBON RESULTS

Wynn Resort Casino
Everett, Massachusetts

Sample ID	Marine Sediment Benchmarks		GZ-101 0-0_5ft	GZ-101 2-4ft	GZ-101 4-6ft	GZ-101 8-9ft	GZ-102 2-4ft	GZ-102 4-6ft	GZ-102 6-8ft	GZ-102 8-10ft	GZ-103 2-4ft	GZ-103 4-6ft	GZ-103 6-7ft	GZ-104 2-4ft
Date Sampled			08/01/2013	08/01/2013	08/01/2013	08/01/2013	08/01/2013	08/01/2013	08/01/2013	08/01/2013	08/01/2013	08/01/2013	08/01/2013	08/06/2013
Depth (ft)			0-0.5	2-4	4-6	8-9	2-4	4-6	6-8	8-10	2-4	4-6	6-7	2-4
Type			Shallow	Deep	Deep	Deep	Deep	Deep	Deep	Deep	Deep	Deep	Deep	Deep
Group			ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON
Analyte	ERLs	ERMs												
Total Organic Carbo	NA	NA	59200	37800	45300	48000	75700	-	19700	-	50700	24600	50600	49100
Total Metals														
Antimony	NA	9.3 b	<2.4	<2.3	<3.1	<3.8	<3.0	<2.7	2.9	<3.9	<3.8	<1.2	<3.2	<2.6
Arsenic	8.2 a	70 a	**48.2**	**77.3**	**65.4**	**30.3**	**82.4**	**37.6**	**9.1**	**76.6**	**146**	**26.2**	**59.4**	**78.7**
Barium	NA	48 b	50.2	79.4	67.8	133	79.5	90.1	50	58	89.4	22.6	66.1	67.2
Beryllium	NA	NA	0.48	0.66	0.49	0.72	0.95	0.26	0.18	0.4	0.94	0.23	0.47	0.67
Cadmium	1.2 a	9.6 a	**1.9**	**4**	**1.66**	**4.91**	**4.57**	0.99	<0.53	**1.39**	**4.66**	0.61	**1.51**	**2.51**
Chromium	81 a	370 a	50.9	70.7	**93.5**	**183**	**85.4**	**97.8**	66.4	**115**	**157**	44.4	**116**	**82**
Lead	47 a	218 a	**280**	**435**	**257**	**710**	**486**	**215**	**226**	**251**	**495**	**65.6**	**238**	**439**
Mercury	0.15 a	0.71 a	**1.2**	**4.04**	**2.33**	**5.21**	**1.86**	**2.97**	**1.28**	**3.14**	**3.3**	**0.509**	**1.62**	**2.99**
Nickel	21 a	52 a	17.3	**28.5**	14.2	20.7	**30.5**	9.9	4	10.2	**33.8**	6.6	10	**25.4**
Selenium	NA	1 b	2.74	4.95	<3.13	5.57	6.32	3.03	<2.63	<3.89	6.6	<1.24	<3.17	7.55
Silver	1 a	3.7 a	**1.47**	**2.66**	**2.84**	**5.14**	**2.56**	**4.95**	**1.12**	**2.73**	**4.54**	0.67	**1.74**	**2.52**
Thallium	NA	NA	<2.40	<2.31	<3.13	<3.77	<3.01	<2.74	<2.63	<3.89	<3.75	<1.24	<3.17	<2.62
Vanadium	NA	57 b	63.7	151	124	192	153	122	82.3	169	244	52.3	123	120
Zinc	150 a	410 a	**364**	**506**	**193**	**833**	**612**	104	40.4	**153**	**575**	64.3	**160**	**414**

Source: Table 3A from "Supplemental Phase II Comprehensive Site Assessment, Former Everett Staging Yard, Water-Side, Everett, Massachusetts, Release Tracking Number 3-13341", prepared by GZA, December 2015.

Table 3A
SEDIMENT METALS AND TOTAL ORGANIC CARBON RESULTS

Wynn Resort Casino
Everett, Massachusetts

Sample ID	Marine Sediment Benchmarks		GZ-104 4-6ft	GZ-104 6-8ft	GZ-104T 0-0_5ft	GZ-105 2-4ft	GZ-105 4-6ft	GZ-105 6-9ft	GZ-106 2-4ft	GZ-106 4-6ft	GZ-106 6-9ft	GZ-107 0-0_5ft	GZ-107 2-4ft	GZ-108 2-4ft
Date Sampled			08/01/2013	08/01/2013	08/06/2013	08/01/2013	08/01/2013	08/01/2013	08/01/2013	08/01/2013	08/01/2013	08/01/2013	08/01/2013	08/01/2013
Depth (ft)			4-6	6-8	0-0.5	2-4	4-6	6-9	2-4	4-6	6-9	0-0.5	2-4	2-4
Type			Deep	Deep	Shallow	Deep	Deep	Deep	Deep	Deep	Deep	Shallow	Deep	Deep
Group			ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON
Analyte	ERLs	ERMs												
Total Organic Carbo	NA	NA	21600	30500	45700	-	33700	49400	19400	51100	42400	-	19000	55600
Total Metals														
Antimony	NA	9.3 b	<1.3	<1.3	<4.5	<2.5	<2.2	<3.9	<2.8	<3.7	<3.3	<2.8	<4.4	<3.3
Arsenic	8.2 a	70 a	1.9	2.9	**182**	**110**	**93**	**204**	**87.5**	**108**	**39.5**	**33.4**	**117**	**86.9**
Barium	NA	48 b	9.9	17.2	190	64.6	63.5	55.7	64.9	40.2	50.4	46.4	121	59.1
Beryllium	NA	NA	0.2	0.33	1.5	0.62	0.61	0.56	0.91	0.53	0.57	0.5	0.81	0.81
Cadmium	1.2 a	9.6 a	<0.26	0.31	**8.98**	**3.17**	**2.68**	**2.45**	**4.28**	**1.79**	**1.25**	**1.51**	**2.53**	**3.71**
Chromium	81 a	370 a	10.1	16.4	**169**	**99.3**	**86.5**	**134**	**132**	**120**	**94.4**	60.6	**135**	**121**
Lead	47 a	218 a	<2.6	3.7	**1070**	**455**	**452**	**289**	**479**	**216**	**158**	**224**	**442**	**363**
Mercury	0.15 a	0.71 a	<0.024	<0.025	**2.51**	**2.57**	**2.1**	**2.22**	**2.18**	**2.13**	**1.34**	**1.12**	**1.7**	**3.42**
Nickel	21 a	52 a	6.3	9.6	**65.9**	**25.9**	**28.9**	14.5	**33.8**	16.1	10.6	18.8	**21.2**	**27.8**
Selenium	NA	1 b	<1.29	<1.31	9.54	8.23	8.29	<3.87	4.8	<3.70	<3.27	3.32	<4.35	4.66
Silver	1 a	3.7 a	<0.26	<0.26	**5.11**	**2.51**	**2.28**	**1.95**	**3.37**	**3.41**	**1.28**	**1.52**	**2.42**	**3.28**
Thallium	NA	NA	<1.29	<1.31	<4.49	<2.49	<2.19	<3.87	<2.85	<3.70	<3.27	<2.80	<4.35	<3.30
Vanadium	NA	57 b	12.9	20.9	354	173	151	135	206	231	101	64.9	182	186
Zinc	150 a	410 a	17.1	26.3	**1230**	**489**	**427**	**275**	**607**	**251**	141	**283**	**374**	**482**

Source: Table 3A from "Supplemental Phase II Comprehensive Site Assessment, Former Everett Staging Yard, Water-Side, Everett, Massachusetts, Release Tracking Number 3-13341", prepared by GZA, December 2015.

Table 3A
SEDIMENT METALS AND TOTAL ORGANIC CARBON RESULTS

Wynn Resort Casino
Everett, Massachusetts

Sample ID	Marine Sediment Benchmarks		GZ-108 4-6ft	GZ-108 8-10ft	GZ-108T 0-0_5ft	GZ-109 0_5-2_5ft	GZ-109T 0-0_5ft	GZ-110B 0-0_5ft	GZ-110B 2-4ft	GZ-111 0-0_5ft	GZ-111 2-4ft	GZ-111 7-8ft	GZ-112 2-4ft	GZ-112 6-8ft
Date Sampled			08/01/2013	08/01/2013	08/06/2013	08/02/2013	08/06/2013	08/05/2013	08/05/2013	08/01/2013	08/01/2013	08/01/2013	08/01/2013	08/01/2013
Depth (ft)			4-6	8-10	0-0.5	0.5-2.5	0-0.5	0-0.5	2-4	0-0.5	2-4	7-8	2-4	6-8
Type			Deep	Deep	Shallow	Shallow	Shallow	Shallow	Deep	Shallow	Deep	Deep	Deep	Deep
Group			ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON
Analyte	ERLs	ERMs												
Total Organic Carbo	NA	NA	138000	55200	53400	80100	54200	71500	49100	55300	32900	28500	39900	29800
Total Metals														
Antimony	NA	9.3 b	<4.3	<5.2	<4.2	2.5	<2.7	<1.3	<1.6	<2.7	<4.4	<4.3	<3.7	<4.6
Arsenic	8.2 a	70 a	**89.7**	**135**	**51.5**	**229**	**75.7**	**28.5**	2.5	**28.8**	**77.6**	**9.5**	**94.8**	**87.3**
Barium	NA	48 b	51.8	68.4	66.9	40.8	45.9	14.1	16.7	50.5	49.1	38.1	60.9	48
Beryllium	NA	NA	0.71	0.91	0.75	<0.30	0.57	0.19	0.35	0.53	0.52	0.66	0.77	0.94
Cadmium	1.2 a	9.6 a	**2.49**	**4.12**	**2.19**	**1.52**	**1.68**	0.67	0.39	**1.45**	**2.46**	<0.86	**3.45**	**2.73**
Chromium	81 a	370 a	**162**	**168**	**88.2**	24.5	62	19	17.2	63.7	**107**	38.7	**138**	**115**
Lead	47 a	218 a	**257**	**328**	**286**	**394**	**209**	**208**	12.8	**226**	**190**	32.4	**357**	**178**
Mercury	0.15 a	0.71 a	**2.44**	**4.05**	**1.88**	**3.99**	**1.43**	**1.53**	0.09	**1.37**	**1.34**	<0.083	**3.7**	**2.68**
Nickel	21 a	52 a	19.3	18.8	**25.3**	13.5	**22.5**	6.2	10.3	18.9	11.5	20.6	**29.9**	**23.9**
Selenium	NA	1 b	<4.30	<5.25	<4.16	104	5.44	6.23	<1.61	<2.72	<4.44	<4.31	<3.75	<4.58
Silver	1 a	3.7 a	**2.44**	**3.26**	**2.17**	**1.46**	**1.59**	0.32	<0.32	**1.59**	**1.49**	<0.86	**3.5**	**1.69**
Thallium	NA	NA	<4.30	<5.25	<4.16	<1.45	<2.75	<1.25	<1.61	<2.72	<4.44	<4.31	<3.75	<4.58
Vanadium	NA	57 b	183	159	90.6	25	84.5	14.6	23.9	62.4	118	46.7	231	120
Zinc	150 a	410 a	**302**	**439**	**387**	**169**	**279**	**173**	28.8	**279**	**209**	81.6	**469**	**243**

Source: Table 3A from "Supplemental Phase II Comprehensive Site Assessment, Former Everett Staging Yard, Water-Side, Everett, Massachusetts, Release Tracking Number 3-13341", prepared by GZA, December 2015.

Wynn Resort Casino
Everett, Massachusetts

Sample ID	Marine Sediment Benchmarks		GZ-112T 0-0_5ft	GZ-113 2-4ft	GZ-113 4-6ft	GZ-113T 0-0_5ft	GZ-114 2-5ft	GZ-114 5-7ft	GZ-114T 0-0_5ft	GZ-115 2-5ft	GZ-115 5-7ft	GZ-115T 0-0_5ft	GZ-116 0_5-2ft	GZ-116 2-4ft
Date Sampled			08/06/2013	08/01/2013	08/01/2013	08/06/2013	08/01/2013	08/01/2013	08/06/2013	08/01/2013	08/01/2013	08/06/2013	08/02/2013	08/02/2013
Depth (ft)			0-0.5	2-4	4-6	0-0.5	2-5	5-7	0-0.5	2-5	5-7	0-0.5	0.5-2	2-4
Type			Shallow	Deep	Deep	Shallow	Deep	Deep	Shallow	Deep	Deep	Shallow	Shallow	Deep
Group			ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON
Analyte	ERLs	ERMs												
Total Organic Carbo	NA	NA	9910	31800	44400	73100	25300	39100	35000	21100	56200	42800	40800	117000
Total Metals														
Antimony	NA	9.3 b	<4.0	<1.8	<1.4	<1.8	<3.9	<1.3	<3.1	<3.4	<5.7	<3.5	1.6	<125
Arsenic	8.2 a	70 a	**54.2**	**46.4**	**78.3**	**39.7**	**152**	2.2	**41.4**	**323**	**204**	**45.7**	**249**	**235**
Barium	NA	48 b	63.6	30.8	36	21.9	163	15.4	77.5	34.4	61	77.8	33.9	49.6
Beryllium	NA	NA	0.69	0.33	<0.29	0.29	1.51	0.29	0.82	0.86	0.91	0.82	0.13	<0.05
Cadmium	1.2 a	9.6 a	**2.09**	**1.3**	**1.76**	0.95	**8.49**	0.26	**2.27**	**2.26**	**2.91**	**2.39**	0.85	**5.25**
Chromium	81 a	370 a	**83.7**	37.2	40.8	32.8	**212**	14.2	**94.2**	**172**	**201**	**95**	71.4	18.6
Lead	47 a	218 a	**266**	**187**	**246**	**101**	**667**	3	**288**	**283**	**344**	**281**	**467**	**192**
Mercury	0.15 a	0.71 a	**1.67**	**1.59**	**1.08**	**0.754**	**4.57**	<0.023	**1.15**	**4.19**	**2.51**	**1.26**	**2.7**	**2.52**
Nickel	21 a	52 a	**24.1**	19.7	8.2	15.3	**38.2**	8.7	**27.6**	15.4	17.4	**28**	3.5	8.3
Selenium	NA	1 b	<4.02	2.75	26.8	1.81	11.7	<1.28	3.57	<3.38	<5.74	<3.46	4.36	<125
Silver	1 a	3.7 a	**2.07**	**1.16**	**1.74**	0.91	**4.02**	<0.26	**2.21**	**1.94**	**2.5**	**2.17**	**3.9**	**10.8**
Thallium	NA	NA	<4.02	<1.79	<1.37	<1.78	<3.91	<1.28	<3.09	<3.38	<5.74	<3.46	1.37	<250
Vanadium	NA	57 b	82	171	26.8	52.9	163	18.1	88	297	192	88.6	25	22.5
Zinc	150 a	410 a	**373**	**190**	**187**	147	**956**	24.1	**416**	**342**	**349**	**423**	67.5	**469**

Source: Table 3A from "Supplemental Phase II Comprehensive Site Assessment, Former Everett Staging Yard, Water-Side, Everett, Massachusetts, Release Tracking Number 3-13341", prepared by GZA, December 2015.

Table 3A
SEDIMENT METALS AND TOTAL ORGANIC CARBON RESULTS

Wynn Resort Casino
Everett, Massachusetts

Sample ID	Marine Sediment Benchmarks		GZ-116 4-6ft	GZ-116 6-8ft	GZ-116 8-9ft	GZ-116T 0-0_5ft	GZ-117 2-4ft	GZ-117 4-6ft	GZ-117T 0-0_5ft	GZ-118A 0_5-1ft	GZ-118A 0-0_5ft	GZ-119 2-4ft	GZ-119T 0-0_5ft	GZ-120 2-4ft
Date Sampled			08/02/2013	08/02/2013	08/02/2013	08/06/2013	08/01/2013	08/01/2013	08/06/2013	08/05/2013	08/05/2013	08/01/2013	08/01/2013	08/02/2013
Depth (ft)			4-6	6-8	8-9	0-0.5	2-4	4-6	0-0.5	0.5-1	0-0.5	2-4	0-0.5	2-4
Type			Deep	Deep	Deep	Shallow	Deep	Deep	Shallow	Shallow	Shallow	Deep	Shallow	Deep
Group			ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON
Analyte	ERLs	ERMs												
Total Organic Carbo	NA	NA	-	57100	43200	47200	38400	28600	48400	17000	-	31100	-	-
Total Metals														
Antimony	NA	9.3 b	<1.5	<1.5	<1.5	<1.6	<2.7	<2.9	<3.3	<1.2	<1.3	<4.9	<2.8	<1.4
Arsenic	8.2 a	70 a	4	6.9	2.6	**75.7**	**153**	**112**	**38.6**	**106**	**155**	**93.1**	**33**	**357**
Barium	NA	48 b	21.7	24.1	28.7	32.6	63.2	44.4	74.8	25.2	23.5	66.7	65.4	11.8
Beryllium	NA	NA	0.44	0.41	0.55	0.49	0.9	0.55	0.81	0.29	0.25	0.85	0.7	0.26
Cadmium	1.2 a	9.6 a	0.37	0.42	0.47	1.04	**4.31**	**2.03**	**2.33**	0.46	0.59	**2.35**	**2.23**	0.73
Chromium	81 a	370 a	20.9	20.1	24.3	39.8	**150**	**120**	**90.7**	17.7	15.1	**133**	79.8	13.9
Lead	47 a	218 a	4.3	22	4.5	**116**	**350**	**164**	**245**	**69**	**80.6**	**202**	**213**	9.5
Mercury	0.15 a	0.71 a	<0.023	0.065	<0.023	**0.484**	**2.34**	**2.31**	**1.12**	**0.276**	**0.249**	**1.51**	**1.11**	<0.019
Nickel	21 a	52 a	11.7	10.9	13.8	15.8	**34.6**	20.4	**26.4**	8.6	7.4	17.2	**22.4**	9.5
Selenium	NA	1 b	<1.45	<1.46	<1.50	1.58	<2.68	<2.90	<3.32	<1.24	<1.30	<4.89	<2.82	<1.38
Silver	1 a	3.7 a	<0.29	<0.29	<0.30	0.97	**4.04**	**2.22**	**2.3**	0.57	0.67	**1.63**	**2.03**	<0.28
Thallium	NA	NA	<1.45	<1.46	<1.50	<1.56	<2.68	<2.90	<3.32	<1.24	<1.30	<4.89	<2.82	<1.38
Vanadium	NA	57 b	26.5	24.9	31.7	57.5	307	235	86	34.5	32.8	134	70.5	18
Zinc	150 a	410 a	34.1	52	42	**182**	**531**	**221**	**392**	70.9	73.3	**272**	**369**	**281**

Source: Table 3A from "Supplemental Phase II Comprehensive Site Assessment, Former Everett Staging Yard, Water-Side, Everett, Massachusetts, Release Tracking Number 3-13341", prepared by GZA, December 2015.

Table 3A
SEDIMENT METALS AND TOTAL ORGANIC CARBON RESULTS

Wynn Resort Casino
Everett, Massachusetts

Sample ID	Marine Sediment Benchmarks		GZ-120T 0-0_5ft	GZ-121 2-4ft	GZ-121 4-6ft	GZ-121T 0-0_5ft	GZ-122 0_5-2ft	GZ-122 2-4ft	GZ-122T 0-0_5ft	GZ-123 0-0_5ft	GZ-123 2-4ft	GZ-123 4-6ft	GZ-124 0-0_5ft	GZ-124 2-4ft
Date Sampled			08/06/2013	08/01/2013	08/01/2013	08/06/2013	08/02/2013	08/02/2013	08/06/2013	08/01/2013	08/01/2013	08/01/2013	08/02/2013	08/02/2013
Depth (ft)			0-0.5	2-4	4-6	0-0.5	0.5-2	2-4	0-0.5	0-0.5	2-4	4-6	0-0.5	2-4
Type			Shallow	Deep	Deep	Shallow	Shallow	Deep	Shallow	Shallow	Deep	Deep	Shallow	Deep
Group	ERLs	ERMs	ON	ON	ON	ON	OFF-W	OFF-W	OFF-W	ON	ON	ON	OFF-W	OFF-W
Analyte														
Total Organic Carbo	NA	NA	70100	56500	-	61600	-	-	-	-	31300	61300	-	15500
Total Metals														
Antimony	NA	9.3 b	2.5	<4.9	<2.9	<3.4	2.6	<1.4	<1.2	<2.8	<4.1	<3.2	<1.3	<1.4
Arsenic	8.2 a	70 a	**172**	**49.1**	**31.3**	**27.3**	**51.5**	6.6	**14.2**	**26.8**	**59**	**39.9**	**20.2**	1.8
Barium	NA	48 b	52.5	82.8	62.3	71.4	29.4	14.5	23.9	67.2	62.2	54.2	21.2	7.9
Beryllium	NA	NA	0.34	0.79	0.61	0.78	0.3	0.23	0.19	0.75	0.62	0.46	0.26	0.27
Cadmium	1.2 a	9.6 a	0.83	**3.12**	**2.12**	**2.37**	0.72	0.3	0.42	**2.23**	**2.41**	**1.89**	0.6	0.29
Chromium	81 a	370 a	27.3	**173**	**91.4**	**93.2**	23.7	11.4	14.5	**89.2**	**144**	**104**	16	9.4
Lead	47 a	218 a	**306**	**288**	**165**	**240**	**298**	**63.5**	**126**	**232**	**218**	**150**	**89.1**	<2.9
Mercury	0.15 a	0.71 a	**0.74**	**1.62**	**0.99**	**1.01**	**0.233**	<0.023	**0.229**	**1.06**	**1.49**	**1.32**	**0.25**	<0.110
Nickel	21 a	52 a	8.5	**22.9**	15.8	**26.1**	10.6	7.2	5.9	**25.6**	20.7	15.3	8.3	5
Selenium	NA	1 b	<1.63	<4.89	<2.91	<3.36	<1.37	<1.38	<1.18	<2.84	<4.09	<3.19	<1.26	<1.43
Silver	1 a	3.7 a	**1.65**	**2.73**	**1.36**	**2.33**	0.96	<0.28	0.65	**2.25**	**2.25**	**1.73**	0.65	<0.29
Thallium	NA	NA	<1.63	<4.89	<2.91	<3.36	<1.37	<1.38	<1.18	<2.84	<4.09	<3.19	<1.26	<1.43
Vanadium	NA	57 b	39.3	194	106	79.4	46.6	17.6	19.8	81.9	187	107	26.9	13.3
Zinc	150 a	410 a	**157**	**344**	**211**	**408**	140	38.2	88.7	**382**	**284**	**186**	99.3	15.4

Source: Table 3A from "Supplemental Phase II Comprehensive Site Assessment, Former Everett Staging Yard, Water-Side, Everett, Massachusetts, Release Tracking Number 3-13341", prepared by GZA, December 2015.

Wynn Resort Casino
Everett, Massachusetts

Sample ID	Marine Sediment Benchmarks		GZ-125A 0-0_5ft	GZ-125A 2-4ft	GZ-125A 4-6ft	GZ-125A 8-9ft	GZ-126 0_5-2ft	GZ-126 2-4ft	GZ-126T 0-0_5ft	GZ-127 0_5-2ft	GZ-127 0-0_5ft	GZ-127 2-4ft	GZ-127 4-5ft	GZ-128 2-4ft
Date Sampled			08/05/2013	08/05/2013	08/05/2013	08/05/2013	08/05/2013	08/05/2013	08/06/2013	08/05/2013	08/05/2013	08/05/2013	08/05/2013	08/01/2013
Depth (ft)			0-0.5	2-4	4-6	8-9	0.5-2	2-4	0-0.5	0.5-2	0-0.5	2-4	4-5	2-4
Type			Shallow	Deep	Deep	Deep	Shallow	Deep	Shallow	Shallow	Shallow	Deep	Deep	Deep
Group			OFF-W	OFF-W	OFF-W	OFF-W	OFF-W	OFF-W	OFF-W	ON	ON	ON	ON	ON
Analyte	ERLs	ERMs												
Total Organic Carbo	NA	NA	-	52800	-	-	-	-	-	64800	19000	35100	-	-
Total Metals														
Antimony	NA	9.3 b	<1.5	<1.2	<1.3	<1.4	<1.2	<1.2	<1.4	<1.5	2.3	<1.1	<1.2	<3.0
Arsenic	8.2 a	70 a	5.3	1.6	2	2.5	**13.6**	<1.2	**24.5**	**24.7**	**94.7**	8	5.9	**54.4**
Barium	NA	48 b	14.2	10	12.4	18.6	22.3	9.7	31.8	27.2	89.4	24.3	41.9	63.1
Beryllium	NA	NA	0.2	0.23	0.27	0.38	0.21	0.22	0.26	0.26	0.34	0.39	0.6	0.49
Cadmium	1.2 a	9.6 a	0.3	<0.25	0.28	0.35	0.35	<0.25	0.58	<0.29	1.2	<0.23	<0.25	**2.15**
Chromium	81 a	370 a	12	11.3	13.4	18.1	12.3	10.4	19.1	17.2	32	14.4	24.8	**84.5**
Lead	47 a	218 a	44.8	<2.5	<2.5	3	**91.6**	<2.5	**140**	**97.4**	**369**	12.4	8.9	**208**
Mercury	0.15 a	0.71 a	**0.184**	<0.021	<0.017	<0.025	**0.253**	<0.019	**0.506**	**1.69**	**0.876**	<0.020	<0.023	**1.46**
Nickel	21 a	52 a	6.1	6.7	7.8	10.2	5.9	6.4	7.6	8.6	9.5	9.4	12.1	15.9
Selenium	NA	1 b	<1.45	<1.25	<1.26	<1.42	<1.17	<1.23	<1.37	<1.47	1.91	<1.14	<1.24	<3.03
Silver	1 a	3.7 a	<0.29	<0.25	<0.25	<0.28	0.39	<0.25	0.66	0.63	**1.94**	0.3	0.28	**1.93**
Thallium	NA	NA	<1.45	<1.25	<1.26	<1.42	<1.17	<1.23	<1.37	<1.47	<1.58	<1.14	<1.24	<3.03
Vanadium	NA	57 b	15.4	15.2	17.6	22.8	15.9	14.3	22.2	24.1	56.6	22.3	34.1	97.5
Zinc	150 a	410 a	52.4	19.8	22.2	29.9	55.2	18.4	102	80	**217**	40.3	46.6	**254**

Source: Table 3A from "Supplemental Phase II Comprehensive Site Assessment, Former Everett Staging Yard, Water-Side, Everett, Massachusetts, Release Tracking Number 3-13341", prepared by GZA, December 2015.

Table 3A
SEDIMENT METALS AND TOTAL ORGANIC CARBON RESULTS

Wynn Resort Casino
Everett, Massachusetts

Sample ID	Marine Sediment Benchmarks		GZ-128 4-6ft	GZ-128T 0-0_5ft	GZ-129 2-4ft	GZ-129T 0-0_5ft	GZ-130 0-0_5ft	GZ-130 2-4ft	GZ-130 4-6ft	GZ-131 0_5-2ft	GZ-131 0-0_5ft	GZ-131 2-4ft	GZ-131 4-5ft	GZ-132 0_5-2ft
Date Sampled			08/01/2013	08/06/2013	08/02/2013	08/06/2013	08/02/2013	08/02/2013	08/02/2013	08/02/2013	08/02/2013	08/02/2013	08/02/2013	08/05/2013
Depth (ft)			4-6	0-0.5	2-4	0-0.5	0-0.5	2-4	4-6	0.5-2	0-0.5	2-4	4-5	0.5-2
Type			Deep	Shallow	Deep	Shallow	Shallow	Deep	Deep	Shallow	Shallow	Deep	Deep	Shallow
Group	ERLs	ERMs	ON	ON	OFF-W	OFF-W	OFF-W	OFF-W	OFF-W	OFF-W	OFF-W	OFF-W	OFF-W	OFF-W
Analyte														
Total Organic Carbo	NA	NA	-	-	59600	-	-	58300	10700	40000	-	-	-	-
Total Metals														
Antimony	NA	9.3 b	<1.9	<3.1	<1.3	<1.6	<1.6	<1.3	<1.4	<1.4	<1.4	<1.3	<1.1	<1.3
Arsenic	8.2 a	70 a	**30.4**	**33.2**	3.7	**11.6**	4.2	3.1	2.4	**23.4**	**13.8**	3.5	4.5	**68.3**
Barium	NA	48 b	60.2	58.5	8.1	15	14.6	6.6	8.8	18.6	19	6.3	7.8	47.9
Beryllium	NA	NA	0.64	0.58	0.16	0.18	0.28	0.15	0.18	0.22	0.15	0.14	0.2	0.34
Cadmium	1.2 a	9.6 a	**1.71**	**1.31**	<0.26	<0.32	<0.32	<0.25	<0.28	<0.27	<0.28	<0.25	<0.23	**2.4**
Chromium	81 a	370 a	63.8	78.2	9.5	16.6	15.2	7.7	10.1	16.2	14.7	7.4	10.2	20.8
Lead	47 a	218 a	**135**	**191**	<2.6	44.4	9.2	<2.5	<2.8	**112**	**65.2**	3.4	4.2	**238**
Mercury	0.15 a	0.71 a	**0.949**	**0.84**	<0.020	<0.026	<0.030	<0.020	<0.024	**0.225**	**0.269**	0.056	<0.023	**0.41**
Nickel	21 a	52 a	20.2	**23.2**	5.5	6.8	8.9	4.8	6.2	6.3	5.5	4.6	7.1	16.6
Selenium	NA	1 b	<1.92	<3.12	<1.28	<1.60	<1.62	<1.27	<1.41	4.43	<1.39	<1.25	<1.13	2.25
Silver	1 a	3.7 a	**1.25**	**2.14**	<0.26	0.42	<0.32	<0.25	<0.28	0.71	0.65	<0.25	0.25	<1.29
Thallium	NA	NA	<1.92	<3.12	<1.28	<1.60	<1.62	<1.27	<1.41	<1.35	<1.39	<1.25	<1.13	<1.29
Vanadium	NA	57 b	52.4	71.1	11.9	19.5	19.2	10	12.6	18.5	16.8	10	19.3	21.3
Zinc	150 a	410 a	**237**	**303**	16.1	67	29.8	13.6	17.2	132	72.7	14.6	20.9	**1310**

Source: Table 3A from "Supplemental Phase II Comprehensive Site Assessment, Former Everett Staging Yard, Water-Side, Everett, Massachusetts, Release Tracking Number 3-13341", prepared by GZA, December 2015.

Table 3A
SEDIMENT METALS AND TOTAL ORGANIC CARBON RESULTS

Wynn Resort Casino
Everett, Massachusetts

Sample ID	Marine Sediment Benchmarks		GZ-132 0-0_5ft	GZ-133 0_5-2ft	GZ-133 0-0_5ft	GZ-133 2-4_4ft	GZ-134 2-3ft	GZ-134 4-6ft	GZ-134 6-8ft	GZ-134T 0-0_5ft	GZ-135 2-4ft	GZ-135 4-6ft	GZ-135T 0-0_5ft	GZ-136 0_5-2ft
Date Sampled			08/05/2013	08/05/2013	08/05/2013	08/05/2013	08/02/2013	08/02/2013	08/02/2013	08/06/2013	08/02/2013	08/02/2013	08/06/2013	08/05/2013
Depth (ft)			0-0.5	0.5-2	0-0.5	2-4.4	2-3	4-6	6-8	0-0.5	2-4	4-6	0-0.5	0.5-2
Type			Shallow	Shallow	Shallow	Deep	Shallow	Deep	Deep	Shallow	Deep	Deep	Shallow	Shallow
Group			OFF-W	OFF-W	OFF-W	OFF-W	ON	ON	ON	ON	OFF-W	OFF-W	OFF-W	OFF-W
Analyte	ERLs	ERMs												
Total Organic Carbo	NA	NA	-	-	-	-	-	-	-	52600	-	-	-	16300
Total Metals														
Antimony	NA	9.3 b	<1.4	1.8	<1.4	<1.5	<3.6	<3.2	<1.9	<3.0	<1.3	<1.4	<1.5	<1.4
Arsenic	8.2 a	70 a	**21.5**	**52.8**	**30.3**	**25.6**	**35.5**	**53.4**	**31.2**	**30.7**	3.5	5.5	7.4	**27.9**
Barium	NA	48 b	27.3	51.3	38.4	36.2	31.7	64.7	69	59	6.8	12.2	13.3	36.6
Beryllium	NA	NA	0.19	0.27	0.18	0.28	0.44	0.4	0.72	0.61	0.14	0.24	0.18	0.25
Cadmium	1.2 a	9.6 a	<0.28	0.34	<0.28	<0.29	**1.37**	**1.83**	**1.76**	**1.36**	<0.25	<0.29	<0.30	0.89
Chromium	81 a	370 a	18.1	29.6	18.1	19.4	54.5	74.2	66.6	79	7.8	12.9	15.5	28.9
Lead	47 a	218 a	**100**	**218**	**149**	**107**	**132**	**187**	**136**	**191**	<2.5	3	29.3	**127**
Mercury	0.15 a	0.71 a	**0.296**	**1.05**	**0.497**	**0.816**	**0.524**	**1.1**	**1.09**	**1.06**	<0.021	<0.027	0.099	**0.915**
Nickel	21 a	52 a	6.7	10	6	9.5	15.4	11.4	**23.6**	**23.4**	4.7	7.3	6.8	9.8
Selenium	NA	1 b	<1.42	<1.69	<1.38	1.78	<3.57	<3.23	<1.92	<3.05	<1.26	<1.44	<1.51	<1.42
Silver	1 a	3.7 a	0.85	**1.6**	0.9	0.96	**1.11**	**1.81**	**1.36**	**2.19**	<0.25	<0.29	0.39	**1.43**
Thallium	NA	NA	<1.42	<1.69	<1.38	<1.46	<3.57	<3.23	<1.92	<3.05	<1.26	<1.44	<1.51	<1.42
Vanadium	NA	57 b	24.1	46.4	24.6	23.7	83	72.6	52.3	71.7	10.1	16.2	16.9	35
Zinc	150 a	410 a	101	**165**	123	140	**210**	**257**	**276**	**332**	14.7	21.7	57.5	**198**

Source: Table 3A from "Supplemental Phase II Comprehensive Site Assessment, Former Everett Staging Yard, Water-Side, Everett, Massachusetts, Release Tracking Number 3-13341", prepared by GZA, December 2015.

Table 3A
SEDIMENT METALS AND TOTAL ORGANIC CARBON RESULTS

Wynn Resort Casino
Everett, Massachusetts

Sample ID	Marine Sediment Benchmarks		GZ-136 0-0_5ft	GZ-136 2-4ft	GZ-136 4-6ft	GZ-136 8-10ft	GZ-137 2-4ft	GZ-137 4-5_5ft	GZ-137T 0-0_5ft	GZ-138 0_5-2ft	GZ-138 0-0_5ft	GZ-138 2-4ft	GZ-138 4-6ft	GZ-138 6-8ft
Date Sampled			08/05/2013	08/05/2013	08/05/2013	08/05/2013	08/05/2013	08/05/2013	08/06/2013	08/02/2013	08/02/2013	08/02/2013	08/02/2013	08/02/2013
Depth (ft)			0-0.5	2-4	4-6	8-10	2-4	4-5.5	0-0.5	0.5-2	0-0.5	2-4	4-6	6-8
Type			Shallow	Deep	Deep	Deep	Deep	Deep	Shallow	Shallow	Shallow	Deep	Deep	Deep
Group			OFF-W	OFF-W	OFF-W	OFF-W	OFF-W	OFF-W	OFF-W	OFF-W	OFF-W	OFF-W	OFF-W	OFF-W
Analyte	ERLs	ERMs												
Total Organic Carbo	NA	NA	-	-	-	-	-	-	54800	-	71000	-	-	-
Total Metals														
Antimony	NA	9.3 b	1.4	<1.3	<1.3	<1.3	1.5	<1.2	<1.8	<2.9	<2.7	<2.0	<2.0	<2.3
Arsenic	8.2 a	70 a	**34.6**	5.1	3.9	4.2	**15.4**	7.2	**17.9**	**28.6**	**30.3**	**31**	**33.8**	**42.5**
Barium	NA	48 b	55	9.8	8.2	10.4	30.5	7.8	37.3	48.4	58.2	59	72.6	90.1
Beryllium	NA	NA	0.33	0.18	0.15	0.19	0.17	0.25	0.39	0.59	0.59	0.6	0.63	0.44
Cadmium	1.2 a	9.6 a	<1.35	<0.27	<0.25	<0.26	0.36	<0.23	0.85	**1.51**	**1.47**	**1.75**	**2.36**	**3.74**
Chromium	81 a	370 a	28.4	10.6	9	10.3	13.8	9.8	48.7	68.2	**82.4**	61.6	75.7	**104**
Lead	47 a	218 a	**180**	3.5	<2.5	<2.5	**131**	7	**133**	**140**	**183**	**146**	**177**	**307**
Mercury	0.15 a	0.71 a	**0.73**	<0.024	<0.025	<0.026	<0.018	<0.022	**0.777**	**0.779**	**0.949**	**1.38**	**1.73**	**2.44**
Nickel	21 a	52 a	11	6.2	5.4	6	6.7	6	15.9	19.4	**25.3**	19.2	20	15.4
Selenium	NA	1 b	1.72	<1.34	<1.26	<1.28	<1.27	<1.16	<1.83	<2.93	<2.69	<2.05	<1.97	3.12
Silver	1 a	3.7 a	**1.76**	<0.27	<0.25	<0.26	0.96	<0.23	**1.22**	**1.28**	**2.29**	**1.38**	**1.53**	**2.08**
Thallium	NA	NA	<1.35	<1.34	<1.26	<1.28	<1.27	<1.16	<1.83	<2.93	<2.69	<2.05	<1.97	<2.28
Vanadium	NA	57 b	29.5	13.9	11.1	13.3	16	14.1	50.5	78	77.3	51.3	57.3	97.5
Zinc	150 a	410 a	**248**	21	17.2	18.4	132	21.2	**216**	**250**	**322**	**276**	**310**	**485**

Source: Table 3A from "Supplemental Phase II Comprehensive Site Assessment, Former Everett Staging Yard, Water-Side, Everett, Massachusetts, Release Tracking Number 3-13341", prepared by GZA, December 2015.

Table 3A
SEDIMENT METALS AND TOTAL ORGANIC CARBON RESULTS

Wynn Resort Casino
Everett, Massachusetts

Sample ID	Marine Sediment Benchmarks		GZ-139 0-0_5ft	GZ-139 2-4ft	GZ-139 6-8ft	GZ-140A 0_5-2ft	GZ-140A 0-0_5ft	GZ-140A 2-3ft	GZ-201 0ft-0_5ft	GZ-201 0ft-3ft	GZ-201 4ft-5ft	GZ-202 0ft-0_5ft	GZ-202 2ft-4ft	GZ-203 0ft-0_5ft
Date Sampled			08/05/2013	08/05/2013	08/05/2013	08/05/2013	08/05/2013	08/05/2013				03/24/2015	3/24/2015	03/24/2015
Depth (ft)			0-0.5	2-4	6-8	0.5-2	0-0.5	2-3	0-0.5	0-3	4-5	0-0.5	2-4	0-0.5
Type			Shallow	Deep	Deep	Shallow	Shallow	Shallow	Shallow	Shallow	Deep	Shallow	Deep	Shallow
Group			OFF-W	OFF-W	OFF-W	OFF-W	OFF-W	OFF-W	OFF-E	OFF-E	OFF-E	OFF-E	OFF-E	OFF-E
Analyte	ERLs	ERMs												
Total Organic Carbo	NA	NA	-	-	-	5210	-	10900	-	31000	-	-	-	-
Total Metals														
Antimony	NA	9.3 b	<1.0	<1.9	<1.4	<2.6	<1.3	<1.9	0.54	0.5	0.58	<1.23	<4.88	<1.24
Arsenic	8.2 a	70 a	**11**	2	<1.4	**28.1**	**11.3**	**15.9**	**17**	**20.4**	**14**	**29.9**	**15.3**	**25.5**
Barium	NA	48 b	29.9	12.6	10.4	64.9	30.9	38.9	60.7	63.6	47.2	69.4	25.7	55.7
Beryllium	NA	NA	0.32	0.31	0.26	0.73	0.37	0.43	0.6	0.62	0.45	0.68	0.32	0.54
Cadmium	1.2 a	9.6 a	0.96	<0.37	0.28	**3.38**	**1.25**	0.97	1.1	**1.54**	**1.38**	1.02	<0.49	0.73
Chromium	81 a	370 a	32.7	13.8	11.3	**86.6**	39.7	37.1	74.2	**88.6**	63.5	**87**	33.2	67.6
Lead	47 a	218 a	**78.3**	<3.7	<2.7	**198**	**99.7**	**90.6**	**165**	**218**	**178**	**237**	**73.8**	**200**
Mercury	0.15 a	0.71 a	**0.472**	<0.036	<0.026	**1.1**	**0.845**	**0.842**	0.114	**0.434**	**0.498**	**0.307**	**0.258**	**0.728**
Nickel	21 a	52 a	10.5	8.4	7.1	**29.9**	12	11.5	**24**	**30.4**	**22.9**	**26.6**	12.7	20.6
Selenium	NA	1 b	<1.02	<1.87	<1.37	<2.58	1.41	2.92	<4.61	<4.35	<4.41	<4.90	<4.88	<4.98
Silver	1 a	3.7 a	0.93	<0.37	<0.27	**2.83**	**1.07**	0.84	**1.05**	**2.11**	**1.36**	**1.42**	<0.49	**1.09**
Thallium	NA	NA	<1.02	<1.87	<1.37	<2.58	<1.31	<1.93	<0.37	<0.35	<0.35	<0.39	<0.39	<0.40
Vanadium	NA	57 b	34.3	18	14.8	131	36.4	26.3	64.8	103	90	80.7	59.5	64.7
Zinc	150 a	410 a	134	27.5	19.4	**377**	**178**	141	**304**	**307**	**216**	**394**	114	**311**

Source: Table 3A from "Supplemental Phase II Comprehensive Site Assessment, Former Everett Staging Yard, Water-Side, Everett, Massachusetts, Release Tracking Number 3-13341", prepared by GZA, December 2015.

Table 3A
SEDIMENT METALS AND TOTAL ORGANIC CARBON RESULTS

Wynn Resort Casino
Everett, Massachusetts

Sample ID	Marine Sediment Benchmarks		GZ-203 0ft-3ft	GZ-203 4ft-6ft	GZ-204 0ft-0_5ft	GZ-204 2ft-4ft	GZ-204 6ft-8ft	GZ-205 0ft-0_5ft	GZ-205 0ft-3ft	GZ-205 4ft-6ft	GZ-205 6ft-8ft	GZ-206 0ft-0_5ft	GZ-206 0ft-3ft	GZ-206 4ft-6ft
Date Sampled			03/24/2015	03/24/2015	03/24/2015	03/24/2015	03/24/2015	3/25/2015	3/25/2015	3/25/2015	3/25/2015	3/25/2015	3/25/2015	3/25/2015
Depth (ft)			0-3	4-6	0.0.5	2-4	6-8	0-0.5	0-3	2-6	6-8	0-0.5	0-3	4-6
Type			Shallow	Deep	Shallow	Deep	Deep	Shallow	Shallow	Deep	Deep	Shallow	Shallow	Deep
Group			OFF-E	OFF-E	OFF-E	OFF-E	OFF-E	OFF-E	OFF-E	OFF-E	OFF-E	ON	ON	ON
Analyte	ERLs	ERMs												
Total Organic Carbo	NA	NA	-	67200	45500	53200	43900	76200	51000	45600	58000	-	9610	12600
Total Metals														
Antimony	NA	9.3 b	<1.22	<1.21	<1.21	<4.98	<4.74	<1.17	<1.20	<1.16	<4.02	<1.18	<1.24	<1.16
Arsenic	8.2 a	70 a	**36.5**	**18.8**	**29.5**	**61.4**	**16.5**	**25.8**	**35.7**	**31.2**	5.22	**34.2**	**45.8**	**18.8**
Barium	NA	48 b	56.6	50.7	56.8	66.4	33.4	49.5	44.5	75	17.5	65.2	60.4	44.1
Beryllium	NA	NA	0.71	0.58	0.56	0.56	0.33	0.47	0.6	0.57	0.3	0.64	0.64	0.48
Cadmium	1.2 a	9.6 a	1.14	0.5	0.75	**1.74**	0.77	0.64	1.06	**1.43**	<0.40	0.9	**1.28**	0.62
Chromium	81 a	370 a	77.9	42.3	69.3	**96.5**	32	59.4	62.2	76.4	15.5	**81.8**	**90.9**	44.7
Lead	47 a	218 a	**190**	**77.2**	**216**	**246**	**93.7**	**186**	**142**	**192**	6.5	**238**	**251**	**93.4**
Mercury	0.15 a	0.71 a	**0.682**	**0.218**	**0.17**	**1.11**	**0.187**	**0.259**	**0.672**	**0.307**	<0.027	**0.935**	**1.04**	**0.168**
Nickel	21 a	52 a	**23.8**	17.7	**21.5**	17	10.3	17.8	17.9	17.4	9.16	**24**	**26.9**	14.7
Selenium	NA	1 b	<4.88	<4.85	<4.85	<4.98	<4.74	<4.69	<4.81	<4.65	<4.02	<4.74	<4.98	<4.63
Silver	1 a	3.7 a	0.91	<0.49	**1.15**	**1.3**	<0.47	0.91	<0.48	0.76	<0.40	**1.35**	**1.58**	<0.46
Thallium	NA	NA	<0.39	<0.39	<0.39	<0.40	<0.38	<0.47	<0.38	<0.47	<0.40	<0.47	<0.40	<0.46
Vanadium	NA	57 b	105	45.5	70.2	109	36.8	58	76.3	76.3	21.8	78.8	108	40.2
Zinc	150 a	410 a	**282**	128	**322**	**280**	129	**277**	**240**	**263**	27.4	**360**	**365**	143

Source: Table 3A from "Supplemental Phase II Comprehensive Site Assessment, Former Everett Staging Yard, Water-Side, Everett, Massachusetts, Release Tracking Number 3-13341", prepared by GZA, December 2015.

Table 3A
SEDIMENT METALS AND TOTAL ORGANIC CARBON RESULTS

Wynn Resort Casino
Everett, Massachusetts

Sample ID	Marine Sediment Benchmarks		GZ-207 0ft-0_5ft	GZ-207 0ft-3ft	GZ-207 4ft-6ft	GZ-207 6ft-7_5ft	GZ-208 0ft-0_5ft	GZ-208 4ft-6ft	GZ-209 0ft-0_5ft	GZ-209 2ft-4ft	GZ-209 6ft-8ft	GZ-210 0_5ft-2ft	GZ-210 0ft-0_5ft	GZ-210 2ft-4ft
Date Sampled			3/25/2015	3/25/2015	3/25/2015	3/25/2015	3/25/2015	3/25/2015	3/25/2015	3/25/2015	3/25/2015	3/30/2015	3/30/2015	3/30/2015
Depth (ft)			0-0.5	0-3	4-6	6-7	0-0.5	4-6	0-0.5	2-4	6-8	0.5-2	0-0.5	2-4
Type			Shallow	Shallow	Deep	Deep	Shallow	Deep	Shallow	Deep	Deep	Shallow	Shallow	Deep
Group			ON	ON	ON	ON	ON	ON	ON	ON	ON	OFF-E	OFF-E	OFF-E
Analyte	ERLs	ERMs												
Total Organic Carbo	NA	NA	19900	-	17600	-	50900	-	-	-	-	-	-	-
Total Metals														
Antimony	NA	9.3 b	<1.24	<1.23	1.22	<1.11	<1.17	<1.24	<1.23	<4.48	<3.95	<4.07	<4.18	<4.27
Arsenic	8.2 a	70 a	**37.6**	**44.9**	**71.6**	6.18	**34.3**	**36.1**	**38.6**	**62.2**	3.54	6.04	**9.98**	4.53
Barium	NA	48 b	63	71.3	98.6	22.8	58.9	91.9	63.4	61.6	15.1	17.4	12.5	17.7
Beryllium	NA	NA	0.62	0.73	0.85	0.4	0.58	1.01	0.64	0.67	0.27	0.3	0.17	0.36
Cadmium	1.2 a	9.6 a	0.8	1.18	**2.38**	<0.44	0.65	**1.39**	0.74	**1.88**	<0.40	<0.41	<0.42	<0.43
Chromium	81 a	370 a	78.7	**95.8**	**114**	20.3	71.1	**89.5**	77.9	**124**	13.6	14.7	11.9	16
Lead	47 a	218 a	**237**	**261**	**296**	6.79	**218**	**187**	**245**	**233**	<3.95	33.1	**62.7**	9.49
Mercury	0.15 a	0.71 a	**0.668**	**0.482**	**1.43**	<0.024	**0.368**	**0.471**	**1.03**	**0.167**	<0.031	0.103	**0.203**	<0.031
Nickel	21 a	52 a	**22.9**	**30.3**	**26.4**	12	20.9	**30.4**	**22.4**	17.8	8.32	8.08	6.28	9.84
Selenium	NA	1 b	<4.95	<4.93	<4.35	<4.42	<4.67	<4.98	<4.90	<4.48	<3.95	<1.63	<1.67	<1.71
Silver	1 a	3.7 a	**1.25**	**1.71**	**1.27**	<0.44	**1.1**	0.58	**1.23**	**1.49**	<0.40	<0.41	<0.42	<0.43
Thallium	NA	NA	<0.40	<0.39	<0.43	<0.44	<0.47	<0.40	<0.39	<0.45	<0.40	<0.33	<0.33	<0.34
Vanadium	NA	57 b	77.5	104	104	27.1	68.7	76.4	74.6	140	19.1	17.7	15.4	21.6
Zinc	150 a	410 a	**354**	**367**	**402**	33.7	**325**	**302**	**356**	**297**	22.9	35.3	**173**	26.9

Source: Table 3A from "Supplemental Phase II Comprehensive Site Assessment, Former Everett Staging Yard, Water-Side, Everett, Massachusetts, Release Tracking Number 3-13341", prepared by GZA, December 2015.

Table 3A
SEDIMENT METALS AND TOTAL ORGANIC CARBON RESULTS

Wynn Resort Casino
Everett, Massachusetts

Sample ID	Marine Sediment Benchmarks		GZ-211 0ft-0_5ft	GZ-211 0ft-3ft	GZ-211 4ft-6ft	GZ-212 0_5ft-2ft	GZ-212 0ft-0_5ft	GZ-213 0ft-0_5ft	GZ-213 0ft-3ft	GZ-213 4ft-6ft	GZ-214 0ft-0_5ft	GZ-214 2ft-4ft	GZ-214 4ft-6ft	GZ-214 6ft-8ft
Date Sampled			3/30/2015	3/30/2015	3/30/2015	03/24/2015	03/24/2015	3/25/2015	3/25/2015	3/25/2015	3/30/2015	3/30/2015	3/30/2015	3/30/2015
Depth (ft)			0-0.5	0-3	4-6	0.5-2	0-0.5	0-0.5	0-3	4-6	0-0.5	2-4	4-6	6-8
Type			Shallow	Shallow	Deep	Shallow	Shallow	Shallow	Shallow	Deep	Shallow	Deep	Deep	Deep
Group			OFF-E	OFF-E	OFF-E	OFF-E	OFF-E	ON	ON	ON	ON	ON	ON	ON
Analyte	ERLs	ERMs												
Total Organic Carbo	NA	NA	13900	9900	9230	10300	5470	12300	14500	16800	27300	12600	-	20700
Total Metals														
Antimony	NA	9.3 b	<12.9	<4.29	<13.2	<4.76	<4.95	<1.23	<4.41	<4.74	<3.97	<4.05	<4.02	<3.77
Arsenic	8.2 a	70 a	**22.7**	**10.8**	5.95	**9.78**	**17.2**	**54.1**	**57.9**	5.95	**43.7**	<2.02	<2.01	3.31
Barium	NA	48 b	16.8	18.7	23.8	19.5	20.2	33.4	25.2	18.5	42.7	22	15	14.3
Beryllium	NA	NA	0.17	0.27	0.46	0.29	0.23	0.33	0.28	0.32	0.35	0.41	0.28	0.27
Cadmium	1.2 a	9.6 a	1.1	<0.43	<0.44	<0.48	<0.50	0.72	**2.39**	<0.47	0.42	<0.40	<0.40	<0.38
Chromium	81 a	370 a	14.7	16.1	20.4	17.7	20	36.1	23.2	17.1	38	19.9	14.1	13.2
Lead	47 a	218 a	**87.8**	**56**	5.95	**87.7**	**94.1**	**190**	**282**	5.4	**263**	5.7	<4.02	<3.77
Mercury	0.15 a	0.71 a	**0.217**	**0.481**	<0.032	**0.188**	**0.249**	**0.551**	**0.467**	<0.030	**0.847**	<0.032	<0.030	<0.029
Nickel	21 a	52 a	7.24	7.78	12.4	8.71	8.39	13	8.91	10.3	19.2	12.1	8.76	8.11
Selenium	NA	1 b	2.23	<1.72	<1.76	<4.76	<4.95	<4.93	6.85	<4.74	<7.94	<8.10	<8.03	<7.55
Silver	1 a	3.7 a	<0.43	<0.43	<0.44	<0.48	<0.50	0.71	<0.44	<0.47	0.65	<0.40	<0.40	<0.38
Thallium	NA	NA	<0.34	<0.34	<0.35	<0.38	<0.40	<0.39	<0.44	<0.47	<0.32	<0.32	<0.32	<0.30
Vanadium	NA	57 b	19.9	16.4	26	22.4	28.2	55.1	22.4	24.8	56.8	26.2	19.1	18.6
Zinc	150 a	410 a	**674**	83.6	31.2	44.3	120	**325**	**913**	35.6	**205**	31.8	22.6	23.8

Source: Table 3A from "Supplemental Phase II Comprehensive Site Assessment, Former Everett Staging Yard, Water-Side, Everett, Massachusetts, Release Tracking Number 3-13341", prepared by GZA, December 2015.

Table 3A
SEDIMENT METALS AND TOTAL ORGANIC CARBON RESULTS

Wynn Resort Casino
Everett, Massachusetts

Sample ID	Marine Sediment Benchmarks		GZ-215 0ft-0_5ft	GZ-215 0ft-3ft	GZ-215 4ft-6ft	GZ-216 0ft-0_5ft	GZ-216 2ft-4ft	GZ-216 4ft-6ft	GZ-217 0ft-0_5ft	GZ-217 0ft-3ft	GZ-217 6ft-8ft	GZ-218 0_5ft-2ft	GZ-218 0ft-0_5ft	GZ-218 4ft-6ft
Date Sampled						03/24/2015	03/24/2015	03/24/2015	03/24/2015	03/24/2015	03/24/2015	3/25/2015	3/25/2015	3/25/2015
Depth (ft)			0-0.5	0-3	4-6	0-0.5	2-4	4-6	0-0.5	0-3	6-8	0.5-2	0-0.5	4-6
Type			Shallow	Shallow	Deep	Shallow	Deep	Deep	Shallow	Shallow	Deep	Shallow	Shallow	Deep
Group			ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON
Analyte	ERLs	ERMs												
Total Organic Carbo	NA	NA	-	22500	14100	40700	-	35700	-	61300	43000	-	-	16800
Total Metals														
Antimony	NA	9.3 b	<4.13	<4.08	<4.12	<1.09	<1.09	<4.72	1.57	1.54	<4.13	<4.55	<1.13	<4.37
Arsenic	8.2 a	70 a	**45.8**	8.17	2.73	**52.2**	**11.5**	5.37	**164**	**92.1**	5.33	**183**	**58.2**	8.14
Barium	NA	48 b	30.9	21.3	10.7	43.7	28.3	18.9	73.5	47.6	19.4	68.2	44.2	20.2
Beryllium	NA	NA	0.34	0.23	0.19	0.4	0.42	0.35	0.48	0.44	0.32	0.67	0.38	0.35
Cadmium	1.2 a	9.6 a	0.53	0.92	<0.41	0.66	<0.43	<0.47	<0.48	1.12	<0.41	0.79	<0.45	<0.44
Chromium	81 a	370 a	37.1	14.7	10.5	55.5	22.5	16.9	56.1	41.5	16.2	49.6	48.2	17.2
Lead	47 a	218 a	**234**	42.7	<4.12	**268**	**73.8**	5.18	**791**	**545**	5.15	**738**	**279**	25.8
Mercury	0.15 a	0.71 a	**0.982**	**0.221**	<0.031	**0.467**	**0.188**	<0.030	**0.979**	**0.969**	<0.033	**7.07**	**0.393**	0.074
Nickel	21 a	52 a	15.3	7.87	6.56	18	12.1	9.99	**25**	15.1	9.93	18	16.5	10.1
Selenium	NA	1 b	<8.26	<8.16	<8.23	5.19	<4.35	<4.72	52.8	22.6	<4.13	28.6	<4.50	<4.37
Silver	1 a	3.7 a	0.54	<0.41	<0.41	0.89	<0.43	<0.47	**1.23**	0.64	<0.41	<0.45	0.73	<0.44
Thallium	NA	NA	<0.33	<0.33	<0.33	<0.35	<0.35	<0.38	<0.38	<0.40	<0.33	<0.45	<0.45	<0.44
Vanadium	NA	57 b	53.2	22.6	15.3	65.8	28.9	23.6	61.3	38	23.7	45	61	23.2
Zinc	150 a	410 a	**227**	**406**	28.8	**265**	72.7	27.5	**393**	**515**	28.3	**410**	**270**	55.4

Source: Table 3A from "Supplemental Phase II Comprehensive Site Assessment, Former Everett Staging Yard, Water-Side, Everett, Massachusetts, Release Tracking Number 3-13341", prepared by GZA, December 2015.

Table 3A
SEDIMENT METALS AND TOTAL ORGANIC CARBON RESULTS

Wynn Resort Casino
Everett, Massachusetts

Sample ID	Marine Sediment Benchmarks		GZ-219 0ft-0_5ft	GZ-219 0ft-3ft	GZ-219 4ft-6ft	GZ-220 0_5ft-2ft	GZ-220 0ft-0_5ft	GZ-220 2ft-4ft	GZ-221 0ft-0_5ft	GZ-221 0ft-3ft	GZ-221 4ft-6ft	GZ-222 0_5ft-2ft	GZ-222 0ft-0_5ft	GZ-222 2ft-4ft
Date Sampled			3/25/2015	3/25/2015	3/25/2015	3/30/2015	3/30/2015	3/30/2015	3/30/2015	3/30/2015	3/30/2015	3/30/2015	3/30/2015	3/30/2015
Depth (ft)			0-0.5	0-3	4-6	0.5-2	0-0.5	2-4	0-0.5	0-3	4-6	0.5-2	0-0.5	2-4
Type			Shallow	Shallow	Deep	Shallow	Shallow	Deep	Shallow	Shallow	Deep	Shallow	Shallow	Deep
Group			ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON
Analyte	ERLs	ERMs												
Total Organic Carbo	NA	NA	6700	-	-	6580	-	6840	-	-	-	-	6760	32100
Total Metals														
Antimony	NA	9.3 b	<1.08	1.32	<4.67	<3.94	<4.20	<3.45	<4.08	<4.18	<4.00	<3.65	<3.70	<3.66
Arsenic	8.2 a	70 a	**71.7**	**66.3**	3.96	**210**	**45.8**	3.43	**37.9**	**135**	<2.00	**48.4**	**28**	**32.1**
Barium	NA	48 b	36.8	52	12.2	59.3	48.4	21	36	77.6	19.6	37.5	32.7	38.8
Beryllium	NA	NA	0.33	0.47	0.22	0.52	0.4	0.38	0.37	0.54	0.36	0.54	0.29	0.4
Cadmium	1.2 a	9.6 a	<0.43	1	<0.47	**2.76**	0.52	<0.34	0.43	**1.96**	<0.40	0.41	<0.37	0.73
Chromium	81 a	370 a	38.2	40.4	11.8	44.4	49.5	19.3	46.6	**91.4**	18.3	31.5	38.6	36.9
Lead	47 a	218 a	**271**	**506**	<4.67	**582**	**317**	14.2	**197**	**703**	5.66	**175**	**192**	**270**
Mercury	0.15 a	0.71 a	**0.572**	**1.2**	<0.024	**3.46**	**1.05**	0.074	**0.892**	**4.41**	<0.030	**1.31**	**0.779**	**1.95**
Nickel	21 a	52 a	17.5	13.4	7.45	11.8	15.7	10.9	14.9	13.4	10.5	14.9	12.1	11.5
Selenium	NA	1 b	<4.33	15.2	<4.67	65.4	<8.40	<6.90	<8.16	30.7	<8.00	27.7	<7.41	10
Silver	1 a	3.7 a	0.58	<0.50	<0.47	**1.17**	0.83	<0.34	0.63	0.66	<0.40	<0.36	0.47	<0.37
Thallium	NA	NA	<0.43	<0.40	<0.47	<0.31	<0.34	<0.28	<0.33	<0.33	<0.32	<0.29	<0.30	<0.29
Vanadium	NA	57 b	50.2	33.2	18.1	45.2	59.3	25.3	63.4	38.7	24.3	34.9	48.8	27.2
Zinc	150 a	410 a	**266**	**481**	21.3	**547**	**266**	38	**214**	**624**	29.8	**169**	**180**	**284**

Source: Table 3A from "Supplemental Phase II Comprehensive Site Assessment, Former Everett Staging Yard, Water-Side, Everett, Massachusetts, Release Tracking Number 3-13341", prepared by GZA, December 2015.

Table 3A
SEDIMENT METALS AND TOTAL ORGANIC CARBON RESULTS

Wynn Resort Casino
Everett, Massachusetts

Sample ID	Marine Sediment Benchmarks		GZ-223 0ft-0_5ft	GZ-223 0ft-3ft	GZ-223 2ft-4ft	GZ-224 0_5ft-2ft	GZ-224 0ft-0_5ft	GZ-225 0ft-0_5ft	GZ-225 0ft-3ft	GZ-225 4ft-6ft	GZ-225 6ft-7.2ft	GZ-226 0_5ft-2ft	GZ-226 0ft-0_5ft	GZ-226 2ft-4ft
Date Sampled			3/30/2015	3/30/2015	3/30/2015	3/30/2015	3/30/2015	03/27/2015	03/27/2015	03/27/2015	03/27/2015	3/30/2015	3/30/2015	3/30/2015
Depth (ft)			0-0.5	0-3	2-4	0.5-2	0-0.5	0-0.5	0-3	4-6	6-7.2	0.5-2	0-0.5	2-4
Type			Shallow	Shallow	Deep	Shallow	Shallow	Shallow	Shallow	Deep	Deep	Shallow	Shallow	Deep
Group			ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON
Analyte	ERLs	ERMs												
Total Organic Carbo	NA	NA	-	-	-	-	-	-	-	-	-	19100	-	10100
Total Metals														
Antimony	NA	9.3 b	<4.03	<3.70	<3.86	<4.20	<4.13	0.51	0.5	<4.57	<0.45	<3.83	<4.08	<3.72
Arsenic	8.2 a	70 a	**35.6**	**137**	**107**	**185**	**70.7**	**41.1**	**27.8**	**51.9**	3.46	**91.8**	**32.2**	<1.86
Barium	NA	48 b	38.5	91.5	135	64	35.5	36.5	32.3	32	57.9	53.5	41.2	22.6
Beryllium	NA	NA	0.32	0.67	0.45	0.64	<0.41	0.22	0.49	0.49	0.76	0.47	0.33	0.38
Cadmium	1.2 a	9.6 a	<0.40	**1.58**	**1.62**	**2.47**	<0.41	<0.44	<0.44	<0.46	<0.45	**3.4**	<0.41	<0.37
Chromium	81 a	370 a	43.2	62.7	**88**	71.2	**85.5**	38.8	26.4	27.3	32.4	57.8	39.2	19.3
Lead	47 a	218 a	**250**	**1120**	**1800**	**919**	**649**	**389**	**83.5**	**123**	9.92	**1210**	**176**	13.1
Mercury	0.15 a	0.71 a	**0.974**	**11.9**	**10.3**	**10.6**	**0.672**	**0.319**	**0.628**	0.136	<0.029	**5.43**	**0.544**	0.049
Nickel	21 a	52 a	12.9	16.5	12.5	15.3	**84.4**	13.7	15.1	15.7	**23.7**	12.7	14.1	11.6
Selenium	NA	1 b	<8.06	63.6	14.9	66.5	<8.26	2.75	<4.37	<4.57	<4.55	45.8	<8.16	<7.43
Silver	1 a	3.7 a	0.49	0.53	0.59	0.68	**4.08**	<0.44	<0.44	<0.46	<0.45	0.7	0.59	<0.37
Thallium	NA	NA	<0.32	<0.30	<0.31	<0.34	<0.33	<0.35	<0.35	<0.37	<0.36	<0.31	<0.33	<0.30
Vanadium	NA	57 b	49.7	45.5	34.4	41.4	54.2	48.2	32.8	33.7	46.4	32.7	58.2	24.7
Zinc	150 a	410 a	**227**	**462**	**480**	**679**	**217**	**202**	92.5	107	52	**1150**	**187**	46.3

Source: Table 3A from "Supplemental Phase II Comprehensive Site Assessment, Former Everett Staging Yard, Water-Side, Everett, Massachusetts, Release Tracking Number 3-13341", prepared by GZA, December 2015.

Table 3A
SEDIMENT METALS AND TOTAL ORGANIC CARBON RESULTS

Wynn Resort Casino
Everett, Massachusetts

Sample ID	Marine Sediment Benchmarks		LC-101 0ft-0_5ft	LC-101 2ft-4ft	LC-101 6ft-8ft	LC-102 0_5ft-2ft	LC-102 0ft-0_5ft	LC-103 0ft-0_5ft	LC-103 2ft-4ft	LC-103 4ft-6ft	LC-104 0_5ft-2ft	LC-104 0ft-0_5ft	LC-105 0ft-0_5ft	LC-105 2ft-4ft
Date Sampled			03/26/2015	03/26/2015	03/26/2015	03/26/2015	03/26/2015	03/26/2015	03/26/2015	03/26/2015	03/26/2015	03/26/2015	03/26/2015	03/26/2015
Depth (ft)			0-0.5	2-4	6-8	0.5-2	0-0.5	0-0.5	2-4	4-6	0.5-2	0-0.5	0-0.5	2-4
Type			Shallow	Deep	Deep	Shallow	Shallow	Shallow	Deep	Deep	Shallow	Shallow	Shallow	Deep
Group	ERLs	ERMs	LC	LC	LC	LC	LC	LC	LC	LC	LC	LC	LC	LC
Analyte														
Total Organic Carbo	NA	NA	51700	59000	75800	61900	-	65000	64300	62700	75300	89400	-	67100
Total Metals														
Antimony	NA	9.3 b	<1.24	<1.22	<4.35	1.42	<1.17	<1.19	<1.13	<0.95	<1.10	<1.22	<1.14	<1.24
Arsenic	8.2 a	70 a	**16.4**	**11.6**	4.34	**35.5**	**22.7**	**21**	6.3	4.58	**28.3**	**23.1**	**19.5**	**29.8**
Barium	NA	48 b	47.8	34.3	18.3	77.9	63.3	55.9	23.4	22.3	63	61.8	59.1	83.5
Beryllium	NA	NA	0.42	0.41	0.34	0.62	0.59	0.5	0.4	0.37	0.41	0.57	0.57	0.84
Cadmium	1.2 a	9.6 a	0.85	<0.49	<0.43	**4.91**	**1.26**	1.05	<0.45	<0.38	**8.51**	**1.25**	1.18	**1.65**
Chromium	81 a	370 a	55.8	34.9	16.1	**170**	79.2	69.3	19.4	17.8	66	80.3	76.3	80.8
Lead	47 a	218 a	**161**	**63.1**	<4.35	**413**	**770**	**180**	5.44	4.8	**220**	**209**	**194**	**160**
Mercury	0.15 a	0.71 a	**0.181**	0.099	<0.029	**0.449**	0.13	**0.176**	<0.027	<0.030	**0.256**	**0.215**	0.095	**0.336**
Nickel	21 a	52 a	17.9	13.9	10.3	**67.4**	**24.7**	**22.6**	12.1	11.1	16	**25.1**	**23.3**	**26.4**
Selenium	NA	1 b	<2.49	<4.88	<4.35	<2.36	<2.35	<2.38	<2.26	<3.82	<2.19	<2.44	<2.28	<2.48
Silver	1 a	3.7 a	0.88	<0.49	<0.43	**3.01**	**1.23**	**1.2**	<0.45	<0.38	0.83	**1.42**	**1.09**	0.51
Thallium	NA	NA	<0.40	<0.39	<0.35	<0.38	<0.38	<0.38	<0.36	<0.31	<0.35	<0.39	<0.37	<0.40
Vanadium	NA	57 b	49.1	38.3	22	484	68.6	67	27.2	23.9	40.4	76	65	65.2
Zinc	150 a	410 a	**235**	119	25.8	**618**	**383**	**290**	31.4	27	**293**	**329**	**346**	**277**

Source: Table 3A from "Supplemental Phase II Comprehensive Site Assessment, Former Everett Staging Yard, Water-Side, Everett, Massachusetts, Release Tracking Number 3-13341", prepared by GZA, December 2015.

Table 3A
SEDIMENT METALS AND TOTAL ORGANIC CARBON RESULTS

Wynn Resort Casino
Everett, Massachusetts

Sample ID	Marine Sediment Benchmarks		LC-105 4ft-6ft	LC-106 0_5ft-2ft	LC-106 0ft-0_5ft	LC-106 4ft-6ft	LC-107 0ft-0_5ft	LC-107 2ft-4ft	LC-108 0_5ft-2ft	LC-108 0ft-0_5ft	LC-108 4ft-6ft	LC-109 0ft-0_5ft	LC-109 4ft-6ft	LC-110 0ft-0_5ft
Date Sampled			03/26/2015	03/26/2015	03/26/2015	03/26/2015	03/26/2015	03/26/2015	03/26/2015	03/26/2015	03/26/2015	03/26/2015	03/26/2015	03/27/2015
Depth (ft)			4-6	0.5-2	0-0.5	4-6	0-0.5	2-4	0.5-2	0-0.5	4-6	0-0.5	4-6	0-0.5
Type			Deep	Shallow	Shallow	Deep	Shallow	Deep	Shallow	Shallow	Deep	Shallow	Deep	Shallow
Group			LC	LC	LC	LC	LC	LC	LC	LC	LC	LC	LC	LC
Analyte	ERLs	ERMs												
Total Organic Carbo	NA	NA	61800	81900	-	61000	59900	-	-	-	35900	-	-	7310
Total Metals														
Antimony	NA	9.3 b	<1.07	<0.48	0.73	<0.42	<1.07	<1.10	2.01	<1.08	<1.06	<1.21	<1.03	0.69
Arsenic	8.2 a	70 a	**10.5**	**17.2**	**16.7**	**24.5**	**15.2**	**19.9**	**28.4**	**21.2**	**33.5**	**22**	**33.6**	**16.3**
Barium	NA	48 b	66.9	71.4	69.6	93.5	201	46.5	83.5	58.9	62.1	59.9	97.7	72.6
Beryllium	NA	NA	0.69	0.68	0.67	0.95	0.56	0.37	0.65	0.57	0.7	0.54	0.56	0.58
Cadmium	1.2 a	9.6 a	<0.43	**1.79**	**1.47**	**1.62**	**1.54**	**2.32**	**3.52**	0.99	**4.5**	1	**3.7**	**1.57**
Chromium	81 a	370 a	33.6	**93.8**	**85.7**	**86.5**	75.5	**92.3**	**128**	75.3	40.4	75.5	54.3	**83.6**
Lead	47 a	218 a	10.4	**243**	**216**	**167**	**355**	**258**	**423**	**193**	**103**	**194**	**336**	**218**
Mercury	0.15 a	0.71 a	<0.024	**0.682**	0.146	<0.032	0.147	**0.245**	**0.373**	**0.221**	0.134	**0.346**	**0.455**	**0.827**
Nickel	21 a	52 a	**24.2**	**30.5**	**27.6**	**30.9**	**24.6**	**28.9**	**44.7**	**23.7**	18.5	**25.8**	18.6	**29.8**
Selenium	NA	1 b	<2.14	<4.78	<4.74	1.91	<2.14	<2.20	<2.48	<2.16	<2.12	<2.43	3.63	<4.35
Silver	1 a	3.7 a	<0.43	**1.63**	**1.23**	<0.42	**1.07**	**1.2**	**3.09**	**1.14**	<0.42	**1.16**	0.61	**1.52**
Thallium	NA	NA	<0.34	<0.38	<0.38	<0.33	<0.34	<0.35	<0.40	<0.34	<0.34	<0.39	<0.33	<0.35
Vanadium	NA	57 b	46.1	88.2	77	74.3	66.4	131	198	68.9	40.8	69.1	43.2	82.4
Zinc	150 a	410 a	55.3	**396**	**386**	**270**	**557**	**354**	**498**	**344**	144	**334**	**309**	**300**

Source: Table 3A from "Supplemental Phase II Comprehensive Site Assessment, Former Everett Staging Yard, Water-Side, Everett, Massachusetts, Release Tracking Number 3-13341", prepared by GZA, December 2015.

Table 3A
SEDIMENT METALS AND TOTAL ORGANIC CARBON RESULTS

Wynn Resort Casino
Everett, Massachusetts

Sample ID	Marine Sediment Benchmarks				LC-110 2ft-4ft	LC-111 0_5ft-2ft	LC-111 0ft-0_5ft	LC-111 4ft-6ft	LC-112 0ft-0_5ft	LC-112 4ft-6ft
Date Sampled					03/27/2015	03/27/2015	03/27/2015	03/27/2015	03/27/2015	03/27/2015
Depth (ft)					2-4	0.5-2	0-0.5	4-6	0-0.5	4-6
Type					Deep	Shallow	Shallow	Deep	Shallow	Deep
Group	ERLs		ERMs		LC	LC	LC	LC	LC	LC
Analyte										
Total Organic Carbo	NA		NA		-	33400	-	-	3880	-
Total Metals										
Antimony	NA		9.3	b	<4.07	0.85	0.59	<0.47	<0.48	<4.46
Arsenic	8.2	a	70	a	**20**	**34.1**	**13.5**	3.07	**15.1**	5.13
Barium	NA		48	b	36.7	106	66.1	30.4	64.8	12.2
Beryllium	NA		NA		0.36	0.87	0.53	0.53	0.55	0.3
Cadmium	1.2	a	9.6	a	0.47	**2.52**	1.18	<0.47	1.19	<0.45
Chromium	81	a	370	a	41.1	**83.9**	75.9	25	73.4	13.3
Lead	47	a	218	a	**94.9**	**211**	**186**	7.27	**183**	4.97
Mercury	0.15	a	0.71	a	**0.375**	**1.08**	**0.846**	<0.030	**0.76**	<0.028
Nickel	21	a	52	a	10.7	**29.8**	**29.6**	15.8	**25.1**	8.56
Selenium	NA		1	b	<4.07	<4.81	<4.65	<4.67	<4.76	<4.46
Silver	1	a	3.7	a	<0.41	<0.48	**1.37**	<0.47	**1.16**	<0.45
Thallium	NA		NA		<0.33	<0.38	<0.37	<0.37	<0.38	<0.36
Vanadium	NA		57	b	24.4	66.5	93.3	34.5	75.2	20.2
Zinc	150	a	410	a	**165**	**279**	**274**	36.3	**255**	19.6

Source: Table 3A from "Supplemental Phase II Comprehensive Site Assessment, Former Everett Staging Yard, Water-Side, Everett, Massachusetts, Release Tracking Number 3-13341", prepared by GZA, December 2015.

Wynn Resort Casino
Everett, Massachusetts

Notes:

1. Results are presented in mg/kg unless otherwise noted.
2. "<" indicates that an analyte was tested for but not detected above the Method Reporting Limit (MRL). "-" indicates that an analyte was not tested for. "NA" indicates that a benchmark value is not available. "ND" indicates that an analyte was not detected.
3. Samples are designated as "Shallow" if any portion of the sample depth occurs within the uppermost 2 feet of sediment. All other samples are designated as "Deep."
4. Group designations are as follows: ON = On-Site, OFF-W = Off-Site West, OFF-E = Off-Site East, and LC = Local Conditions.
5. Marine sediment benchmarks are from the following sources:
    a. Effects Range - Low (ERL) and Effects Range - Median (ERM) Marine Sediment screening values from Long, et al., 1995.
    b. ERL and ERM equivalent Marine Sediment benchmark values from http://epa.gov/region5/waste/cars/pdfs/ecological-screening-levels-200308.pdf
6. Bolded values exceed the conservative ERL screening value.
7. Shaded values exceed the ERM benchmark value.
8. The LC-# series of samples are Local Conditions samples

Source: Table 3A from "Supplemental Phase II Comprehensive Site Assessment, Former Everett Staging Yard, Water-Side, Everett, Massachusetts, Release Tracking Number 3-13341", prepared by GZA, December 2015.

Table 3B
SEDIMENT POLYCHLORINATED BIPHENYL RESULTS

Wynn Resort Casino
Everett, Massachusetts

Sample ID	Marine Sediment Benchmarks		GZ-102 6-8ft	GZ-104 2-4ft	GZ-104T 0-0_5ft	GZ-105 4-6ft	GZ-108 2-4ft	GZ-108T 0-0_5ft	GZ-109 0_5-2_5ft
Date Sampled			08/01/2013	08/06/2013	08/06/2013	08/01/2013	08/01/2013	08/06/2013	08/02/2013
Depth (ft)			6-8	2-4	0-0.5	4-6	2-4	0-0.5	0.5-2.5
Type			Deep	Deep	Shallow	Deep	Deep	Shallow	Shallow
Group			ON	ON	ON	ON	ON	ON	ON
Analyte	ERLs	ERMs							
Polychlorinated Biphenyls (PCBs)									
Aroclor 1016	NA	NA	<0.0675	<0.0710	<0.110	<0.0547	<0.0860	<0.106	<0.0389
Aroclor 1221	NA	NA	<0.0675	<0.0710	<0.110	<0.0547	<0.0860	<0.106	<0.0389
Aroclor 1232	NA	NA	<0.0675	<0.0710	<0.110	<0.0547	<0.0860	<0.106	<0.0389
Aroclor 1242	NA	NA	<0.0675	<0.0710	<0.110	<0.0547	<0.0860	<0.106	<0.0389
Aroclor 1248	NA	NA	2.45	2.51	1.14	2.08	2.45	0.399	<0.0389
Aroclor 1254	NA	NA	1.11	2.81	1.64	2.63	3.06	0.594	<0.0389
Aroclor 1260	NA	NA	0.685	1.24	0.498	1.77	1.26	0.32	<0.0389
Aroclor 1262	NA	NA	<0.0675	<0.0710	<0.110	<0.0547	<0.0860	<0.106	<0.0389
Aroclor 1268	NA	NA	<0.0675	<0.0710	<0.110	<0.0547	<0.0860	<0.106	<0.0389
Total PCBs	0.023 a	0.18 a	**4.245**	**6.56**	**3.278**	**6.48**	**6.77**	**1.313**	<0.0389

Source: Table 3B from "Supplemental Phase II Comprehensive Site Assessment, Former Everett Staging Yard, Water-Side, Everett, Massachusetts, Release Tracking Number 3-13341", prepared by GZA, December 2015.

Table 3B
SEDIMENT POLYCHLORINATED BIPHENYL RESULTS

Wynn Resort Casino
Everett, Massachusetts

Sample ID	Marine Sediment Benchmarks		GZ-111 7-8ft	GZ-113 2-4ft	GZ-113T 0-0_5ft	GZ-114 2-5ft	GZ-114T 0-0_5ft	GZ-116 0_5-2ft	GZ-116 2-4ft
Date Sampled			08/01/2013	08/01/2013	08/06/2013	08/01/2013	08/06/2013	08/02/2013	08/02/2013
Depth (ft)			7-8	2-4	0-0.5	2-5	0-0.5	0.5-2	2-4
Type			Deep	Deep	Shallow	Deep	Shallow	Shallow	Deep
Group	ERLs	ERMs	ON	ON	ON	ON	ON	ON	ON
Analyte									
Polychlorinated Biphenyls (PCBs)									
Aroclor 1016	NA	NA	<0.107	<0.0453	<0.0466	<5.48	<0.0889	<0.0356	<0.0355
Aroclor 1221	NA	NA	<0.107	<0.0453	<0.0466	<5.48	<0.0889	<0.0356	<0.0355
Aroclor 1232	NA	NA	<0.107	<0.0453	<0.0466	<5.48	<0.0889	<0.0356	<0.0355
Aroclor 1242	NA	NA	<0.107	<0.0453	<0.0466	<5.48	<0.0889	<0.0356	<0.0355
Aroclor 1248	NA	NA	<0.107	<0.0453	0.648	59.7	0.266	<0.0356	<0.0355
Aroclor 1254	NA	NA	<0.107	1.38	0.914	<5.48	0.606	2.94	<0.0355
Aroclor 1260	NA	NA	<0.107	1.42	0.358	<5.48	0.462	0.995	<0.0355
Aroclor 1262	NA	NA	<0.107	<0.0453	<0.0466	<5.48	<0.0889	<0.0356	<0.0355
Aroclor 1268	NA	NA	<0.107	<0.0453	<0.0466	<5.48	<0.0889	<0.0356	<0.0355
Total PCBs	0.023 a	0.18 a	<0.107	**2.8**	**1.92**	**59.7**	**1.334**	**3.935**	<0.0355

Source: Table 3B from "Supplemental Phase II Comprehensive Site Assessment, Former Everett Staging Yard, Water-Side, Everett, Massachusetts, Release Tracking Number 3-13341", prepared by GZA, December 2015.

Table 3B
SEDIMENT POLYCHLORINATED BIPHENYL RESULTS

Wynn Resort Casino
Everett, Massachusetts

Sample ID	Marine Sediment Benchmarks		GZ-116 6-8ft	GZ-116T 0-0_5ft	GZ-119 2-4ft	GZ-119T 0-0_5ft	GZ-122 0_5-2ft	GZ-122 2-4ft	GZ-122T 0-0_5ft
Date Sampled			08/02/2013	08/06/2013	08/01/2013	08/01/2013	08/02/2013	08/02/2013	08/06/2013
Depth (ft)			6-8	0-0.5	2-4	0-0.5	0.5-2	2-4	0-0.5
Type			Deep	Shallow	Deep	Shallow	Shallow	Deep	Shallow
Group	ERLs	ERMs	ON	ON	ON	ON	OFF-W	OFF-W	OFF-W
Analyte									
Polychlorinated Biphenyls (PCBs)									
Aroclor 1016	NA	NA	<0.0397	<0.0459	<0.129	<0.0849	<0.0395	<0.0378	<0.0362
Aroclor 1221	NA	NA	<0.0397	<0.0459	<0.129	<0.0849	<0.0395	<0.0378	<0.0362
Aroclor 1232	NA	NA	<0.0397	<0.0459	<0.129	<0.0849	<0.0395	<0.0378	<0.0362
Aroclor 1242	NA	NA	<0.0397	<0.0459	<0.129	<0.0849	<0.0395	<0.0378	<0.0362
Aroclor 1248	NA	NA	<0.0397	0.17	2.07	1.53	<0.0395	<0.0378	<0.0362
Aroclor 1254	NA	NA	<0.0397	0.286	3.88	1.29	<0.0395	<0.0378	0.0928
Aroclor 1260	NA	NA	<0.0397	0.211	<0.129	0.569	<0.0395	<0.0378	0.0596
Aroclor 1262	NA	NA	<0.0397	<0.0459	<0.129	<0.0849	<0.0395	<0.0378	<0.0362
Aroclor 1268	NA	NA	<0.0397	<0.0459	<0.129	<0.0849	<0.0395	<0.0378	<0.0362
Total PCBs	0.023 a	0.18 a	<0.0397	**0.667**	**5.95**	**3.389**	<0.0395	<0.0378	**0.1524**

Source: Table 3B from "Supplemental Phase II Comprehensive Site Assessment, Former Everett Staging Yard, Water-Side, Everett, Massachusetts, Release Tracking Number 3-13341", prepared by GZA, December 2015.

Table 3B
SEDIMENT POLYCHLORINATED BIPHENYL RESULTS

Wynn Resort Casino
Everett, Massachusetts

Sample ID	Marine Sediment Benchmarks		GZ-126 0_5-2ft	GZ-126 2-4ft	GZ-126T 0-0_5ft	GZ-134 2-3ft	GZ-134 6-8ft	GZ-134T 0-0_5ft	GZ-136 0_5-2ft
Date Sampled			08/05/2013	08/05/2013	08/06/2013	08/02/2013	08/02/2013	08/06/2013	08/05/2013
Depth (ft)			0.5-2	2-4	0-0.5	2-3	6-8	0-0.5	0.5-2
Type			Shallow	Deep	Shallow	Shallow	Deep	Shallow	Shallow
Group			OFF-W	OFF-W	OFF-W	ON	ON	ON	OFF-W
Analyte	ERLs	ERMs							
Polychlorinated Biphenyls (PCBs)									
Aroclor 1016	NA	NA	<0.0310	<0.0340	<0.0394	<9.35	<0.0487	<0.0808	<0.0377
Aroclor 1221	NA	NA	<0.0310	<0.0340	<0.0394	<9.35	<0.0487	<0.0808	<0.0377
Aroclor 1232	NA	NA	<0.0310	<0.0340	<0.0394	<9.35	<0.0487	<0.0808	<0.0377
Aroclor 1242	NA	NA	<0.0310	<0.0340	<0.0394	<9.35	<0.0487	<0.0808	<0.0377
Aroclor 1248	NA	NA	<0.0310	<0.0340	<0.0394	113	0.29	0.991	<0.0377
Aroclor 1254	NA	NA	<0.0310	<0.0340	0.071	<9.35	0.499	1.46	1.44
Aroclor 1260	NA	NA	<0.0310	<0.0340	<0.0394	<9.35	<0.0487	0.939	<0.0377
Aroclor 1262	NA	NA	<0.0310	<0.0340	<0.0394	<9.35	0.187	<0.0808	<0.0377
Aroclor 1268	NA	NA	<0.0310	<0.0340	<0.0394	<9.35	<0.0487	<0.0808	<0.0377
Total PCBs	0.023 a	0.18 a	<0.0310	<0.0340	**0.071**	**113**	**0.976**	**3.39**	**1.44**

Source: Table 3B from "Supplemental Phase II Comprehensive Site Assessment, Former Everett Staging Yard, Water-Side, Everett, Massachusetts, Release Tracking Number 3-13341", prepared by GZA, December 2015.

Table 3B
SEDIMENT POLYCHLORINATED BIPHENYL RESULTS

Wynn Resort Casino
Everett, Massachusetts

Sample ID	Marine Sediment Benchmarks		GZ-137 2-4ft	GZ-137T 0-0_5ft	GZ-140A 2-3ft	GZ-201 0ft-0_5ft	GZ-201 0ft-3ft	GZ-202 0ft-0_5ft	GZ-203 0ft-0_5ft
Date Sampled			08/05/2013	08/06/2013	08/05/2013			03/24/2015	03/24/2015
Depth (ft)			2-4	0-0.5	2-3	0-0.5	0-3	0-0.5	0-0.5
Type			Deep	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow
Group			OFF-W	OFF-W	OFF-W	OFF-E	OFF-E	OFF-E	OFF-E
Analyte	ERLs	ERMs							
Polychlorinated Biphenyls (PCBs)									
Aroclor 1016	NA	NA	<0.0323	<0.259	<0.0486	<0.0671	<0.0094	<0.0089	<0.0082
Aroclor 1221	NA	NA	<0.0323	<0.0518	<0.0486	<0.0671	<0.0094	<0.0089	<0.0082
Aroclor 1232	NA	NA	<0.0323	<0.0518	<0.0486	<0.0671	<0.0094	<0.0089	<0.0082
Aroclor 1242	NA	NA	<0.0323	<0.0518	<0.0486	<0.0671	<0.0094	<0.0089	<0.0082
Aroclor 1248	NA	NA	0.0796	0.411	<0.0486	0.326	1.17	0.554	0.496
Aroclor 1254	NA	NA	0.0826	0.713	<0.0486	0.582	0.913	0.737	0.667
Aroclor 1260	NA	NA	<0.0323	0.367	<0.0486	0.285	0.264	0.339	0.274
Aroclor 1262	NA	NA	0.0565	<0.0518	<0.0486	<0.0671	<0.0094	<0.0089	<0.0082
Aroclor 1268	NA	NA	<0.0323	<0.0518	<0.0486	<0.0671	<0.0094	<0.0089	<0.0082
Total PCBs	0.023 a	0.18 a	**0.2187**	**1.491**	<0.0486	**1.193**	**2.347**	**1.63**	**1.437**

Source: Table 3B from "Supplemental Phase II Comprehensive Site Assessment, Former Everett Staging Yard, Water-Side, Everett, Massachusetts, Release Tracking Number 3-13341", prepared by GZA, December 2015.

Table 3B
SEDIMENT POLYCHLORINATED BIPHENYL RESULTS

Wynn Resort Casino
Everett, Massachusetts

Sample ID	Marine Sediment Benchmarks		GZ-203 0ft-3ft	GZ-204 0ft-0_5ft	GZ-204 2ft-4ft	GZ-205 0ft-0_5ft	GZ-205 0ft-3ft	GZ-206 0ft-0_5ft	GZ-206 0ft-3ft
Date Sampled			03/24/2015	03/24/2015	03/24/2015	3/25/2015	3/25/2015	3/25/2015	3/25/2015
Depth (ft)			0-3	0.0.5	2-4	0-0.5	0-3	0-0.5	0-3
Type			Shallow	Shallow	Deep	Shallow	Shallow	Shallow	Shallow
Group	ERLs	ERMs	OFF-E	OFF-E	OFF-E	OFF-E	OFF-E	ON	ON
Analyte									
Polychlorinated Biphenyls (PCBs)									
Aroclor 1016	NA	NA	<0.402	<0.0082	<0.167	<0.0092	<2.05	<0.0123	<0.440
Aroclor 1221	NA	NA	<0.402	<0.0082	<0.167	<0.0092	<2.05	<0.0123	<0.440
Aroclor 1232	NA	NA	<0.402	<0.0082	<0.167	<0.0092	<2.05	<0.0123	<0.440
Aroclor 1242	NA	NA	<0.402	<0.0082	<0.167	<0.0092	<2.05	<0.0123	<0.440
Aroclor 1248	NA	NA	5.1	0.577	1.77	0.482	21.5	0.75	5.43
Aroclor 1254	NA	NA	2.83	0.637	2.07	0.662	<2.05	1.1	3.09
Aroclor 1260	NA	NA	0.699	0.243	0.741	0.249	<2.05	0.426	0.667
Aroclor 1262	NA	NA	<0.402	<0.0082	<0.167	<0.0092	<2.05	<0.0123	<0.440
Aroclor 1268	NA	NA	<0.402	<0.0082	<0.167	<0.0092	<2.05	<0.0123	<0.440
Total PCBs	0.023 a	0.18 a	**8.629**	**1.457**	**4.581**	**1.393**	**21.5**	**2.276**	**9.187**

Source: Table 3B from "Supplemental Phase II Comprehensive Site Assessment, Former Everett Staging Yard, Water-Side, Everett, Massachusetts, Release Tracking Number 3-13341", prepared by GZA, December 2015.

Table 3B
SEDIMENT POLYCHLORINATED BIPHENYL RESULTS

Wynn Resort Casino
Everett, Massachusetts

Sample ID	Marine Sediment Benchmarks		GZ-206 4ft-6ft	GZ-207 0ft-0_5ft	GZ-207 0ft-3ft	GZ-208 0ft-0_5ft	GZ-209 0ft-0_5ft	GZ-209 2ft-4ft	GZ-210 0ft-0_5ft
Date Sampled			3/25/2015	3/25/2015	3/25/2015	3/25/2015	3/25/2015	3/25/2015	3/30/2015
Depth (ft)			4-6	0-0.5	0-3	0-0.5	0-0.5	2-4	0-0.5
Type			Deep	Shallow	Shallow	Shallow	Shallow	Deep	Shallow
Group			ON	ON	ON	ON	ON	ON	OFF-E
Analyte	ERLs	ERMs							
Polychlorinated Biphenyls (PCBs)									
Aroclor 1016	NA	NA	<0.0076	<0.0087	<0.557	<0.0091	<0.0096	<2.31	<0.0082
Aroclor 1221	NA	NA	<0.0076	<0.0087	<0.557	<0.0091	<0.0096	<2.31	<0.0082
Aroclor 1232	NA	NA	<0.0076	<0.0087	<0.557	<0.0091	<0.0096	<2.31	<0.0082
Aroclor 1242	NA	NA	<0.0076	<0.0087	<0.557	<0.0091	<0.0096	<2.31	<0.0082
Aroclor 1248	NA	NA	0.312	0.489	6.42	0.175	0.231	20.3	0.0366
Aroclor 1254	NA	NA	0.305	0.692	2.63	0.452	0.473	<2.31	0.056
Aroclor 1260	NA	NA	0.0897	0.261	<0.557	0.197	0.232	<2.31	0.0282
Aroclor 1262	NA	NA	<0.0076	<0.0087	<0.557	<0.0091	<0.0096	<2.31	<0.0082
Aroclor 1268	NA	NA	<0.0076	<0.0087	<0.557	<0.0091	<0.0096	<2.31	<0.0082
Total PCBs	0.023 a	0.18 a	**0.7067**	**1.442**	**9.05**	**0.824**	**0.936**	**20.3**	**0.1208**

Source: Table 3B from "Supplemental Phase II Comprehensive Site Assessment, Former Everett Staging Yard, Water-Side, Everett, Massachusetts, Release Tracking Number 3-13341", prepared by GZA, December 2015.

Table 3B
SEDIMENT POLYCHLORINATED BIPHENYL RESULTS

Wynn Resort Casino
Everett, Massachusetts

Sample ID	Marine Sediment Benchmarks		GZ-211 0ft-0_5ft	GZ-211 0ft-3ft	GZ-212 0ft-0_5ft	GZ-213 0ft-0_5ft	GZ-213 0ft-3ft	GZ-214 0ft-0_5ft	GZ-214 2ft-4ft
Date Sampled			3/30/2015	3/30/2015	03/24/2015	3/25/2015	3/25/2015	3/30/2015	3/30/2015
Depth (ft)			0-0.5	0-3	0-0.5	0-0.5	0-3	0-0.5	2-4
Type			Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Deep
Group	ERLs	ERMs	OFF-E	OFF-E	OFF-E	ON	ON	ON	ON
Analyte									
Polychlorinated Biphenyls (PCBs)								-	-
Aroclor 1016	NA	NA	<0.0077	<0.0083	<0.0076	<0.0075	<0.0076	<0.0074	<0.0083
Aroclor 1221	NA	NA	<0.0077	<0.0083	<0.0076	<0.0075	<0.0076	<0.0074	<0.0083
Aroclor 1232	NA	NA	<0.0077	<0.0083	<0.0076	<0.0075	<0.0076	<0.0074	<0.0083
Aroclor 1242	NA	NA	<0.0077	<0.0083	<0.0076	<0.0075	<0.0076	<0.0074	<0.0083
Aroclor 1248	NA	NA	0.0356	<0.0083	0.0576	0.479	0.0307	0.0924	<0.0083
Aroclor 1254	NA	NA	0.0543	<0.0083	0.0856	0.594	0.0247	0.247	<0.0083
Aroclor 1260	NA	NA	0.0275	<0.0083	0.0356	0.138	<0.0076	0.0962	<0.0083
Aroclor 1262	NA	NA	<0.0077	<0.0083	<0.0076	<0.0075	<0.0076	<0.0074	<0.0083
Aroclor 1268	NA	NA	<0.0077	<0.0083	<0.0076	<0.0075	<0.0076	<0.0074	<0.0083
Total PCBs	0.023 a	0.18 a	**0.1174**	<0.0083	**0.1788**	**1.211**	**0.0554**	**0.4356**	<0.0083

Source: Table 3B from "Supplemental Phase II Comprehensive Site Assessment, Former Everett Staging Yard, Water-Side, Everett, Massachusetts, Release Tracking Number 3-13341", prepared by GZA, December 2015.

Table 3B
SEDIMENT POLYCHLORINATED BIPHENYL RESULTS

Wynn Resort Casino
Everett, Massachusetts

Sample ID	Marine Sediment Benchmarks		GZ-214 4ft-6ft	GZ-215 0ft-0_5ft	GZ-215 0ft-3ft	GZ-216 0ft-0_5ft	GZ-216 2ft-4ft	GZ-217 0ft-0_5ft	GZ-217 0ft-3ft
Date Sampled						03/24/2015	03/24/2015	03/24/2015	03/24/2015
Depth (ft)			4-6	0-0.5	0-3	0-0.5	2-4	0-0.5	0-3
Type			Deep	Shallow	Shallow	Shallow	Deep	Shallow	Shallow
Group	ERLs	ERMs	ON	ON	ON	ON	ON	ON	ON
Analyte									
Polychlorinated Biphenyls (PCBs)			-	-	-				
Aroclor 1016	NA	NA	<0.0077	<0.0081	<0.0083	<0.0079	<0.0079	<0.0080	<0.0080
Aroclor 1221	NA	NA	<0.0077	<0.0081	<0.0083	<0.0079	<0.0079	<0.0080	<0.0080
Aroclor 1232	NA	NA	<0.0077	<0.0081	<0.0083	<0.0079	<0.0079	<0.0080	<0.0080
Aroclor 1242	NA	NA	<0.0077	<0.0081	<0.0083	<0.0079	<0.0079	<0.0080	<0.0080
Aroclor 1248	NA	NA	<0.0077	0.122	<0.0083	0.256	<0.0079	0.0718	0.0418
Aroclor 1254	NA	NA	<0.0077	0.435	<0.0083	0.343	0.0087	0.0971	0.0272
Aroclor 1260	NA	NA	<0.0077	0.167	<0.0083	0.18	<0.0079	0.0535	0.0324
Aroclor 1262	NA	NA	<0.0077	<0.0081	<0.0083	<0.0079	<0.0079	<0.0080	<0.0080
Aroclor 1268	NA	NA	<0.0077	<0.0081	<0.0083	<0.0079	<0.0079	<0.0080	<0.0080
Total PCBs	0.023 a	0.18 a	<0.0077	**0.724**	<0.0083	**0.779**	0.0087	**0.2224**	**0.1014**

Source: Table 3B from "Supplemental Phase II Comprehensive Site Assessment, Former Everett Staging Yard, Water-Side, Everett, Massachusetts, Release Tracking Number 3-13341", prepared by GZA, December 2015.

Table 3B
SEDIMENT POLYCHLORINATED BIPHENYL RESULTS

Wynn Resort Casino
Everett, Massachusetts

Sample ID	Marine Sediment Benchmarks		GZ-218 0_5ft-2ft	GZ-218 0ft-0_5ft	GZ-219 0ft-0_5ft	GZ-219 0ft-3ft	GZ-220 0_5ft-2ft	GZ-220 0ft-0_5ft	GZ-221 0ft-0_5ft
Date Sampled			3/25/2015	3/25/2015	3/25/2015	3/25/2015	3/30/2015	3/30/2015	3/30/2015
Depth (ft)			0.5-2	0-0.5	0-0.5	0-3	0.5-2	0-0.5	0-0.5
Type			Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow
Group	ERLs	ERMs	ON	ON	ON	ON	ON	ON	ON
Analyte									
Polychlorinated Biphenyls (PCBs)									
Aroclor 1016	NA	NA	<0.0078	<0.0080	<0.0076	<0.0081	<0.0076	<0.0082	<0.0076
Aroclor 1221	NA	NA	<0.0078	<0.0080	<0.0076	<0.0081	<0.0076	<0.0082	<0.0076
Aroclor 1232	NA	NA	<0.0078	<0.0080	<0.0076	<0.0081	<0.0076	<0.0082	<0.0076
Aroclor 1242	NA	NA	<0.0078	<0.0080	<0.0076	<0.0081	<0.0076	<0.0082	<0.0076
Aroclor 1248	NA	NA	<0.0078	0.136	0.112	<0.0081	<0.0076	0.115	0.608
Aroclor 1254	NA	NA	<0.0078	0.424	0.287	<0.0081	<0.0076	0.348	0.823
Aroclor 1260	NA	NA	<0.0078	0.14	0.0935	<0.0081	<0.0076	0.145	0.271
Aroclor 1262	NA	NA	<0.0078	<0.0080	<0.0076	<0.0081	0.0092	<0.0082	<0.0076
Aroclor 1268	NA	NA	<0.0078	<0.0080	<0.0076	<0.0081	<0.0076	<0.0082	<0.0076
Total PCBs	0.023 a	0.18 a	<0.0078	**0.7**	**0.4925**	<0.0081	0.0092	**0.608**	**1.702**

Source: Table 3B from "Supplemental Phase II Comprehensive Site Assessment, Former Everett Staging Yard, Water-Side, Everett, Massachusetts, Release Tracking Number 3-13341", prepared by GZA, December 2015.

Table 3B
SEDIMENT POLYCHLORINATED BIPHENYL RESULTS

Wynn Resort Casino
Everett, Massachusetts

Sample ID	Marine Sediment Benchmarks		GZ-221 0ft-3ft	GZ-222 0ft-0_5ft	GZ-223 0ft-0_5ft	GZ-223 0ft-3ft	GZ-224 0_5ft-2ft	GZ-224 0ft-0_5ft	GZ-225 0ft-0_5ft
Date Sampled			3/30/2015	3/30/2015	3/30/2015	3/30/2015	3/30/2015	3/30/2015	03/27/2015
Depth (ft)			0-3	0-0.5	0-0.5	0-3	0.5-2	0-0.5	0-0.5
Type			Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow
Group			ON	ON	ON	ON	ON	ON	ON
Analyte	ERLs	ERMs							
Polychlorinated Biphenyls (PCBs)							-	-	
Aroclor 1016	NA	NA	<0.0081	<0.0073	<0.0079	<0.0080	<0.0082	<0.0077	<0.0083
Aroclor 1221	NA	NA	<0.0081	<0.0073	<0.0079	<0.0080	<0.0082	<0.0077	<0.0083
Aroclor 1232	NA	NA	<0.0081	<0.0073	<0.0079	<0.0080	<0.0082	<0.0077	<0.0083
Aroclor 1242	NA	NA	<0.0081	<0.0073	<0.0079	<0.0080	<0.0082	<0.0077	<0.0083
Aroclor 1248	NA	NA	0.0245	0.147	0.12	<0.0080	0.0211	0.0423	0.119
Aroclor 1254	NA	NA	0.0488	0.485	0.314	<0.0080	0.0174	0.11	0.284
Aroclor 1260	NA	NA	0.0196	0.144	0.1	<0.0080	<0.0082	0.0564	0.108
Aroclor 1262	NA	NA	<0.0081	<0.0073	<0.0079	<0.0080	<0.0082	<0.0077	<0.0083
Aroclor 1268	NA	NA	<0.0081	<0.0073	<0.0079	<0.0080	<0.0082	<0.0077	<0.0083
Total PCBs	0.023 a	0.18 a	**0.0929**	**0.776**	**0.534**	<0.0080	**0.0385**	**0.2087**	**0.511**

Source: Table 3B from "Supplemental Phase II Comprehensive Site Assessment, Former Everett Staging Yard, Water-Side, Everett, Massachusetts, Release Tracking Number 3-13341", prepared by GZA, December 2015.

Table 3B
SEDIMENT POLYCHLORINATED BIPHENYL RESULTS

Wynn Resort Casino
Everett, Massachusetts

Sample ID	Marine Sediment Benchmarks		GZ-225 0ft-3ft	GZ-226 0ft-0_5ft	LC-101 0ft-0_5ft	LC-102 0_5ft-2ft	LC-102 0ft-0_5ft	LC-103 0ft-0_5ft	LC-104 0ft-0_5ft
Date Sampled			03/27/2015	3/30/2015	03/26/2015	03/26/2015	03/26/2015	03/26/2015	03/26/2015
Depth (ft)			0-3	0-0.5	0-0.5	0.5-2	0-0.5	0-0.5	0-0.5
Type			Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow
Group	ERLs	ERMs	ON	ON	LC	LC	LC	LC	LC
Analyte									
Polychlorinated Biphenyls (PCBs)									
Aroclor 1016	NA	NA	<0.0081	<0.0078	<0.0079	<0.469	<0.0837	<0.0089	<0.0104
Aroclor 1221	NA	NA	<0.0081	<0.0078	<0.0079	<0.469	<0.0837	<0.0089	<0.0104
Aroclor 1232	NA	NA	<0.0081	<0.0078	<0.0079	<0.469	<0.0837	<0.0089	<0.0104
Aroclor 1242	NA	NA	<0.0081	<0.0078	<0.0079	<0.469	<0.0837	<0.0089	<0.0104
Aroclor 1248	NA	NA	0.0388	0.454	0.217	6.83	0.461	0.281	0.391
Aroclor 1254	NA	NA	0.0495	0.593	0.395	8.39	0.869	0.519	0.701
Aroclor 1260	NA	NA	0.016	0.312	0.191	<0.469	0.428	0.232	0.319
Aroclor 1262	NA	NA	<0.0081	<0.0078	<0.0079	<0.469	<0.0837	<0.0089	<0.0104
Aroclor 1268	NA	NA	<0.0081	<0.0078	<0.0079	<0.469	<0.0837	<0.0089	<0.0104
Total PCBs	0.023 a	0.18 a	**0.1043**	**1.359**	**0.803**	**15.22**	**1.758**	**1.032**	**1.411**

Source: Table 3B from "Supplemental Phase II Comprehensive Site Assessment, Former Everett Staging Yard, Water-Side, Everett, Massachusetts, Release Tracking Number 3-13341", prepared by GZA, December 2015.

Table 3B
SEDIMENT POLYCHLORINATED BIPHENYL RESULTS

Wynn Resort Casino
Everett, Massachusetts

Sample ID	Marine Sediment Benchmarks		LC-105 0ft-0_5ft	LC-105 4ft-6ft	LC-106 0_5ft-2ft	LC-106 0ft-0_5ft	LC-107 0ft-0_5ft	LC-107 2ft-4ft	LC-108 0ft-0_5ft
Date Sampled			03/26/2015	03/26/2015	03/26/2015	03/26/2015	03/26/2015	03/26/2015	03/26/2015
Depth (ft)			0-0.5	4-6	0.5-2	0-0.5	0-0.5	2-4	0-0.5
Type			Shallow	Deep	Shallow	Shallow	Shallow	Deep	Shallow
Group			LC	LC	LC	LC	LC	LC	LC
Analyte	ERLs	ERMs							
Polychlorinated Biphenyls (PCBs)									
Aroclor 1016	NA	NA	<0.0090	<0.0079	<0.163	<0.0279	<0.0295	<0.399	<0.0096
Aroclor 1221	NA	NA	<0.0090	<0.0079	<0.163	<0.0279	<0.0295	<0.399	<0.0096
Aroclor 1232	NA	NA	<0.0090	<0.0079	<0.163	<0.0279	<0.0295	<0.399	<0.0096
Aroclor 1242	NA	NA	<0.0090	<0.0079	<0.163	<0.0279	<0.0295	<0.399	<0.0096
Aroclor 1248	NA	NA	0.179	<0.0079	1.29	0.442	0.158	4.83	0.275
Aroclor 1254	NA	NA	0.511	0.0086	2.07	0.755	0.258	4.52	0.411
Aroclor 1260	NA	NA	0.243	<0.0079	0.85	0.392	0.19	<0.399	0.187
Aroclor 1262	NA	NA	<0.0090	<0.0079	<0.163	<0.0279	<0.0295	<0.399	<0.0096
Aroclor 1268	NA	NA	<0.0090	<0.0079	<0.163	<0.0279	<0.0295	<0.399	<0.0096
Total PCBs	0.023 a	0.18 a	**0.933**	0.0086	**4.21**	**1.589**	**0.606**	**9.35**	**0.873**

Source: Table 3B from "Supplemental Phase II Comprehensive Site Assessment, Former Everett Staging Yard, Water-Side, Everett, Massachusetts, Release Tracking Number 3-13341", prepared by GZA, December 2015.

Table 3B
SEDIMENT POLYCHLORINATED BIPHENYL RESULTS

Wynn Resort Casino
Everett, Massachusetts

Sample ID	Marine Sediment Benchmarks		LC-108 4ft-6ft	LC-109 0ft-0_5ft	LC-110 0ft-0_5ft	LC-111 0ft-0_5ft	LC-112 0ft-0_5ft	LC-112 4ft-6ft
Date Sampled			03/26/2015	03/26/2015	03/27/2015	03/27/2015	03/27/2015	03/27/2015
Depth (ft)			4-6	0-0.5	0-0.5	0-0.5	0-0.5	4-6
Type			Deep	Shallow	Shallow	Shallow	Shallow	Deep
Group	ERLs	ERMs	LC	LC	LC	LC	LC	LC
Analyte								
Polychlorinated Biphenyls (PCBs)								
Aroclor 1016	NA	NA	<0.0361	<0.0385	<0.0082	<0.0085	<0.0095	<0.0080
Aroclor 1221	NA	NA	<0.0361	<0.0385	<0.0082	<0.0085	<0.0095	<0.0080
Aroclor 1232	NA	NA	<0.0361	<0.0385	<0.0082	<0.0085	<0.0095	<0.0080
Aroclor 1242	NA	NA	<0.0361	<0.0385	<0.0082	<0.0085	<0.0095	<0.0080
Aroclor 1248	NA	NA	0.0672	0.342	0.334	0.54	0.3	<0.0080
Aroclor 1254	NA	NA	0.234	0.597	0.673	0.813	0.48	<0.0080
Aroclor 1260	NA	NA	0.158	0.299	0.316	0.381	0.265	<0.0080
Aroclor 1262	NA	NA	<0.0361	<0.0385	<0.0082	<0.0085	<0.0095	<0.0080
Aroclor 1268	NA	NA	<0.0361	<0.0385	<0.0082	<0.0085	<0.0095	<0.0080
Total PCBs	0.023 a	0.18 a	**0.4592**	**1.238**	**1.323**	**1.734**	**1.045**	<0.0080

Source: Table 3B from "Supplemental Phase II Comprehensive Site Assessment, Former Everett Staging Yard, Water-Side, Everett, Massachusetts, Release Tracking Number 3-13341", prepared by GZA, December 2015.

Wynn Resort Casino
Everett, Massachusetts

Notes:

1. Results are presented in mg/kg unless otherwise noted.
2. "<" indicates that an analyte was tested for but not detected above the Method Reporting Limit (MRL). "-" indicates that an analyte was not tested for. "NA" indicates that a benchmark value is not available. "ND" indicates that an analyte was not detected.
3. Samples are designated as "Shallow" if any portion of the sample depth occurs within the uppermost 2 feet of sediment. All other samples are designated as "Deep."
4. Group designations are as follows: ON = On-Site, OFF-W = Off-Site West, OFF-E = Off-Site East, and LC = Local Conditions.
5. Marine sediment benchmarks are from the following sources:
    a. Effects Range - Low (ERL) and Effects Range - Median (ERM) Marine Sediment screening values from Long, et al., 1995.
6. Bolded values exceed the conservative ERL screening value.
7. Shaded values exceed the ERM benchmark value.
8. The LC-# series of samples are Local Conditions samples

Source: Table 3B from "Supplemental Phase II Comprehensive Site Assessment, Former Everett Staging Yard, Water-Side, Everett, Massachusetts, Release Tracking Number 3-13341", prepared by GZA, December 2015.

Table 3C
SEDIMENT SEMI-VOLATILE ORAGNIC COMPOUNDS RESULTS

Wynn Resort Casino
Everett, Massachusetts

Sample ID	Marine Sediment Benchmarks		GZ-102 6-8ft	GZ-104 2-4ft	GZ-104T 0-0_5ft	GZ-105 4-6ft	GZ-108 2-4ft	GZ-108T 0-0_5ft	GZ-109 0_5-2_5ft	GZ-111 7-8ft	GZ-113 2-4ft	GZ-113T 0-0_5ft	GZ-114 2-5ft	GZ-114T 0-0_5ft	GZ-116 0_5-2ft	GZ-116 2-4ft	GZ-116 6-8ft	GZ-116T 0-0_5ft	GZ-119 2-4ft	GZ-119T 0-0_5ft	GZ-122 0_5-2ft	GZ-122 2-4ft	GZ-122T 0-0_5ft	GZ-126 0_5-2ft
Date Sampled			08/01/2013	08/06/2013	08/06/2013	08/01/2013	08/01/2013	08/06/2013	08/02/2013	08/01/2013	08/01/2013	08/06/2013	08/01/2013	08/06/2013	08/02/2013	08/02/2013	08/02/2013	08/06/2013	08/01/2013	08/01/2013	08/02/2013	08/02/2013	08/06/2013	08/05/2013
Depth (ft)			6-8	2-4	0-0.5	4-6	2-4	0-0.5	0.5-2.5	7-8	2-4	0-0.5	2-5	0-0.5	0.5-2	2-4	6-8	0-0.5	2-4	0-0.5	0.5-2	2-4	0-0.5	0.5-2
Type			Deep	Deep	Shallow	Deep	Deep	Shallow	Shallow	Deep	Deep	Shallow	Deep	Shallow	Shallow	Deep	Deep	Shallow	Deep	Shallow	Shallow	Deep	Shallow	Shallow
Group	ERLs	ERMs	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	OFF-W	OFF-W	OFF-W	OFF-W
Analyte																								
Semi-Volatile Organic Compounds (SVOCs)																								
1,2,4-Trichlorobenzene	NA	NA	<0.448	<0.473	<0.747	<0.366	<0.561	<0.691	<1.53	<0.718	<1.85	<0.314	<0.701	<0.563	<0.906	<1.39	<0.258	<0.293	<0.813	<0.544	<0.255	<0.245	<0.229	<0.203
1,2-Dichlorobenzene	NA	0.013 b	<0.448	0.564	<0.747	<0.366	<0.561	<0.691	<1.53	<0.718	<1.85	<0.314	<0.701	<0.563	<0.906	<1.39	<0.258	<0.293	<0.813	<0.544	<0.255	<0.245	<0.229	<0.203
1,3-Dichlorobenzene	NA	NA	<0.448	<0.473	<0.747	<0.366	<0.561	<0.691	<1.53	<0.718	<1.85	<0.314	<0.701	<0.563	<0.906	<1.39	<0.258	<0.293	<0.813	<0.544	<0.255	<0.245	<0.229	<0.203
1,4-Dichlorobenzene	NA	0.11 a	<0.448	<0.473	<0.747	<0.366	<0.561	<0.691	<1.53	<0.718	<1.85	<0.314	<0.701	<0.563	<0.906	<1.39	<0.258	<0.293	<0.813	<0.544	<0.255	<0.245	<0.229	<0.203
2,4,5-Trichlorophenol	NA	0.003 b	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4,6-Trichlorophenol	NA	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4-Dichlorophenol	NA	0.005 b	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4-Dimethylphenol	NA	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4-Dinitrophenol	NA	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4-Dinitrotoluene	NA	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,6-Dinitrotoluene	NA	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Chloronaphthalene	NA	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Chlorophenol	NA	0.008 b	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Methylnaphthalene	0.07 a	0.67 a	<0.448	<0.473	<0.747	<0.366	<0.561	<0.691	<1.53	<0.718	<1.85	<0.314	<0.701	<0.563	<0.906	<1.39	<0.258	<0.293	<0.813	<0.544	<0.255	<0.245	<0.229	<0.203
2-Methylphenol	NA	NA	<0.448	<0.473	<0.747	<0.366	<0.561	<0.691	<1.53	<0.718	<1.85	<0.314	<0.701	<0.563	<0.906	<1.39	<0.258	<0.293	<0.813	<0.544	<0.255	<0.245	<0.229	<0.203
2-Nitrophenol	NA	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3,3′-Dichlorobenzidine	NA	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3+4-Methylphenol	NA	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Bromophenyl-phenylether	NA	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Chloroaniline	NA	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Nitrophenol	NA	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acetophenone	NA	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acenaphthene	0.016 a	0.5 a	<0.448	<0.473	<0.747	<0.366	<0.561	<0.691	<1.53	<0.718	<1.85	<0.314	<0.701	<0.563	<0.906	<1.39	<0.258	<0.293	<0.813	<0.544	<0.255	<0.245	<0.229	<0.203
Acenaphthylene	0.044 a	0.64 a	<0.448	<0.473	<0.747	<0.366	<0.561	<0.691	<1.53	<0.718	<1.85	<0.314	<0.701	<0.563	<0.906	<1.39	<0.258	<0.293	<0.813	<0.544	<0.255	<0.245	<0.229	<0.203
Aniline	NA	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Anthracene	0.085 a	1.1 a	<0.448	<0.473	<0.747	<0.366	<0.561	<0.691	<1.53	<0.718	<1.85	<0.314	<0.701	<0.563	<0.906	<1.39	<0.258	<0.293	<0.813	<0.544	<0.255	<0.245	<0.229	<0.203
Azobenzene	NA	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(a)anthracene	0.261 a	1.6 a	<0.448	**0.577**	**1.86**	**0.567**	<0.561	<0.691	<1.53	<0.718	<1.85	<0.314	<0.701	<0.563	<0.906	<1.39	<0.258	**0.442**	<0.813	**0.715**	<0.255	<0.245	<0.229	<0.203
Benzo(a)pyrene	0.43 a	1.6 a	<0.225	**0.602**	**1.72**	**0.579**	**0.552**	**0.58**	<0.767	<0.360	<0.927	0.231	0.354	<0.283	<0.455	<0.696	<0.129	**0.596**	<0.408	**1.03**	<0.128	<0.123	<0.115	<0.102
Benzo(b)fluoranthene	NA	1.8 b	<0.448	0.811	2.03	0.706	0.701	0.767	<1.53	<0.718	<1.85	<0.314	<0.701	<0.563	<0.906	<1.39	<0.258	0.981	<0.813	1.62	<0.255	<0.245	<0.229	<0.203
Benzo(g,h,i)perylene	NA	NA	<0.448	<0.473	0.826	<0.366	<0.561	<0.691	<1.53	<0.718	<1.85	<0.314	<0.701	<0.563	<0.906	<1.39	<0.258	<0.293	<0.813	<0.544	<0.255	<0.245	<0.229	<0.203
Benzo(k)fluoranthene	NA	NA	<0.448	<0.473	1.16	<0.366	<0.561	<0.691	<1.53	<0.718	<1.85	<0.314	<0.701	<0.563	<0.906	<1.39	<0.258	0.342	<0.813	0.724	<0.255	<0.245	<0.229	<0.203
bis(2-Chloroethoxy)methane	NA	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
bis(2-Chloroethyl)ether	NA	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
bis(2-chloroisopropyl)Ether	NA	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
bis(2-Ethylhexyl)phthalate	0.18216 b	2.64651 b	**498**	**357**	**7**	**74**	**44.5**	**4.27**	<1.53	**15.2**	**30.4**	**2.27**	**1270**	**0.979**	**543**	**4.44**	<0.258	**2.94**	**1170**	**131**	<0.255	<0.245	<0.229	<0.203
Butylbenzylphthalate	NA	0.063 b	0.748	0.598	<0.747	<0.366	<0.561	<0.691	<1.53	<0.718	<1.85	<0.314	<0.701	<0.563	<0.906	<1.39	<0.258	<0.293	<0.813	<0.544	<0.255	<0.245	<0.229	<0.203
Carbazole	NA	NA	<0.448	<0.473	<0.747	<0.366	<0.561	<0.691	<1.53	<0.718	<1.85	<0.314	<0.701	<0.563	<0.906	<1.39	<0.258	<0.293	<0.813	<0.544	<0.255	<0.245	<0.229	<0.203
Chrysene	0.384 a	2.8 a	<0.225	**0.84**	**2.09**	**0.656**	**0.629**	**0.63**	**1.88**	<0.360	<0.927	0.256	**0.567**	<0.283	<0.455	<0.696	<0.129	**0.647**	<0.408	**1.15**	<0.128	<0.123	<0.115	<0.102
Dibenzo(a,h)Anthracene	0.063 a	0.26 a	<0.225	<0.237	<0.375	<0.184	<0.281	<0.347	<0.767	<0.360	<0.927	<0.158	<0.351	<0.283	<0.455	<0.696	<0.129	<0.147	<0.408	<0.273	<0.128	<0.123	<0.115	<0.102
Dibenzofuran	NA	NA	<0.448	<0.473	<0.747	<0.366	<0.561	<0.691	<1.53	<0.718	<1.85	<0.314	<0.701	<0.563	<0.906	<1.39	<0.258	<0.293	<0.813	<0.544	<0.255	<0.245	<0.229	<0.203
Diethylphthalate	NA	0.006 b	<0.448	<0.473	<0.747	<0.366	<0.561	<0.691	<1.53	<0.718	<1.85	<0.314	<0.701	<0.563	<0.906	<1.39	<0.258	<0.293	<0.813	<0.544	<0.255	<0.245	<0.229	<0.203
Dimethylphthalate	NA	NA	<0.448	<0.473	<0.747	<0.366	<0.561	<0.691	<1.53	<0.718	<1.85	<0.314	<0.701	<0.563	<0.906	<1.39	<0.258	<0.293	<0.813	<0.544	<0.255	<0.245	<0.229	<0.203
Di-n-butylphthalate	NA	0.058 b	<0.448	<0.473	<0.747	<0.366	<0.561	<0.691	<1.53	<0.718	<1.85	<0.314	<0.701	<0.563	<0.906	<1.39	<0.258	<0.293	<0.813	<0.544	<0.255	<0.245	<0.229	<0.203
Di-n-octylphthalate	NA	NA	36.2	28.2	<0.747	<0.366	1.13	<0.691	<1.53	0.751	<1.85	<0.314	46.7	<0.563	34.8	<1.39	<0.258	<0.293	2.34	7.86	<0.255	<0.245	<0.229	<0.203
Fluoranthene	0.6 a	5.1 a	<0.448	**1.39**	**3.53**	**1**	**1.21**	**1.02**	**4.91**	<0.718	<1.85	0.431	**1.49**	<0.563	**0.981**	<1.39	<0.258	**0.901**	<0.813	**1.89**	<0.255	<0.245	<0.229	<0.203
Fluorene	0.019 a	0.54 a	<0.448	<0.473	<0.747	<0.366	<0.561	<0.691	<1.53	<0.718	<1.85	<0.314	<0.701	<0.563	<0.906	<1.39	<0.258	<0.293	<0.813	<0.544	<0.255	<0.245	<0.229	<0.203
Hexachlorobenzene	NA	NA	<0.448	<0.473	<0.747	<0.366	<0.561	<0.691	<1.53	<0.718	<1.85	<0.314	<0.701	<0.563	<0.906	<1.39	<0.258	<0.293	<0.813	<0.544	<0.255	<0.245	<0.229	<0.203
Hexachlorobutadiene	NA	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hexachloroethane	NA	0.073 b	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Indeno(1,2,3-cd)Pyrene	NA	NA	<0.448	<0.473	<0.747	<0.366	<0.561	<0.691	<1.53	<0.718	<1.85	<0.314	<0.701	<0.563	<0.906	<1.39	<0.258	<0.293	<0.813	<0.544	<0.255	<0.245	<0.229	<0.203
Isophorone	NA	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Naphthalene	0.16 a	2.1 a	<0.448	<0.473	<0.747	<0.366	<0.561	<0.691	<1.53	<0.718	<1.85	<0.314	**3.17**	<0.563	<0.906	<1.39	<0.258	<0.293	**1.05**	<0.544	<0.255	<0.245	<0.229	<0.203
Nitrobenzene	NA	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N-Nitrosodimethylamine	NA	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pentachlorophenol	NA	0.017 b	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phenanthrene	0.24 a	1.5 a	<0.448	**0.497**	**0.952**	**0.422**	<0.561	<0.691	<1.53	<0.718	<1.85	<0.314	**1.62**	<0.563	<0.906	<1.39	<0.258	<0.293	<0.813	**0.621**	<0.255	<0.245	<0.229	<0.203
Phenol	NA	0.13 b	<0.448	<0.473	<0.747	<0.366	<0.561	<0.691	<1.53	<0.718	<1.85	<0.314	<0.701	<0.563	<0.906	<1.39	<0.258	<0.293	<0.813	<0.544	<0.255	<0.245	<0.229	<0.203
Pyrene	0.665 a	2.6 a	<0.448	**1.11**	**3.19**	**1.06**	**1.01**	**0.987**	**5.34**	<0.718	<1.85	0.408	**1.18**	<0.563	<0.906	<1.39	<0.258	**0.816**	<0.813	**1.56**	<0.255	<0.245	<0.229	<0.203

Source: Table 3C from "Supplemental Phase II Comprehensive Site Assessment, Former Everett Staging Yard, Water-Side, Everett, Massachusetts, Release Tracking Number 3-13341", prepared by GZA, December 2015.

Table 3C
SEDIMENT SEMI-VOLATILE ORAGNIC COMPOUNDS RESULTS

Wynn Resort Casino
Everett, Massachusetts

Sample ID	Marine Sediment Benchmarks		GZ-126 2-4ft	GZ-126T 0-0_5ft	GZ-134 2-3ft	GZ-134 6-8ft	GZ-134T 0-0_5ft	GZ-136 0_5-2ft	GZ-137 2-4ft	GZ-137T 0-0_5ft	GZ-140A 2-3ft	GZ-201 0ft-0_5ft	GZ-201 0ft-3ft	GZ-202 0ft-0_5ft	GZ-203 0ft-0_5ft	GZ-203 0ft-3ft	GZ-204 0ft-0_5ft	GZ-204 2ft-4ft	GZ-205 0ft-0_5ft	GZ-205 0ft-3ft	GZ-206 0ft-0_5ft	GZ-206 0ft-3ft	GZ-206 4ft-6ft	GZ-207 0ft-0_5ft
Date Sampled			08/05/2013	08/06/2013	08/02/2013	08/02/2013	08/06/2013	08/05/2013	08/05/2013	08/06/2013	08/05/2013			03/24/2015	03/24/2015	03/24/2015	03/24/2015	03/24/2015	3/25/2015	3/25/2015	3/25/2015	3/25/2015	3/25/2015	3/25/2015
Depth (ft)			2-4	0-0.5	2-3	6-8	0-0.5	0.5-2	2-4	0-0.5	2-3	0-0.5	0-3	0-0.5	0-0.5	0-3	0.0.5	2-4	0-0.5	0-3	0-0.5	0-3	4-6	0-0.5
Type			Deep	Shallow	Shallow	Deep	Shallow	Shallow	Deep	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Deep	Shallow	Shallow	Shallow	Shallow	Deep	Shallow
Group	ERLs	ERMs	OFF-W	OFF-W	ON	ON	ON	OFF-W	OFF-W	OFF-W	OFF-W	OFF-E	OFF-E	OFF-E	OFF-E	OFF-E	OFF-E	OFF-E	OFF-E	OFF-E	ON	ON	ON	ON
Analyte																								
Semi-Volatile Organic Compounds (SVOCs)																								
1,2,4-Trichlorobenzene	NA	NA	<0.327	<0.252	<0.593	<0.316	<0.511	<0.241	<0.415	<0.329	<0.629	<0.596	<0.428	<0.663	<0.460	<0.463	<0.459	<0.587	<0.419	<0.521	<0.536	<0.474	<0.273	<0.516
1,2-Dichlorobenzene	NA	0.013 b	<0.327	<0.252	<0.593	<0.316	<0.511	<0.241	<0.415	<0.329	<0.629	<0.596	<0.428	<0.663	<0.460	<0.463	<0.459	<0.587	<0.419	<0.521	<0.536	<0.474	<0.273	<0.516
1,3-Dichlorobenzene	NA	NA	<0.327	<0.252	<0.593	<0.316	<0.511	<0.241	<0.415	<0.329	<0.629	<0.596	<0.428	<0.663	<0.460	<0.463	<0.459	<0.587	<0.419	<0.521	<0.536	<0.474	<0.273	<0.516
1,4-Dichlorobenzene	NA	0.11 a	<0.327	<0.252	<0.593	<0.316	<0.511	<0.241	<0.415	<0.329	<0.629	<0.596	<0.428	<0.663	<0.460	<0.463	<0.459	<0.587	<0.419	<0.521	<0.536	<0.474	<0.273	<0.516
2,4,5-Trichlorophenol	NA	0.003 b	-	-	-	-	-	-	-	-	-	<0.596	<0.428	<0.663	<0.460	<0.463	<0.459	<0.587	<0.419	<0.521	<0.536	<0.474	<0.273	<0.516
2,4,6-Trichlorophenol	NA	NA	-	-	-	-	-	-	-	-	-	<0.596	<0.428	<0.663	<0.460	<0.463	<0.459	<0.587	<0.419	<0.521	<0.536	<0.474	<0.273	<0.516
2,4-Dichlorophenol	NA	0.005 b	-	-	-	-	-	-	-	-	-	<0.596	<0.428	<0.663	<0.460	<0.463	<0.459	<0.587	<0.419	<0.521	<0.536	<0.474	<0.273	<0.516
2,4-Dimethylphenol	NA	NA	-	-	-	-	-	-	-	-	-	<0.596	<0.428	<0.663	<0.460	<0.463	<0.459	<0.587	<0.419	<0.521	<0.536	<0.474	<0.273	<0.516
2,4-Dinitrophenol	NA	NA	-	-	-	-	-	-	-	-	-	<2.99	<2.15	<3.33	<2.31	<2.32	<2.30	<2.94	<2.10	<2.61	<2.69	<2.38	<1.37	<2.59
2,4-Dinitrotoluene	NA	NA	-	-	-	-	-	-	-	-	-	<0.596	<0.428	<0.663	<0.460	<0.463	<0.459	<0.587	<0.419	<0.521	<0.536	<0.474	<0.273	<0.516
2,6-Dinitrotoluene	NA	NA	-	-	-	-	-	-	-	-	-	<0.596	<0.428	<0.663	<0.460	<0.463	<0.459	<0.587	<0.419	<0.521	<0.536	<0.474	<0.273	<0.516
2-Chloronaphthalene	NA	NA	-	-	-	-	-	-	-	-	-	<0.596	<0.428	<0.663	<0.460	<0.463	<0.459	<0.587	<0.419	<0.521	<0.536	<0.474	<0.273	<0.516
2-Chlorophenol	NA	0.008 b	-	-	-	-	-	-	-	-	-	<0.596	<0.428	<0.663	<0.460	<0.463	<0.459	<0.587	<0.419	<0.521	<0.536	<0.474	<0.273	<0.516
2-Methylnaphthalene	0.07 a	0.67 a	<0.327	<0.252	<0.593	**5.37**	<0.511	<0.241	<0.415	<0.329	<0.629	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Methylphenol	NA	NA	<0.327	<0.252	<0.593	<0.316	<0.511	<0.241	<0.415	<0.329	<0.629	<0.596	<0.428	<0.663	<0.460	<0.463	<0.459	<0.587	<0.419	<0.521	<0.536	<0.474	<0.273	<0.516
2-Nitrophenol	NA	NA	-	-	-	-	-	-	-	-	-	<0.596	<0.428	<0.663	<0.460	<0.463	<0.459	<0.587	<0.419	<0.521	<0.536	<0.474	<0.273	<0.516
3,3´-Dichlorobenzidine	NA	NA	-	-	-	-	-	-	-	-	-	<1.19	<0.857	<1.33	<0.922	<0.927	<0.920	<1.18	<0.839	<1.04	<1.07	<0.949	<0.547	<1.03
3+4-Methylphenol	NA	NA	-	-	-	-	-	-	-	-	-	<1.19	<0.857	<1.33	<0.922	<0.927	<0.920	<1.18	<0.839	<1.04	<1.07	<0.949	<0.547	<1.03
4-Bromophenyl-phenylether	NA	NA	-	-	-	-	-	-	-	-	-	<0.596	<0.428	<0.663	<0.460	<0.463	<0.459	<0.587	<0.419	<0.521	<0.536	<0.474	<0.273	<0.516
4-Chloroaniline	NA	NA	-	-	-	-	-	-	-	-	-	<1.19	<0.857	<1.33	<0.922	<0.927	<0.920	<1.18	<0.839	<1.04	<1.07	<0.949	<0.547	<1.03
4-Nitrophenol	NA	NA	-	-	-	-	-	-	-	-	-	<2.99	<2.15	<3.33	<2.31	<2.32	<2.30	<2.94	<2.10	<2.61	<2.69	<2.38	<1.37	<2.59
Acetophenone	NA	NA	-	-	-	-	-	-	-	-	-	<1.19	<0.857	<1.33	<0.922	<0.927	<0.920	<1.18	<0.839	<1.04	<1.07	<0.949	<0.547	<1.03
Acenaphthene	0.016 a	0.5 a	<0.327	<0.252	<0.593	**1.88**	<0.511	**0.3**	<0.415	<0.329	<0.629	-	-	-	-	-	-	-	-	-	-	-	-	-
Acenaphthylene	0.044 a	0.64 a	<0.327	<0.252	<0.593	**0.677**	<0.511	<0.241	<0.415	<0.329	<0.629	-	-	-	-	-	-	-	-	-	-	-	-	-
Aniline	NA	NA	-	-	-	-	-	-	-	-	-	<2.99	<2.15	<3.33	<2.31	<2.32	<2.30	<2.94	<2.10	<2.61	<2.69	<2.38	<1.37	<2.59
Anthracene	0.085 a	1.1 a	<0.327	<0.252	<0.593	**2.38**	<0.511	**1.46**	<0.415	<0.329	<0.629	-	-	-	-	-	-	-	-	-	-	-	-	-
Azobenzene	NA	NA	-	-	-	-	-	-	-	-	-	<0.596	<0.428	<0.663	<0.460	<0.463	<0.459	<0.587	<0.419	<0.521	<0.536	<0.474	<0.273	<0.516
Benzo(a)anthracene	0.261 a	1.6 a	<0.327	**0.368**	<0.593	**1.9**	**0.62**	**0.828**	**0.451**	**0.819**	**1.52**	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(a)pyrene	0.43 a	1.6 a	<0.164	0.379	0.325	**1.22**	**0.775**	**0.754**	0.399	**1.04**	**1.56**	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(b)fluoranthene	NA	1.8 b	<0.327	0.486	0.799	1.49	1.1	1.15	0.425	1.48	1.63	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(g,h,i)perylene	NA	NA	<0.327	<0.252	<0.593	<0.316	0.554	<0.241	<0.415	<0.329	0.717	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(k)fluoranthene	NA	NA	<0.327	<0.252	<0.593	0.872	<0.511	0.321	<0.415	0.632	0.824	-	-	-	-	-	-	-	-	-	-	-	-	-
bis(2-Chloroethoxy)methane	NA	NA	-	-	-	-	-	-	-	-	-	<0.596	<0.428	<0.663	<0.460	<0.463	<0.459	<0.587	<0.419	<0.521	<0.536	<0.474	<0.273	<0.516
bis(2-Chloroethyl)ether	NA	NA	-	-	-	-	-	-	-	-	-	<0.596	<0.428	<0.663	<0.460	<0.463	<0.459	<0.587	<0.419	<0.521	<0.536	<0.474	<0.273	<0.516
bis(2-chloroisopropyl)Ether	NA	NA	-	-	-	-	-	-	-	-	-	<0.596	<0.428	<0.663	<0.460	<0.463	<0.459	<0.587	<0.419	<0.521	<0.536	<0.474	<0.273	<0.516
bis(2-Ethylhexyl)phthalate	0.18216 b	2.64651 b	<0.327	**0.42**	**1870**	**789**	**4.51**	**5.87**	**30.1**	**6.37**	**2.75**	**1.14**	**76**	**1.1**	**2.04**	**252**	**1.84**	**1120**	**1.67**	**694**	**0.859**	**113**	**32.5**	**2.42**
Butylbenzylphthalate	NA	0.063 b	<0.327	<0.252	0.844	0.68	<0.511	<0.241	<0.415	<0.329	<0.629	<0.596	<0.428	<0.663	<0.460	<0.463	<0.459	<0.587	<0.419	<0.521	<0.536	<0.474	<0.273	<0.516
Carbazole	NA	NA	<0.327	<0.252	<0.593	<0.316	<0.511	0.4	<0.415	<0.329	<0.629	-	-	-	-	-	-	-	-	-	-	-	-	-
Chrysene	0.384 a	2.8 a	<0.164	**0.426**	**0.463**	**1.85**	**0.866**	**0.853**	**0.421**	**1.09**	**1.59**	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibenzo(a,h)Anthracene	0.063 a	0.26 a	<0.164	<0.126	<0.297	<0.158	<0.256	<0.121	<0.208	**0.173**	**0.332**	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibenzofuran	NA	NA	<0.327	<0.252	<0.593	0.624	<0.511	0.727	<0.415	<0.329	<0.629	<0.596	<0.428	<0.663	<0.460	<0.463	<0.459	<0.587	<0.419	<0.521	<0.536	<0.474	<0.273	<0.516
Diethylphthalate	NA	0.006 b	<0.327	<0.252	<0.593	<0.316	<0.511	<0.241	<0.415	<0.329	<0.629	<0.596	<0.428	<0.663	<0.460	<0.463	<0.459	<0.587	<0.419	<0.521	<0.536	<0.474	<0.273	<0.516
Dimethylphthalate	NA	NA	<0.327	<0.252	<0.593	<0.316	<0.511	<0.241	<0.415	<0.329	<0.629	<0.596	<0.428	<0.663	<0.460	<0.463	<0.459	<0.587	<0.419	<0.521	<0.536	<0.474	<0.273	<0.516
Di-n-butylphthalate	NA	0.058 b	<0.327	<0.252	<0.593	<0.316	<0.511	<0.241	<0.415	<0.329	<0.629	<0.596	<0.428	<0.663	<0.460	<0.463	<0.459	<0.587	<0.419	<0.521	<0.536	<0.474	<0.273	<0.516
Di-n-octylphthalate	NA	NA	<0.327	<0.252	40.5	4.14	<0.511	<0.241	<0.415	<0.329	<0.629	<0.596	1.35	<0.663	<0.460	5.25	<0.459	2.19	<0.419	2.47	<0.536	2.85	<0.273	<0.516
Fluoranthene	0.6 a	5.1 a	<0.327	**0.649**	**1.13**	**4.34**	**1.31**	**3.55**	**0.725**	**1.77**	**2.45**	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluorene	0.019 a	0.54 a	<0.327	<0.252	<0.593	**2.92**	<0.511	**0.528**	<0.415	<0.329	<0.629	-	-	-	-	-	-	-	-	-	-	-	-	-
Hexachlorobenzene	NA	NA	<0.327	<0.252	<0.593	<0.316	<0.511	<0.241	<0.415	<0.329	<0.629	-	-	<0.663	<0.460	<0.463	<0.459	<0.587	<0.419	<0.521	<0.536	<0.474	<0.273	<0.516
Hexachlorobutadiene	NA	NA	-	-	-	-	-	-	-	-	-	<0.596	<0.428	<0.663	<0.460	<0.463	<0.459	<0.587	<0.419	<0.521	<0.536	<0.474	0.178	0.282
Hexachloroethane	NA	0.073 b	-	-	-	-	-	-	-	-	-	<0.596	<0.428	<0.663	<0.460	<0.463	<0.459	<0.587	<0.419	<0.521	<0.536	<0.474	<0.273	<0.516
Indeno(1,2,3-cd)Pyrene	NA	NA	<0.327	<0.252	<0.593	<0.316	<0.511	<0.241	<0.415	<0.329	<0.629	-	-	-	-	-	-	-	-	-	-	-	-	-
Isophorone	NA	NA	-	-	-	-	-	-	-	-	-	<0.596	<0.428	<0.663	<0.460	<0.463	<0.459	<0.587	<0.419	<0.521	<0.536	<0.474	<0.273	<0.516
Naphthalene	0.16 a	2.1 a	<0.327	<0.252	**4.34**	<0.316	<0.511	<0.241	<0.415	<0.329	<0.629	-	-	-	-	-	-	-	-	-	-	-	-	-
Nitrobenzene	NA	NA	-	-	-	-	-	-	-	-	-	<0.596	<0.428	<0.663	<0.460	<0.463	<0.459	<0.587	<0.419	<0.521	<0.536	<0.474	<0.273	<0.516
N-Nitrosodimethylamine	NA	NA	-	-	-	-	-	-	-	-	-	<0.596	<0.428	<0.663	<0.460	<0.463	<0.459	<0.587	<0.419	<0.521	<0.536	<0.474	<0.273	<0.516
Pentachlorophenol	NA	0.017 b	-	-	-	-	-	-	-	-	-	<2.99	<2.15	<3.33	<2.31	<2.32	<2.30	<2.94	<2.10	<2.61	<2.69	<2.38	<1.37	<2.59
Phenanthrene	0.24 a	1.5 a	<0.327	**0.282**	**1.56**	**6.55**	<0.511	**5.97**	<0.415	**0.68**	<0.629	-	-	-	-	-	-	-	-	-	-	-	-	-
Phenol	NA	0.13 b	<0.327	<0.252	<0.593	<0.316	<0.511	<0.241	<0.415	<0.329	<0.629	<0.596	<0.428	<0.663	<0.460	<0.463	<0.459	<0.587	<0.419	<0.521	<0.536	<0.474	<0.273	<0.516
Pyrene	0.665 a	2.6 a	<0.327	0.597	**0.87**	**3.79**	**1.36**	**2.34**	**1.1**	**1.55**	**4.05**	-	-	-	-	-	-	-	-	-	-	-	-	-

Source: Table 3C from "Supplemental Phase II Comprehensive Site Assessment, Former Everett Staging Yard, Water-Side, Everett, Massachusetts, Release Tracking Number 3-13341", prepared by GZA, December 2015.

Table 3C
SEDIMENT SEMI-VOLATILE ORAGNIC COMPOUNDS RESULTS

Wynn Resort Casino
Everett, Massachusetts

Sample ID	Marine Sediment Benchmarks		GZ-207 0ft-3ft	GZ-208 0ft-0_5ft	GZ-209 0ft-0_5ft	GZ-209 2ft-4ft	GZ-210 0ft-0_5ft	GZ-211 0ft-0_5ft	GZ-211 0ft-3ft	GZ-212 0ft-0_5ft	GZ-213 0ft-0_5ft	GZ-213 0ft-3ft	GZ-214 0ft-0_5ft	GZ-214 2ft-4ft	GZ-214 4ft-6ft	GZ-215 0ft-0_5ft	GZ-215 0ft-3ft	GZ-216 0ft-0_5ft	GZ-216 2ft-4ft	GZ-217 0ft-0_5ft	GZ-217 0ft-3ft	GZ-218 0_5ft-2ft	GZ-218 0ft-0_5ft	GZ-219 0ft-0_5ft
Date Sampled			3/25/2015	3/25/2015	3/25/2015	3/25/2015	3/30/2015	3/30/2015	3/30/2015	03/24/2015	3/25/2015	3/25/2015	3/30/2015	3/30/2015				03/24/2015	03/24/2015	03/24/2015	03/24/2015	3/25/2015	3/25/2015	3/25/2015
Depth (ft)			0-3	0-0.5	0-0.5	2-4	0-0.5	0-0.5	0-3	0-0.5	0-0.5	0-3	0-0.5	2-4	4-6	0-0.5	0-3	0-0.5	2-4	0-0.5	0-3	0.5-2	0-0.5	0-0.5
Type			Shallow	Shallow	Shallow	Deep	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Deep	Deep	Shallow	Shallow	Shallow	Deep	Shallow	Shallow	Shallow	Shallow	Shallow
Group	ERLs	ERMs	ON	ON	ON	ON	OFF-E	OFF-E	OFF-E	OFF-E	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON
Analyte																								
Semi-Volatile Organic Compounds (SVOCs)																								
1,2,4-Trichlorobenzene	NA	NA	<0.0163	<0.520	<0.567	<0.735	<0.227	<0.215	<0.229	<0.227	<0.284	<0.254	<0.329	<0.250	<0.239	<0.291	<0.215	<0.599	<0.269	<0.283	<0.254	<0.289	<0.335	<0.306
1,2-Dichlorobenzene	NA	0.013 b	<0.0163	<0.520	<0.567	<0.735	<0.227	<0.215	<0.229	<0.227	<0.284	<0.254	<0.329	<0.250	<0.239	<0.291	<0.215	<0.599	<0.269	<0.283	<0.254	<0.289	<0.335	<0.306
1,3-Dichlorobenzene	NA	NA	<0.0163	<0.520	<0.567	<0.735	<0.227	<0.215	<0.229	<0.227	<0.284	<0.254	<0.329	<0.250	<0.239	<0.291	<0.215	<0.599	<0.269	<0.283	<0.254	<0.289	<0.335	<0.306
1,4-Dichlorobenzene	NA	0.11 a	<0.0163	<0.520	<0.567	<0.735	<0.227	<0.215	<0.229	<0.227	<0.284	<0.254	<0.329	<0.250	<0.239	<0.291	<0.215	<0.599	<0.269	<0.283	<0.254	<0.289	<0.335	<0.306
2,4,5-Trichlorophenol	NA	0.003 b	<0.444	<0.520	<0.567	<0.735	<0.227	<0.215	<0.229	<0.227	<0.284	<0.254	<0.329	<0.250	<0.239	<0.291	<0.215	<0.599	<0.269	<0.283	<0.254	<0.289	<0.335	<0.306
2,4,6-Trichlorophenol	NA	NA	<0.444	<0.520	<0.567	<0.735	<0.227	<0.215	<0.229	<0.227	<0.284	<0.254	<0.329	<0.250	<0.239	<0.291	<0.215	<0.599	<0.269	<0.283	<0.254	<0.289	<0.335	<0.306
2,4-Dichlorophenol	NA	0.005 b	<0.444	<0.520	<0.567	<0.735	<0.227	<0.215	<0.229	<0.227	<0.284	<0.254	<0.329	<0.250	<0.239	<0.291	<0.215	<0.599	<0.269	<0.283	<0.254	<0.289	<0.335	<0.306
2,4-Dimethylphenol	NA	NA	<0.444	<0.520	<0.567	<0.735	<0.227	<0.215	<0.229	<0.227	<0.284	<0.254	<0.329	<0.250	<0.239	<0.291	<0.215	<0.599	<0.269	<0.283	<0.254	<0.289	<0.335	<0.306
2,4-Dinitrophenol	NA	NA	<2.23	<2.61	<2.84	<3.69	<1.14	<1.08	<1.15	<1.14	<1.43	<1.27	<1.65	<1.26	<1.20	<1.46	<1.08	<3.00	<1.35	<1.42	<1.28	<1.45	<1.68	<1.53
2,4-Dinitrotoluene	NA	NA	<0.444	<0.520	<0.567	<0.735	<0.227	<0.215	<0.229	<0.227	<0.284	<0.254	<0.329	<0.250	<0.239	<0.291	<0.215	<0.599	<0.269	<0.283	<0.254	<0.289	<0.335	<0.306
2,6-Dinitrotoluene	NA	NA	<0.444	<0.520	<0.567	<0.735	<0.227	<0.215	<0.229	<0.227	<0.284	<0.254	<0.329	<0.250	<0.239	<0.291	<0.215	<0.599	<0.269	<0.283	<0.254	<0.289	<0.335	<0.306
2-Chloronaphthalene	NA	NA	<0.444	<0.520	<0.567	<0.735	<0.227	<0.215	<0.229	<0.227	<0.284	<0.254	<0.329	<0.250	<0.239	<0.291	<0.215	<0.599	<0.269	<0.283	<0.254	<0.289	<0.335	<0.306
2-Chlorophenol	NA	0.008 b	<0.444	<0.520	<0.567	<0.735	<0.227	<0.215	<0.229	<0.227	<0.284	<0.254	<0.329	<0.250	<0.239	<0.291	<0.215	<0.599	<0.269	<0.283	<0.254	<0.289	<0.335	<0.306
2-Methylnaphthalene	0.07 a	0.67 a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Methylphenol	NA	NA	<0.444	<0.520	<0.567	<0.735	<0.227	<0.215	<0.229	<0.227	<0.284	<0.254	<0.329	<0.250	<0.239	<0.291	<0.215	<0.599	<0.269	<0.283	<0.254	<0.289	<0.335	<0.306
2-Nitrophenol	NA	NA	<0.444	<0.520	<0.567	<0.735	<0.227	<0.215	<0.229	<0.227	<0.284	<0.254	<0.329	<0.250	<0.239	<0.291	<0.215	<0.599	<0.269	<0.283	<0.254	<0.289	<0.335	<0.306
3,3´-Dichlorobenzidine	NA	NA	<0.889	<1.04	<1.13	<1.47	<0.455	<0.431	<0.459	<0.455	<0.570	<0.509	<0.659	<0.501	<0.479	<0.583	<0.431	<1.20	<0.539	<0.567	<0.510	<0.578	<0.671	<0.612
3+4-Methylphenol	NA	NA	<0.889	<1.04	<1.13	<1.47	<0.455	<0.431	<0.459	<0.455	<0.570	<0.509	<0.659	<0.501	<0.479	<0.583	<0.431	<1.20	<0.539	<0.567	<0.510	<0.578	<0.671	<0.612
4-Bromophenyl-phenylether	NA	NA	<0.444	<0.520	<0.567	<0.735	<0.227	<0.215	<0.229	<0.227	<0.284	<0.254	<0.329	<0.250	<0.239	<0.291	<0.215	<0.599	<0.269	<0.283	<0.254	<0.289	<0.335	<0.306
4-Chloroaniline	NA	NA	<0.889	<1.04	<1.13	<1.47	<0.455	<0.431	<0.459	<0.455	<0.570	<0.509	<0.659	<0.501	<0.479	<0.583	<0.431	<1.20	<0.539	<0.567	<0.510	<0.578	<0.671	<0.612
4-Nitrophenol	NA	NA	<2.23	<2.61	<2.84	<3.69	<1.14	<1.08	<1.15	<1.14	<1.43	<1.27	<1.65	<1.26	<1.20	<1.46	<1.08	<3.00	<1.35	<1.42	<1.28	<1.45	<1.68	<1.53
Acetophenone	NA	NA	<0.889	<1.04	<1.13	<1.47	<0.455	<0.431	<0.459	<0.455	<0.570	<0.509	<0.659	<0.501	<0.479	<0.583	<0.431	<1.20	<0.539	<0.567	<0.510	<0.578	<0.671	<0.612
Acenaphthene	0.016 a	0.5 a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acenaphthylene	0.044 a	0.64 a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aniline	NA	NA	<2.23	<2.61	<2.84	<3.69	<1.14	<1.08	<1.15	<1.14	<1.43	<1.27	<1.65	<1.26	<1.20	<1.46	<1.08	<3.00	<1.35	<1.42	<1.28	<1.45	<1.68	<1.53
Anthracene	0.085 a	1.1 a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Azobenzene	NA	NA	<0.444	<0.520	<0.567	<0.735	<0.227	<0.215	<0.229	<0.227	<0.284	<0.254	<0.329	<0.250	<0.239	<0.291	<0.215	<0.599	<0.269	<0.283	<0.254	<0.289	<0.335	<0.306
Benzo(a)anthracene	0.261 a	1.6 a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(a)pyrene	0.43 a	1.6 a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(b)fluoranthene	NA	1.8 b	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(g,h,i)perylene	NA	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(k)fluoranthene	NA	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
bis(2-Chloroethoxy)methane	NA	NA	<0.444	<0.520	<0.567	<0.735	<0.227	<0.215	<0.229	<0.227	<0.284	<0.254	<0.329	<0.250	<0.239	<0.291	<0.215	<0.599	<0.269	<0.283	<0.254	<0.289	<0.335	<0.306
bis(2-Chloroethyl)ether	NA	NA	<0.444	<0.520	<0.567	<0.735	<0.227	<0.215	<0.229	<0.227	<0.284	<0.254	<0.329	<0.250	<0.239	<0.291	<0.215	<0.599	<0.269	<0.283	<0.254	<0.289	<0.335	<0.306
bis(2-chloroisopropyl)Ether	NA	NA	<0.444	<0.520	<0.567	<0.735	<0.227	<0.215	<0.229	<0.227	<0.284	<0.254	<0.329	<0.250	<0.239	<0.291	<0.215	<0.599	<0.269	<0.283	<0.254	<0.289	<0.335	<0.306
bis(2-Ethylhexyl)phthalate	0.18216 b	2.64651 b	**133**	**10.5**	**1.65**	**2900**	<0.227	**0.363**	<0.229	**0.5**	**3.29**	<0.254	**0.874**	<0.250	<0.239	**1.1**	<0.215	**7.28**	<0.269	**0.358**	<0.254	**0.307**	**3.37**	**0.631**
Butylbenzylphthalate	NA	0.063 b	<0.444	<0.520	<0.567	<0.735	<0.227	<0.215	<0.229	<0.227	<0.284	<0.254	<0.329	<0.250	<0.239	<0.291	<0.215	<0.599	<0.269	<0.283	<0.254	<0.289	<0.335	<0.306
Carbazole	NA	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chrysene	0.384 a	2.8 a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibenzo(a,h)Anthracene	0.063 a	0.26 a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibenzofuran	NA	NA	<0.444	<0.520	<0.567	<0.735	<0.227	<0.215	<0.229	<0.227	<0.284	<0.254	<0.329	<0.250	<0.239	<0.291	<0.215	<0.599	<0.269	<0.283	<0.254	<0.289	<0.335	<0.306
Diethylphthalate	NA	0.006 b	<0.444	<0.520	<0.567	<0.735	<0.227	<0.215	<0.229	<0.227	<0.284	<0.254	<0.329	<0.250	<0.239	<0.291	<0.215	<0.599	<0.269	<0.283	<0.254	<0.289	<0.335	<0.306
Dimethylphthalate	NA	NA	<0.444	<0.520	<0.567	<0.735	<0.227	<0.215	<0.229	<0.227	<0.284	<0.254	<0.329	<0.250	<0.239	<0.291	<0.215	<0.599	<0.269	<0.283	<0.254	<0.289	<0.335	<0.306
Di-n-butylphthalate	NA	0.058 b	<0.444	<0.520	<0.567	<0.735	<0.227	<0.215	<0.229	<0.227	<0.284	<0.254	<0.329	<0.250	<0.239	<0.291	<0.215	<0.599	<0.269	<0.283	<0.254	<0.289	<0.335	<0.306
Di-n-octylphthalate	NA	NA	6.22	0.669	<0.567	183	<0.227	<0.215	<0.229	<0.227	<0.284	<0.254	<0.329	<0.250	<0.239	<0.291	<0.215	<0.599	<0.269	<0.283	<0.254	<0.289	<0.335	<0.306
Fluoranthene	0.6 a	5.1 a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluorene	0.019 a	0.54 a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hexachlorobenzene	NA	NA	<0.444	<0.520	<0.567	<0.735	-	-	-	<0.227	<0.284	<0.254	-	-	-	-	-	<0.599	<0.269	<0.283	<0.254	<0.289	<0.335	<0.306
Hexachlorobutadiene	NA	NA	<0.0163	-	-	<0.735	<0.227	<0.215	<0.229	<0.227	<0.284	<0.254	<0.329	<0.250	<0.239	<0.291	<0.215	<0.599	<0.269	<0.283	<0.254	<0.289	<0.335	<0.306
Hexachloroethane	NA	0.073 b	<0.444	<0.520	<0.567	<0.735	<0.227	<0.215	<0.229	<0.227	<0.284	<0.254	<0.329	<0.250	<0.239	<0.291	<0.215	<0.599	<0.269	<0.283	<0.254	<0.289	<0.335	<0.306
Indeno(1,2,3-cd)Pyrene	NA	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Isophorone	NA	NA	<0.444	<0.520	<0.567	<0.735	<0.227	<0.215	<0.229	<0.227	<0.284	<0.254	<0.329	<0.250	<0.239	<0.291	<0.215	<0.599	<0.269	<0.283	<0.254	<0.289	<0.335	<0.306
Naphthalene	0.16 a	2.1 a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nitrobenzene	NA	NA	<0.444	<0.520	<0.567	<0.735	<0.227	<0.215	<0.229	<0.227	<0.284	<0.254	<0.329	<0.250	<0.239	<0.291	<0.215	<0.599	<0.269	<0.283	<0.254	<0.289	<0.335	<0.306
N-Nitrosodimethylamine	NA	NA	<0.444	<0.520	<0.567	<0.735	<0.227	<0.215	<0.229	<0.227	<0.284	<0.254	<0.329	<0.250	<0.239	<0.291	<0.215	<0.599	<0.269	<0.283	<0.254	<0.289	<0.335	<0.306
Pentachlorophenol	NA	0.017 b	<2.23	<2.61	<2.84	<3.69	<1.14	<1.08	<1.15	<1.14	<1.43	<1.27	<1.65	<1.26	<1.20	<1.46	<1.08	<3.00	<1.35	<1.42	<1.28	<1.45	<1.68	<1.53
Phenanthrene	0.24 a	1.5 a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phenol	NA	0.13 b	<0.444	<0.520	<0.567	<0.735	<0.227	<0.215	<0.229	<0.227	<0.284	<0.254	<0.329	<0.250	<0.239	<0.291	<0.215	<0.599	<0.269	<0.283	<0.254	<0.289	<0.335	<0.306
Pyrene	0.665 a	2.6 a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Source: Table 3C from "Supplemental Phase II Comprehensive Site Assessment, Former Everett Staging Yard, Water-Side, Everett, Massachusetts, Release Tracking Number 3-13341", prepared by GZA, December 2015.

Table 3C
SEDIMENT SEMI-VOLATILE ORAGNIC COMPOUNDS RESULTS

Wynn Resort Casino
Everett, Massachusetts

Sample ID	Marine Sediment Benchmarks		GZ-219 0ft-3ft	GZ-220 0_5ft-2ft	GZ-220 0ft-0_5ft	GZ-221 0ft-0_5ft	GZ-221 0ft-3ft	GZ-222 0ft-0_5ft	GZ-223 0ft-0_5ft	GZ-223 0ft-3ft	GZ-224 0_5ft-2ft	GZ-224 0ft-0_5ft	GZ-225 0ft-0_5ft	GZ-225 0ft-3ft	GZ-226 0ft-0_5ft	LC-101 0ft-0_5ft	LC-102 0_5ft-2ft	LC-102 0ft-0_5ft	LC-103 0ft-0_5ft	LC-104 0ft-0_5ft	LC-105 0ft-0_5ft	LC-105 4ft-6ft	LC-106 0_5ft-2ft	LC-106 0ft-0_5ft
Date Sampled			3/25/2015	3/30/2015	3/30/2015	3/30/2015	3/30/2015	3/30/2015	3/30/2015	3/30/2015	3/30/2015	3/30/2015	03/27/2015	03/27/2015	3/30/2015	03/26/2015	03/26/2015	03/26/2015	03/26/2015	03/26/2015	03/26/2015	03/26/2015	03/26/2015	03/26/2015
Depth (ft)			0-3	0.5-2	0-0.5	0-0.5	0-3	0-0.5	0-0.5	0-3	0.5-2	0-0.5	0-0.5	0-3	0-0.5	0-0.5	0.5-2	0-0.5	0-0.5	0-0.5	0-0.5	4-6	0.5-2	0-0.5
Type			Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Deep	Shallow	Shallow
Group	ERLs	ERMs	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	LC	LC	LC	LC	LC	LC	LC	LC	LC
Analyte																								
Semi-Volatile Organic Compounds (SVOCs)																								
1,2,4-Trichlorobenzene	NA	NA	<0.261	<0.718	<0.331	<0.345	<0.267	<0.302	<0.322	<0.330	<0.309	<0.244	<0.335	<0.283	<0.304	<0.335	<0.505	<0.500	<0.373	<0.455	<0.498	<0.214	<0.439	<0.518
1,2-Dichlorobenzene	NA	0.013 b	<0.261	<0.718	<0.331	<0.345	<0.267	<0.302	<0.322	<0.330	<0.309	<0.244	<0.335	<0.283	<0.304	<0.335	<0.505	<0.500	<0.373	<0.455	<0.498	<0.214	<0.439	<0.518
1,3-Dichlorobenzene	NA	NA	<0.261	<0.718	<0.331	<0.345	<0.267	<0.302	<0.322	<0.330	<0.309	<0.244	<0.335	<0.283	<0.304	<0.335	<0.505	<0.500	<0.373	<0.455	<0.498	<0.214	<0.439	<0.518
1,4-Dichlorobenzene	NA	0.11 a	<0.261	<0.718	<0.331	<0.345	<0.267	<0.302	<0.322	<0.330	<0.309	<0.244	<0.335	<0.283	<0.304	<0.335	<0.505	<0.500	<0.373	<0.455	<0.498	<0.214	<0.439	<0.518
2,4,5-Trichlorophenol	NA	0.003 b	<0.261	<0.718	<0.331	<0.345	<0.267	<0.302	<0.322	<0.330	<0.309	<0.244	<0.335	<0.283	<0.304	<0.335	<0.505	<0.500	<0.373	<0.455	<0.498	<0.214	<0.439	<0.518
2,4,6-Trichlorophenol	NA	NA	<0.261	<0.718	<0.331	<0.345	<0.267	<0.302	<0.322	<0.330	<0.309	<0.244	<0.335	<0.283	<0.304	<0.335	<0.505	<0.500	<0.373	<0.455	<0.498	<0.214	<0.439	<0.518
2,4-Dichlorophenol	NA	0.005 b	<0.261	<0.718	<0.331	<0.345	<0.267	<0.302	<0.322	<0.330	<0.309	<0.244	<0.335	<0.283	<0.304	<0.335	<0.505	<0.500	<0.373	<0.455	<0.498	<0.214	<0.439	<0.518
2,4-Dimethylphenol	NA	NA	<0.261	<0.718	<0.331	<0.345	<0.267	<0.302	<0.322	<0.330	<0.309	<0.244	<0.335	<0.283	<0.304	<0.335	<0.505	<0.500	<0.373	<0.455	<0.498	<0.214	<0.439	<0.518
2,4-Dinitrophenol	NA	NA	<1.31	<3.60	<1.66	<1.73	<1.34	<1.52	<1.61	<1.66	<1.55	<1.23	<1.68	<1.42	<1.52	<1.68	<2.53	<2.50	<1.87	<2.28	<2.50	<1.07	<2.20	<2.60
2,4-Dinitrotoluene	NA	NA	<0.261	<0.718	<0.331	<0.345	<0.267	<0.302	<0.322	<0.330	<0.309	<0.244	<0.335	<0.283	<0.304	<0.335	<0.505	<0.500	<0.373	<0.455	<0.498	<0.214	<0.439	<0.518
2,6-Dinitrotoluene	NA	NA	<0.261	<0.718	<0.331	<0.345	<0.267	<0.302	<0.322	<0.330	<0.309	<0.244	<0.335	<0.283	<0.304	<0.335	<0.505	<0.500	<0.373	<0.455	<0.498	<0.214	<0.439	<0.518
2-Chloronaphthalene	NA	NA	<0.261	<0.718	<0.331	<0.345	<0.267	<0.302	<0.322	<0.330	<0.309	<0.244	<0.335	<0.283	<0.304	<0.335	<0.505	<0.500	<0.373	<0.455	<0.498	<0.214	<0.439	<0.518
2-Chlorophenol	NA	0.008 b	<0.261	<0.718	<0.331	<0.345	<0.267	<0.302	<0.322	<0.330	<0.309	<0.244	<0.335	<0.283	<0.304	<0.335	<0.505	<0.500	<0.373	<0.455	<0.498	<0.214	<0.439	<0.518
2-Methylnaphthalene	0.07 a	0.67 a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Methylphenol	NA	NA	<0.261	<0.718	<0.331	<0.345	<0.267	<0.302	<0.322	<0.330	<0.309	<0.244	<0.335	<0.283	<0.304	<0.335	<0.505	<0.500	<0.373	<0.455	<0.498	<0.214	<0.439	<0.518
2-Nitrophenol	NA	NA	<0.261	<0.718	<0.331	<0.345	<0.267	<0.302	<0.322	<0.330	<0.309	<0.244	<0.335	<0.283	<0.304	<0.335	<0.505	<0.500	<0.373	<0.455	<0.498	<0.214	<0.439	<0.518
3,3′-Dichlorobenzidine	NA	NA	<0.522	<1.44	<0.663	<0.692	<0.535	<0.606	<0.645	<0.661	<0.618	<0.489	<0.670	<0.568	<0.608	<0.671	<1.01	<1.00	<0.747	<0.912	<0.997	<0.428	<0.879	<1.04
3+4-Methylphenol	NA	NA	<0.522	<1.44	<0.663	<0.692	<0.535	<0.606	<0.645	<0.661	<0.618	<0.489	<0.670	<0.568	<0.608	<0.671	<1.01	<1.00	<0.747	<0.912	<0.997	<0.428	<0.879	<1.04
4-Bromophenyl-phenylether	NA	NA	<0.261	<0.718	<0.331	<0.345	<0.267	<0.302	<0.322	<0.330	<0.309	<0.244	<0.335	<0.283	<0.304	<0.335	<0.505	<0.500	<0.373	<0.455	<0.498	<0.214	<0.439	<0.518
4-Chloroaniline	NA	NA	<0.522	<1.44	<0.663	<0.692	<0.535	<0.606	<0.645	<0.661	<0.618	<0.489	<0.670	<0.568	<0.608	<0.671	<1.01	<1.00	<0.747	<0.912	<0.997	<0.428	<0.879	<1.04
4-Nitrophenol	NA	NA	<1.31	<3.60	<1.66	<1.73	<1.34	<1.52	<1.61	<1.66	<1.55	<1.23	<1.68	<1.42	<1.52	<1.68	<2.53	<2.50	<1.87	<2.28	<2.50	<1.07	<2.20	<2.60
Acetophenone	NA	NA	<0.522	<1.44	<0.663	<0.692	<0.535	<0.606	<0.645	<0.661	<0.618	<0.489	<0.670	<0.568	<0.608	<0.671	<1.01	<1.00	<0.747	<0.912	<0.997	<0.428	<0.879	<1.04
Acenaphthene	0.016 a	0.5 a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acenaphthylene	0.044 a	0.64 a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aniline	NA	NA	<1.31	<3.60	<1.66	<1.73	<1.34	<1.52	<1.61	<1.66	<1.55	<1.23	<1.68	<1.42	<1.52	<1.68	<2.53	<2.50	<1.87	<2.28	<2.50	<1.07	<2.20	<2.60
Anthracene	0.085 a	1.1 a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Azobenzene	NA	NA	<0.261	<0.718	<0.331	<0.345	<0.267	<0.302	<0.322	<0.330	<0.309	<0.244	<0.335	<0.283	<0.304	<0.335	<0.505	<0.500	<0.373	<0.455	<0.498	<0.214	<0.439	<0.518
Benzo(a)anthracene	0.261 a	1.6 a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(a)pyrene	0.43 a	1.6 a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(b)fluoranthene	NA	1.8 b	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(g,h,i)perylene	NA	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(k)fluoranthene	NA	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
bis(2-Chloroethoxy)methane	NA	NA	<0.261	<0.718	<0.331	<0.345	<0.267	<0.302	<0.322	<0.330	<0.309	<0.244	<0.335	<0.283	<0.304	<0.335	<0.505	<0.500	<0.373	<0.455	<0.498	<0.214	<0.439	<0.518
bis(2-Chloroethyl)ether	NA	NA	<0.261	<0.718	<0.331	<0.345	<0.267	<0.302	<0.322	<0.330	<0.309	<0.244	<0.335	<0.283	<0.304	<0.335	<0.505	<0.500	<0.373	<0.455	<0.498	<0.214	<0.439	<0.518
bis(2-chloroisopropyl)Ether	NA	NA	<0.261	<0.718	<0.331	<0.345	<0.267	<0.302	<0.322	<0.330	<0.309	<0.244	<0.335	<0.283	<0.304	<0.335	<0.505	<0.500	<0.373	<0.455	<0.498	<0.214	<0.439	<0.518
bis(2-Ethylhexyl)phthalate	0.18216 b	2.64651 b	<0.261	<0.718	**1.5**	**2.11**	<0.267	**1.33**	**1.34**	<0.330	<0.309	**0.502**	**1.01**	**3.08**	**1.54**	**2.34**	**278**	**2.58**	**1.8**	**2.44**	**2.43**	**0.586**	**25.4**	**1.53**
Butylbenzylphthalate	NA	0.063 b	<0.261	<0.718	<0.331	<0.345	<0.267	<0.302	<0.322	<0.330	<0.309	<0.244	<0.335	<0.283	<0.304	<0.335	<0.505	<0.500	<0.373	<0.455	<0.498	<0.214	<0.439	<0.518
Carbazole	NA	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chrysene	0.384 a	2.8 a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibenzo(a,h)Anthracene	0.063 a	0.26 a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibenzofuran	NA	NA	<0.261	<0.718	<0.331	<0.345	<0.267	<0.302	<0.322	<0.330	<0.309	<0.244	<0.335	<0.283	<0.304	<0.335	<0.505	<0.500	<0.373	<0.455	<0.498	<0.214	<0.439	<0.518
Diethylphthalate	NA	0.006 b	<0.261	<0.718	<0.331	<0.345	<0.267	<0.302	<0.322	<0.330	<0.309	<0.244	<0.335	<0.283	<0.304	<0.335	<0.505	<0.500	<0.373	<0.455	<0.498	<0.214	<0.439	<0.518
Dimethylphthalate	NA	NA	<0.261	<0.718	<0.331	<0.345	<0.267	<0.302	<0.322	<0.330	<0.309	<0.244	<0.335	<0.283	<0.304	<0.335	<0.505	<0.500	<0.373	<0.455	<0.498	<0.214	<0.439	<0.518
Di-n-butylphthalate	NA	0.058 b	<0.261	<0.718	<0.331	<0.345	<0.267	<0.302	<0.322	<0.330	<0.309	<0.244	<0.335	<0.283	<0.304	<0.335	<0.505	<0.500	<0.373	<0.455	<0.498	<0.214	<0.439	<0.518
Di-n-octylphthalate	NA	NA	<0.261	<0.718	<0.331	<0.345	<0.267	<0.302	<0.322	<0.330	<0.309	<0.244	<0.335	<0.283	<0.304	<0.335	25.1	<0.500	<0.373	<0.455	<0.498	<0.214	<0.439	<0.518
Fluoranthene	0.6 a	5.1 a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluorene	0.019 a	0.54 a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hexachlorobenzene	NA	NA	<0.261	-	-	-	-	-	-	-	-	-	-	-	-	<0.335	<0.505	<0.500	<0.373	<0.455	<0.498	<0.214	-	-
Hexachlorobutadiene	NA	NA	<0.261	<0.718	<0.331	<0.345	<0.267	<0.302	<0.322	<0.330	<0.309	<0.244	<0.335	<0.283	<0.304	<0.335	<0.505	<0.500	<0.373	<0.455	<0.498	<0.214	<0.439	<0.518
Hexachloroethane	NA	0.073 b	<0.261	<0.718	<0.331	<0.345	<0.267	<0.302	<0.322	<0.330	<0.309	<0.244	<0.335	<0.283	<0.304	<0.335	<0.505	<0.500	<0.373	<0.455	<0.498	<0.214	<0.439	<0.518
Indeno(1,2,3-cd)Pyrene	NA	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Isophorone	NA	NA	<0.261	<0.718	<0.331	<0.345	<0.267	<0.302	<0.322	<0.330	<0.309	<0.244	<0.335	<0.283	<0.304	<0.335	<0.505	<0.500	<0.373	<0.455	<0.498	<0.214	<0.439	<0.518
Naphthalene	0.16 a	2.1 a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nitrobenzene	NA	NA	<0.261	<0.718	<0.331	<0.345	<0.267	<0.302	<0.322	<0.330	<0.309	<0.244	<0.335	<0.283	<0.304	<0.335	<0.505	<0.500	<0.373	<0.455	<0.498	<0.214	<0.439	<0.518
N-Nitrosodimethylamine	NA	NA	<0.261	<0.718	<0.331	<0.345	<0.267	<0.302	<0.322	<0.330	<0.309	<0.244	<0.335	<0.283	<0.304	<0.335	<0.505	<0.500	<0.373	<0.455	<0.498	<0.214	<0.439	<0.518
Pentachlorophenol	NA	0.017 b	<1.31	<3.60	<1.66	<1.73	<1.34	<1.52	<1.61	<1.66	<1.55	<1.23	<1.68	<1.42	<1.52	<1.68	<2.53	<2.50	<1.87	<2.28	<2.50	<1.07	<2.20	<2.60
Phenanthrene	0.24 a	1.5 a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phenol	NA	0.13 b	<0.261	<0.718	<0.331	<0.345	<0.267	<0.302	<0.322	<0.330	<0.309	<0.244	<0.335	<0.283	<0.304	<0.335	<0.505	<0.500	<0.373	<0.455	<0.498	<0.214	<0.439	<0.518
Pyrene	0.665 a	2.6 a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Source: Table 3C from "Supplemental Phase II Comprehensive Site Assessment, Former Everett Staging Yard, Water-Side, Everett, Massachusetts, Release Tracking Number 3-13341", prepared by GZA, December 2015.

Table 3C
SEDIMENT SEMI-VOLATILE ORAGNIC COMPOUNDS RESULTS

Wynn Resort Casino
Everett, Massachusetts

Sample ID	Marine Sediment Benchmarks		LC-107 0ft-0_5ft	LC-107 2ft-4ft	LC-108 0ft-0_5ft	LC-108 4ft-6ft	LC-109 0ft-0_5ft	LC-110 0ft-0_5ft	LC-111 0ft-0_5ft	LC-112 0ft-0_5ft	LC-112 4ft-6ft
Date Sampled			03/26/2015	03/26/2015	03/26/2015	03/26/2015	03/26/2015	03/27/2015	03/27/2015	03/27/2015	03/27/2015
Depth (ft)			0-0.5	2-4	0-0.5	4-6	0-0.5	0-0.5	0-0.5	0-0.5	4-6
Type			Shallow	Deep	Shallow	Deep	Shallow	Shallow	Shallow	Shallow	Deep
Group	ERLs	ERMs	LC	LC	LC	LC	LC	LC	LC	LC	LC
Analyte											
Semi-Volatile Organic Compounds (SVOCs)											
1,2,4-Trichlorobenzene	NA	NA	<0.545	<0.335	<0.516	<0.244	<0.479	<0.402	<0.423	<0.414	<0.216
1,2-Dichlorobenzene	NA	0.013 b	<0.545	<0.335	<0.516	<0.244	<0.479	<0.402	<0.423	<0.414	<0.216
1,3-Dichlorobenzene	NA	NA	<0.545	<0.335	<0.516	<0.244	<0.479	<0.402	<0.423	<0.414	<0.216
1,4-Dichlorobenzene	NA	0.11 a	<0.545	<0.335	<0.516	<0.244	<0.479	<0.402	<0.423	<0.414	<0.216
2,4,5-Trichlorophenol	NA	0.003 b	<0.545	<0.335	<0.516	<0.244	<0.479	<0.402	<0.423	<0.414	<0.216
2,4,6-Trichlorophenol	NA	NA	<0.545	<0.335	<0.516	<0.244	<0.479	<0.402	<0.423	<0.414	<0.216
2,4-Dichlorophenol	NA	0.005 b	<0.545	<0.335	<0.516	<0.244	<0.479	<0.402	<0.423	<0.414	<0.216
2,4-Dimethylphenol	NA	NA	<0.545	<0.335	<0.516	<0.244	<0.479	<0.402	<0.423	<0.414	<0.216
2,4-Dinitrophenol	NA	NA	<2.73	<1.68	<2.59	<1.22	<2.40	<2.01	<2.12	<2.08	<1.08
2,4-Dinitrotoluene	NA	NA	<0.545	<0.335	<0.516	<0.244	<0.479	<0.402	<0.423	<0.414	<0.216
2,6-Dinitrotoluene	NA	NA	<0.545	<0.335	<0.516	<0.244	<0.479	<0.402	<0.423	<0.414	<0.216
2-Chloronaphthalene	NA	NA	<0.545	<0.335	<0.516	<0.244	<0.479	<0.402	<0.423	<0.414	<0.216
2-Chlorophenol	NA	0.008 b	<0.545	<0.335	<0.516	<0.244	<0.479	<0.402	<0.423	<0.414	<0.216
2-Methylnaphthalene	0.07 a	0.67 a	-	-	-	-	-	-	-	-	-
2-Methylphenol	NA	NA	<0.545	<0.335	<0.516	<0.244	<0.479	<0.402	<0.423	<0.414	<0.216
2-Nitrophenol	NA	NA	<0.545	<0.335	<0.516	<0.244	<0.479	<0.402	<0.423	<0.414	<0.216
3,3´-Dichlorobenzidine	NA	NA	<1.09	<0.671	<1.03	<0.488	<0.959	<0.805	<0.847	<0.829	<0.433
3+4-Methylphenol	NA	NA	<1.09	<0.671	<1.03	<0.488	<0.959	<0.805	<0.847	<0.829	<0.433
4-Bromophenyl-phenylether	NA	NA	<0.545	<0.335	<0.516	<0.244	<0.479	<0.402	<0.423	<0.414	<0.216
4-Chloroaniline	NA	NA	<1.09	<0.671	<1.03	<0.488	<0.959	<0.805	<0.847	<0.829	<0.433
4-Nitrophenol	NA	NA	<2.73	<1.68	<2.59	<1.22	<2.40	<2.01	<2.12	<2.08	<1.08
Acetophenone	NA	NA	<1.09	<0.671	<1.03	<0.488	<0.959	<0.805	<0.847	<0.829	<0.433
Acenaphthene	0.016 a	0.5 a	-	-	-	-	-	-	-	-	-
Acenaphthylene	0.044 a	0.64 a	-	-	-	-	-	-	-	-	-
Aniline	NA	NA	<2.73	<1.68	<2.59	<1.22	<2.40	<2.01	<2.12	<2.08	<1.08
Anthracene	0.085 a	1.1 a	-	-	-	-	-	-	-	-	-
Azobenzene	NA	NA	<0.545	<0.335	<0.516	<0.244	<0.479	<0.402	<0.423	<0.414	<0.216
Benzo(a)anthracene	0.261 a	1.6 a	-	-	-	-	-	-	-	-	-
Benzo(a)pyrene	0.43 a	1.6 a	-	-	-	-	-	-	-	-	-
Benzo(b)fluoranthene	NA	1.8 b	-	-	-	-	-	-	-	-	-
Benzo(g,h,i)perylene	NA	NA	-	-	-	-	-	-	-	-	-
Benzo(k)fluoranthene	NA	NA	-	-	-	-	-	-	-	-	-
bis(2-Chloroethoxy)methane	NA	NA	<0.545	<0.335	<0.516	<0.244	<0.479	<0.402	<0.423	<0.414	<0.216
bis(2-Chloroethyl)ether	NA	NA	<0.545	<0.335	<0.516	<0.244	<0.479	<0.402	<0.423	<0.414	<0.216
bis(2-chloroisopropyl)Ether	NA	NA	<0.545	<0.335	<0.516	<0.244	<0.479	<0.402	<0.423	<0.414	<0.216
bis(2-Ethylhexyl)phthalate	0.18216 b	2.64651 b	**5.95**	**250**	**3.62**	**35.7**	**2.33**	**3.02**	**2.17**	**2.53**	<0.216
Butylbenzylphthalate	NA	0.063 b	<0.545	<0.335	<0.516	<0.244	<0.479	<0.402	<0.423	<0.414	<0.216
Carbazole	NA	NA	-	-	-	-	-	-	-	-	-
Chrysene	0.384 a	2.8 a	-	-	-	-	-	-	-	-	-
Dibenzo(a,h)Anthracene	0.063 a	0.26 a	-	-	-	-	-	-	-	-	-
Dibenzofuran	NA	NA	<0.545	<0.335	<0.516	0.861	<0.479	<0.402	<0.423	<0.414	<0.216
Diethylphthalate	NA	0.006 b	<0.545	<0.335	<0.516	<0.244	<0.479	<0.402	<0.423	<0.414	<0.216
Dimethylphthalate	NA	NA	<0.545	<0.335	<0.516	<0.244	<0.479	<0.402	<0.423	<0.414	<0.216
Di-n-butylphthalate	NA	0.058 b	<0.545	<0.335	<0.516	<0.244	<0.479	<0.402	<0.423	<0.414	<0.216
Di-n-octylphthalate	NA	NA	<0.545	43.5	<0.516	1.26	<0.479	<0.402	<0.423	<0.414	<0.216
Fluoranthene	0.6 a	5.1 a	-	-	-	-	-	-	-	-	-
Fluorene	0.019 a	0.54 a	-	-	-	-	-	-	-	-	-
Hexachlorobenzene	NA	NA	<0.545	<0.335	<0.516	<0.244	<0.479	-	-	-	-
Hexachlorobutadiene	NA	NA	<0.545	<0.335	<0.516	<0.244	<0.479	<0.402	<0.423	<0.414	<0.216
Hexachloroethane	NA	0.073 b	<0.545	<0.335	<0.516	<0.244	<0.479	<0.402	<0.423	<0.414	<0.216
Indeno(1,2,3-cd)Pyrene	NA	NA	-	-	-	-	-	-	-	-	-
Isophorone	NA	NA	<0.545	<0.335	<0.516	<0.244	<0.479	<0.402	<0.423	<0.414	<0.216
Naphthalene	0.16 a	2.1 a	-	-	-	-	-	-	-	-	-
Nitrobenzene	NA	NA	<0.545	<0.335	<0.516	<0.244	<0.479	<0.402	<0.423	<0.414	<0.216
N-Nitrosodimethylamine	NA	NA	<0.545	<0.335	<0.516	<0.244	<0.479	<0.402	<0.423	<0.414	<0.216
Pentachlorophenol	NA	0.017 b	<2.73	<1.68	<2.59	<1.22	<2.40	<2.01	<2.12	<2.08	<1.08
Phenanthrene	0.24 a	1.5 a	-	-	-	-	-	-	-	-	-
Phenol	NA	0.13 b	<0.545	<0.335	<0.516	0.307	<0.479	<0.402	<0.423	<0.414	<0.216
Pyrene	0.665 a	2.6 a	-	-	-	-	-	-	-	-	-

Source: Table 3C from "Supplemental Phase II Comprehensive Site Assessment, Former Everett Staging Yard, Water-Side, Everett, Massachusetts, Release Tracking Number 3-13341", prepared by GZA, December 2015.

Wynn Resort Casino
Everett, Massachusetts

Notes:

1. Results are presented in mg/kg unless otherwise noted.
2. "<" indicates that an analyte was tested for but not detected above the Method Reporting Limit (MRL). "-" indicates that an analyte was not tested for NA indicates that a benchmark value is not available.
3. Samples are designated as "Shallow" if any portion of the sample depth occurs within the uppermost 2 feet of sediment. All other samples are designated as "Deep."
4. Group designations are as follows: ON = On-Site, OFF-W = Off-Site West, OFF-E = Off-Site East, and LC = Local Conditions.
5. Marine sediment benchmarks are from the following sources:
    a. Effects Range - Low (ERL) and Effects Range - Median (ERM) Marine Sediment screening values from Long, et al., 1995.
    b. ERL and ERM equivalent Marine Sediment benchmark values from http://epa.gov/region5/waste/cars/pdfs/ecological-screening-levels-200308.pdf
6. Bolded values exceed the conservative ERL screening value.
7. Shaded values exceed the ERM benchmark value.
8. The LC-# series of samples are Local Conditions samples

Source: Table 3C from "Supplemental Phase II Comprehensive Site Assessment, Former Everett Staging Yard, Water-Side, Everett, Massachusetts, Release Tracking Number 3-13341", prepared by GZA, December 2015.

Table 3D
SEDIMENT POLYCYCLIC AROMATIC HYDROCARBONS AND EXTRACTABLE PETROLEUM HYDROCARBON RESULTS

Wynn Resort Casino
Everett, Massachusetts

Sample ID	Marine Sediment Benchmarks				GZ-102 6-8ft	GZ-104 2-4ft	GZ-104T 0-0_5ft	GZ-105 4-6ft	GZ-108 2-4ft	GZ-108T 0-0_5ft	GZ-109 0_5-2_5ft	GZ-111 7-8ft	GZ-113 2-4ft	GZ-113T 0-0_5ft	GZ-114 2-5ft
Date Sampled					08/01/2013	08/06/2013	08/06/2013	08/01/2013	08/01/2013	08/06/2013	08/02/2013	08/01/2013	08/01/2013	08/06/2013	08/01/2013
Depth (ft)					6-8	2-4	0-0.5	4-6	2-4	0-0.5	0.5-2.5	7-8	2-4	0-0.5	2-5
Type					Deep	Deep	Shallow	Deep	Deep	Shallow	Shallow	Deep	Deep	Shallow	Deep
Group	ERLs		ERMs		ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON
Analyte															
Polycyclic Aromatic Hydrocarbons (PAHs)															
2-Methylnaphthalene	0.07	a	0.67	a	<0.022	<0.115	<0.188	<0.090	<0.028	<0.174	**0.114**	<0.035	<0.092	<0.079	**0.114**
Acenaphthene	0.016	a	0.5	a	<0.022	<0.115	<0.188	<0.090	<0.028	<0.174	**0.12**	<0.035	<0.092	<0.079	**0.06**
Acenaphthylene	0.044	a	0.64	a	<0.022	**0.119**	**0.324**	**0.147**	**0.054**	<0.174	**0.204**	<0.035	**0.18**	<0.079	**0.079**
Anthracene	0.085	a	1.1	a	<0.022	**0.156**	**0.467**	**0.144**	0.05	<0.174	**0.741**	0.042	**0.268**	<0.079	**0.144**
Benzo(a)anthracene	0.261	a	1.6	a	<0.022	**0.326**	**1.59**	**0.291**	0.115	0.209	**1.12**	0.062	**0.577**	0.117	0.142
Benzo(a)pyrene	0.43	a	1.6	a	<0.022	0.368	**1.83**	0.349	0.16	0.306	**0.563**	0.051	**0.599**	0.149	0.119
Benzo(b)fluoranthene	NA		1.8	b	0.036	0.506	2.55	0.478	0.216	0.439	1.35	0.065	0.875	0.206	0.236
Benzo(g,h,i)perylene	NA		NA		0.036	0.303	1.38	0.288	0.157	0.272	0.3	0.038	0.515	0.13	0.118
Benzo(k)fluoranthene	NA		NA		0.027	0.175	0.715	0.144	0.082	<0.174	1.42	<0.035	0.309	<0.079	0.085
Chrysene	0.384	a	2.8	a	0.024	**0.414**	**1.97**	0.349	0.165	0.32	**1.18**	0.067	**0.68**	0.158	0.167
Dibenzo(a,h)Anthracene	0.063	a	0.26	a	<0.022	<0.115	**0.361**	<0.090	0.038	<0.174	<0.102	<0.035	**0.154**	<0.079	<0.035
Fluoranthene	0.6	a	5.1	a	0.03	**0.726**	**3.61**	0.507	0.234	0.425	<0.102	0.114	**0.673**	0.203	0.342
Fluorene	0.019	a	0.54	a	<0.022	<0.115	<0.188	<0.090	<0.028	<0.174	**0.163**	<0.035	<0.092	<0.079	**0.113**
Hexachlorobenzene	NA		NA		-	-	-	-	-	-	-	-	-	-	-
Indeno(1,2,3-cd)Pyrene	NA		NA		0.036	0.317	1.54	0.288	0.162	0.286	0.369	0.041	0.585	0.139	0.124
Naphthalene	0.16	a	2.1	a	<0.022	<0.115	**0.226**	<0.090	0.046	<0.174	**0.496**	0.091	<0.092	<0.079	**0.472**
Phenanthrene	0.24	a	1.5	a	0.03	**0.368**	**2.14**	0.237	0.095	0.174	**0.733**	0.122	**0.408**	0.108	**0.625**
Pyrene	0.665	a	2.6	a	0.033	**0.749**	**3.28**	0.644	0.254	0.446	**2.41**	0.125	**1.01**	0.237	0.44
Total PAHs	4.022	a	44.792	a	0.252	**4.527**	**21.983**	3.866	1.828	2.877	**11.283**	0.818	**6.833**	1.447	3.38
Extractable Petroleum Hyrdocarbons															
C11-C22 Aromatics1,2	NA		NA		1540	988	472	947	445	<104	2480	<108	2630	175	1640
C11-C22 Unadjusted Aromatics1	NA		NA		1540	993	488	947	445	<104	2480	<108	2630	175	1640
C19-C36 Aliphatics1	NA		NA		405	1170	688	944	937	189	1570	<108	305	329	321
C9-C18 Aliphatics1	NA		NA		143	228	114	169	142	<104	262	<108	<48.2	51.4	442
Total EPH	NA		NA		2088	2386	1274	2060	1524	189	4312	<108	2935	555.4	2403

Source: Table 3D from "Supplemental Phase II Comprehensive Site Assessment, Former Everett Staging Yard, Water-Side, Everett, Massachusetts, Release Tracking Number 3-13341", prepared by GZA, December 2015.

Sample ID	Marine Sediment Benchmarks		GZ-114T 0-0_5ft	GZ-116 0_5-2ft	GZ-116 2-4ft	GZ-116 6-8ft	GZ-116T 0-0_5ft	GZ-119 2-4ft	GZ-119T 0-0_5ft	GZ-122 0_5-2ft	GZ-122 2-4ft	GZ-122T 0-0_5ft	GZ-126 0_5-2ft
Date Sampled			08/06/2013	08/02/2013	08/02/2013	08/02/2013	08/06/2013	08/01/2013	08/01/2013	08/02/2013	08/02/2013	08/06/2013	08/05/2013
Depth (ft)			0-0.5	0.5-2	2-4	6-8	0-0.5	2-4	0-0.5	0.5-2	2-4	0-0.5	0.5-2
Type			Shallow	Shallow	Deep	Deep	Shallow	Deep	Shallow	Shallow	Deep	Shallow	Shallow
Group			ON	ON	ON	ON	ON	ON	ON	OFF-W	OFF-W	OFF-W	OFF-W
Analyte	ERLs	ERMs											
Polycyclic Aromatic Hydrocarbons (PAHs)													
2-Methylnaphthalene	0.07 a	0.67 a	<0.141	<0.057	**0.083**	<0.013	<0.074	**0.218**	<0.133	<0.013	<0.012	<0.059	<0.010
Acenaphthene	0.016 a	0.5 a	<0.141	<0.057	<0.067	<0.013	<0.074	**0.07**	<0.133	<0.013	<0.012	<0.059	<0.010
Acenaphthylene	0.044 a	0.64 a	<0.141	<0.057	**0.07**	<0.013	<0.074	**0.067**	<0.133	<0.013	<0.012	**0.07**	0.015
Anthracene	0.085 a	1.1 a	<0.141	**0.094**	**0.091**	<0.013	<0.074	**0.154**	<0.133	<0.013	<0.012	**0.176**	**0.115**
Benzo(a)anthracene	0.261 a	1.6 a	0.215	0.172	0.153	<0.013	0.198	0.151	0.144	0.024	<0.012	**0.418**	**0.265**
Benzo(a)pyrene	0.43 a	1.6 a	0.323	0.165	0.126	<0.013	0.18	0.121	0.191	0.02	<0.012	0.415	0.193
Benzo(b)fluoranthene	NA	1.8 b	0.458	0.293	0.207	<0.013	0.227	0.252	0.266	0.022	0.014	0.518	0.209
Benzo(g,h,i)perylene	NA	NA	0.255	0.144	0.089	<0.013	0.115	0.098	0.175	0.015	<0.012	0.279	0.091
Benzo(k)fluoranthene	NA	NA	0.147	0.085	0.078	<0.013	0.074	0.113	<0.133	<0.013	<0.012	0.185	0.074
Chrysene	0.384 a	2.8 a	0.323	0.234	0.175	<0.013	0.221	0.182	0.197	0.022	<0.012	**0.422**	0.209
Dibenzo(a,h)Anthracene	0.063 a	0.26 a	<0.141	<0.057	<0.067	<0.013	<0.074	<0.041	<0.133	<0.013	<0.012	**0.08**	0.034
Fluoranthene	0.6 a	5.1 a	0.43	0.355	0.18	<0.013	0.295	0.364	0.266	0.041	0.014	**0.631**	0.271
Fluorene	0.019 a	0.54 a	<0.141	<0.057	<0.067	<0.013	<0.074	**0.157**	<0.133	<0.013	<0.012	<0.059	0.012
Hexachlorobenzene	NA	NA	-	-	-	-	-	-	-	-	-	-	-
Indeno(1,2,3-cd)Pyrene	NA	NA	0.277	0.154	0.118	<0.013	0.121	0.111	0.191	0.016	<0.012	0.317	0.105
Naphthalene	0.16 a	2.1 a	<0.141	0.119	**0.247**	<0.013	<0.074	**0.808**	<0.133	<0.013	<0.012	0.073	0.014
Phenanthrene	0.24 a	1.5 a	0.181	0.167	**0.315**	<0.013	0.189	**0.767**	<0.133	0.025	<0.012	**0.296**	0.067
Pyrene	0.665 a	2.6 a	0.464	0.383	0.242	<0.013	0.407	0.446	0.314	0.039	0.016	0.617	0.341
Total PAHs	4.022 a	44.792 a	3.073	2.365	2.174	<0.013	2.027	**4.079**	1.744	0.224	0.044	**4.497**	2.015
Extractable Petroleum Hyrdocarbons													
C11-C22 Aromatics1,2	NA	NA	111	674	141	<38.7	60.2	949	155	59.5	<35.9	<34.7	47.7
C11-C22 Unadjusted Aromatics1	NA	NA	111	674	141	<38.7	60.2	949	155	59.5	<35.9	<34.7	49.7
C19-C36 Aliphatics1	NA	NA	137	154	121	<38.7	85	194	99.9	119	<35.9	<34.7	<30.5
C9-C18 Aliphatics1	NA	NA	<84.3	<102	<104	<38.7	<43.4	218	<80.3	<38.2	<35.9	<34.7	<30.5
Total EPH	NA	NA	248	828	262	<38.7	145.2	1361	254.9	178.5	<35.9	<34.7	47.7

Source: Table 3D from "Supplemental Phase II Comprehensive Site Assessment, Former Everett Staging Yard, Water-Side, Everett, Massachusetts, Release Tracking Number 3-13341", prepared by GZA, December 2015.

Table 3D
SEDIMENT POLYCYCLIC AROMATIC HYDROCARBONS AND EXTRACTABLE PETROLEUM HYDROCARBON RESULTS

Wynn Resort Casino
Everett, Massachusetts

Sample ID	Marine Sediment Benchmarks		GZ-126 2-4ft	GZ-126T 0-0_5ft	GZ-134 2-3ft	GZ-134 6-8ft	GZ-134T 0-0_5ft	GZ-136 0_5-2ft	GZ-137 2-4ft	GZ-137T 0-0_5ft	GZ-140A 2-3ft	GZ-201 0ft-0_5ft	GZ-201 4ft-5ft
Date Sampled			08/05/2013	08/06/2013	08/02/2013	08/02/2013	08/06/2013	08/05/2013	08/05/2013	08/06/2013	08/05/2013		
Depth (ft)			2-4	0-0.5	2-3	6-8	0-0.5	0.5-2	2-4	0-0.5	2-3	0-0.5	4-5
Type			Deep	Shallow	Shallow	Deep	Shallow	Shallow	Deep	Shallow	Shallow	Shallow	Deep
Group	ERLs	ERMs	OFF-W	OFF-W	ON	ON	ON	OFF-W	OFF-W	OFF-W	OFF-W	OFF-E	OFF-E
Analyte													
Polycyclic Aromatic Hydrocarbons (PAHs)													
2-Methylnaphthalene	0.07 a	0.67 a	<0.011	<0.064	**0.571**	**6.35**	**0.155**	**0.121**	**0.107**	**0.171**	<0.079	<0.045	0.06
Acenaphthene	0.016 a	0.5 a	<0.011	<0.064	**0.505**	**3.34**	<0.129	**0.165**	**0.19**	**0.131**	<0.079	**0.021**	<0.022
Acenaphthylene	0.044 a	0.64 a	<0.011	**0.084**	**0.319**	**1.89**	**0.646**	**0.317**	**0.258**	**0.496**	**0.463**	**0.101**	**0.078**
Anthracene	0.085 a	1.1 a	<0.011	**0.298**	**1.09**	**3.83**	**0.677**	**0.613**	**0.703**	**0.625**	**0.513**	**0.13**	**0.088**
Benzo(a)anthracene	0.261 a	1.6 a	<0.011	**0.769**	**0.77**	**3.25**	**1.28**	**0.64**	**0.906**	**1.15**	**0.973**	**0.276**	0.154
Benzo(a)pyrene	0.43 a	1.6 a	<0.011	**0.738**	**0.806**	**2.25**	**2.04**	**0.87**	**0.982**	**1.5**	**1.06**	0.389	0.197
Benzo(b)fluoranthene	NA	1.8 b	<0.011	0.84	1.76	3.33	3.2	1.3	1.18	2.16	1.24	0.594	0.276
Benzo(g,h,i)perylene	NA	NA	<0.011	0.443	1.12	1.62	1.69	0.543	0.552	1.03	0.558	0.187	0.091
Benzo(k)fluoranthene	NA	NA	<0.011	0.29	1.07	1.4	0.873	0.412	0.437	0.858	0.412	0.19	0.103
Chrysene	0.384 a	2.8 a	<0.011	**0.67**	**1.26**	**3.09**	**1.76**	**1.12**	**0.946**	**1.47**	**1.12**	**0.401**	0.183
Dibenzo(a,h)Anthracene	0.063 a	0.26 a	<0.011	**0.137**	**0.325**	**0.601**	**0.46**	**0.17**	**0.181**	**0.299**	**0.19**	0.055	0.029
Fluoranthene	0.6 a	5.1 a	<0.011	**0.975**	**1.9**	**4.93**	**2.07**	**1.25**	**1.52**	**1.88**	**1.13**	**0.684**	0.303
Fluorene	0.019 a	0.54 a	<0.011	<0.064	**0.896**	**3.36**	**0.176**	**0.218**	**0.187**	**0.197**	**0.082**	**0.033**	**0.029**
Hexachlorobenzene	NA	NA	-	-	-	-	-	-	-	-	-	<0.018	<0.022
Indeno(1,2,3-cd)Pyrene	NA	NA	<0.011	0.532	1.19	1.79	1.89	0.628	0.641	1.16	0.634	0.222	0.102
Naphthalene	0.16 a	2.1 a	<0.011	<0.064	**7.91**	**15.2**	**0.692**	**0.514**	**0.394**	**0.825**	**0.285**	0.125	0.112
Phenanthrene	0.24 a	1.5 a	<0.011	**0.341**	**3.63**	**9.55**	**1.11**	**1.11**	**1.19**	**1.21**	**0.295**	0.23	0.124
Pyrene	0.665 a	2.6 a	<0.011	**1.08**	**2.48**	**6.84**	**2.91**	**1.96**	**2.02**	**2.36**	**1.76**	0.553	0.332
Total PAHs	4.022 a	44.792 a	<0.011	**7.197**	**27.602**	**72.621**	**21.629**	**11.951**	**12.394**	**17.522**	**10.715**	**4.191**	2.261
Extractable Petroleum Hyrdocarbons													
C11-C22 Aromatics1,2	NA	NA	<32.2	68	2790	2530	355	262	66.9	226	173	49	-
C11-C22 Unadjusted Aromatics1	NA	NA	<32.2	80.8	2800	2590	363	269	66.9	234	181	49	-
C19-C36 Aliphatics1	NA	NA	<32.2	49.9	495	898	783	270	61.2	398	151	141	-
C9-C18 Aliphatics1	NA	NA	<32.2	<37.9	524	612	92.5	71.9	<31.3	54.1	54.6	<44.9	-
Total EPH	NA	NA	<32.2	117.9	3809	4040	1230.5	603.9	128.1	678.1	378.6	190	-

Source: Table 3D from "Supplemental Phase II Comprehensive Site Assessment, Former Everett Staging Yard, Water-Side, Everett, Massachusetts, Release Tracking Number 3-13341", prepared by GZA, December 2015.

Wynn Resort Casino
Everett, Massachusetts

Sample ID	Marine Sediment Benchmarks		GZ-202 0ft-0_5ft	GZ-202 2ft-4ft	GZ-203 0ft-0_5ft	GZ-203 4ft-6ft	GZ-204 0ft-0_5ft	GZ-204 2ft-4ft	GZ-204 6ft-8ft	GZ-205 0ft-0_5ft	GZ-205 4ft-6ft	GZ-205 6ft-8ft	GZ-206 0ft-0_5ft
Date Sampled			03/24/2015	3/24/2015	03/24/2015	03/24/2015	03/24/2015	03/24/2015	03/24/2015	3/25/2015	3/25/2015	3/25/2015	3/25/2015
Depth (ft)			0-0.5	2-4	0-0.5	4-6	0.0.5	2-4	6-8	0-0.5	2-6	6-8	0-0.5
Type			Shallow	Deep	Shallow	Deep	Shallow	Deep	Deep	Shallow	Deep	Deep	Shallow
Group	ERLs	ERMs	OFF-E	OFF-E	OFF-E	OFF-E	OFF-E	OFF-E	OFF-E	OFF-E	OFF-E	OFF-E	ON
Analyte													
Polycyclic Aromatic Hydrocarbons (PAHs)													
2-Methylnaphthalene	0.07 a	0.67 a	<0.050	<0.020	<0.034	0.022	<0.035	**1.54**	**0.083**	<0.032	**0.43**	<0.017	<0.040
Acenaphthene	0.016 a	0.5 a	**0.049**	**0.027**	**0.03**	**0.021**	**0.029**	**0.599**	**0.135**	<0.032	**0.447**	<0.017	**0.04**
Acenaphthylene	0.044 a	0.64 a	**0.19**	**0.052**	**0.103**	<0.020	**0.071**	**0.519**	**0.087**	**0.131**	**0.509**	0.018	**0.413**
Anthracene	0.085 a	1.1 a	**0.187**	0.054	**0.111**	<0.020	**0.104**	**1.03**	**0.309**	**0.143**	**1.07**	0.034	**0.974**
Benzo(a)anthracene	0.261 a	1.6 a	**0.521**	0.075	**0.321**	<0.020	**0.291**	**0.864**	0.169	**0.421**	**0.975**	0.052	**0.948**
Benzo(a)pyrene	0.43 a	1.6 a	**0.69**	0.103	**0.451**	<0.020	0.35	**0.868**	0.173	**0.552**	**0.904**	0.048	**1.3**
Benzo(b)fluoranthene	NA	1.8 b	1.07	0.121	0.655	<0.020	0.517	1.43	0.242	0.785	1.16	0.054	1.46
Benzo(g,h,i)perylene	NA	NA	0.581	<0.020	0.407	<0.020	0.273	0.568	0.106	0.347	0.42	0.029	0.818
Benzo(k)fluoranthene	NA	NA	0.337	0.052	0.159	<0.020	0.137	0.459	0.064	0.252	0.392	<0.017	0.44
Chrysene	0.384 a	2.8 a	**0.693**	0.101	**0.479**	<0.020	0.354	**1.14**	0.234	**0.526**	**1.12**	0.057	**1.14**
Dibenzo(a,h)Anthracene	0.063 a	0.26 a	**0.146**	<0.020	**0.096**	<0.020	**0.068**	<0.440	0.032	**0.099**	**0.121**	<0.017	**0.173**
Fluoranthene	0.6 a	5.1 a	**1.07**	0.177	**0.682**	<0.020	**0.612**	**2.41**	0.455	**0.813**	**2.3**	0.095	**2.06**
Fluorene	0.019 a	0.54 a	**0.073**	**0.027**	**0.04**	<0.020	**0.038**	**1.06**	**0.16**	**0.043**	**0.665**	<0.017	**0.088**
Hexachlorobenzene	NA	NA	<0.020	<0.008	<0.014	<0.008	<0.014	<0.176	<0.008	<0.013	<0.030	<0.007	<0.016
Indeno(1,2,3-cd)Pyrene	NA	NA	0.628	<0.020	0.416	<0.020	0.298	0.581	0.114	0.407	0.459	0.031	0.846
Naphthalene	0.16 a	2.1 a	**0.223**	0.126	0.131	**0.202**	0.094	**14.8**	**1.17**	0.126	**3.52**	0.025	0.149
Phenanthrene	0.24 a	1.5 a	**0.442**	0.088	**0.293**	<0.020	**0.331**	**2.81**	**0.636**	**0.302**	**2.26**	0.026	**0.542**
Pyrene	0.665 a	2.6 a	**1.09**	0.231	**0.705**	<0.020	0.636	**2.56**	0.56	**0.847**	**2.58**	0.106	**3.2**
Total PAHs	4.022 a	44.792 a	**7.99**	1.234	**5.079**	0.245	**4.203**	**33.238**	**4.729**	**5.794**	**19.332**	0.575	**14.591**
Extractable Petroleum Hyrdocarbons													
C11-C22 Aromatics1,2	NA	NA	97.3	-	54.6	-	63	2280	-	43.2	-	-	<40.4
C11-C22 Unadjusted Aromatics1	NA	NA	103	-	63.1	-	66.2	2280	-	43.2	-	-	<40.4
C19-C36 Aliphatics1	NA	NA	256	-	106	-	120	391	-	71.8	-	-	92.8
C9-C18 Aliphatics1	NA	NA	<49.8	-	<34.7	-	<34.7	574	-	<31.6	-	-	<40.4
Total EPH	NA	NA	353.3	-	160.6	-	183	3245	-	115	-	-	92.8

Source: Table 3D from "Supplemental Phase II Comprehensive Site Assessment, Former Everett Staging Yard, Water-Side, Everett, Massachusetts, Release Tracking Number 3-13341", prepared by GZA, December 2015.

Wynn Resort Casino
Everett, Massachusetts

Sample ID	Marine Sediment Benchmarks		GZ-206 4ft-6ft	GZ-207 0ft-0_5ft	GZ-207 4ft-6ft	GZ-207 6ft-7_5ft	GZ-208 0ft-0_5ft	GZ-208 4ft-6ft	GZ-209 0ft-0_5ft	GZ-209 2ft-4ft	GZ-209 6ft-8ft	GZ-210 0_5ft-2ft	GZ-210 0ft-0_5ft
Date Sampled			3/25/2015	3/25/2015	3/25/2015	3/25/2015	3/25/2015	3/25/2015	3/25/2015	3/25/2015	3/25/2015	3/30/2015	3/30/2015
Depth (ft)			4-6	0-0.5	4-6	6-7	0-0.5	4-6	0-0.5	2-4	6-8	0.5-2	0-0.5
Type			Deep	Shallow	Deep	Deep	Shallow	Deep	Shallow	Deep	Deep	Shallow	Shallow
Group	ERLs	ERMs	ON	ON	ON	ON	ON	ON	ON	ON	ON	OFF-E	OFF-E
Analyte													
Polycyclic Aromatic Hydrocarbons (PAHs)													
2-Methylnaphthalene	0.07 a	0.67 a	0.055	<0.039	**0.38**	<0.020	<0.038	**1.02**	<0.041	**0.253**	<0.017	<0.019	<0.017
Acenaphthene	0.016 a	0.5 a	**0.43**	**0.033**	**0.201**	<0.020	**0.03**	**1.1**	**0.021**	**0.158**	<0.017	<0.019	<0.017
Acenaphthylene	0.044 a	0.64 a	**0.122**	**0.183**	**0.183**	<0.020	**0.165**	**1.04**	**0.114**	**0.192**	<0.017	<0.019	0.018
Anthracene	0.085 a	1.1 a	**0.523**	**0.201**	**0.369**	<0.020	**0.169**	**1.52**	**0.109**	**0.164**	<0.017	<0.019	0.047
Benzo(a)anthracene	0.261 a	1.6 a	**0.316**	**0.47**	**0.316**	<0.020	**0.474**	**1.55**	**0.328**	<0.270	<0.017	<0.019	0.099
Benzo(a)pyrene	0.43 a	1.6 a	0.26	**0.708**	**0.542**	<0.020	**0.683**	**2.24**	**0.481**	<0.270	<0.017	<0.019	0.114
Benzo(b)fluoranthene	NA	1.8 b	0.246	1.14	0.748	<0.020	1.02	2.49	0.752	0.278	<0.017	<0.019	0.137
Benzo(g,h,i)perylene	NA	NA	0.103	0.567	0.185	<0.020	0.628	1.46	0.431	<0.270	<0.017	<0.019	0.081
Benzo(k)fluoranthene	NA	NA	0.055	0.257	0.274	<0.020	0.271	0.745	0.176	<0.270	<0.017	<0.019	0.047
Chrysene	0.384 a	2.8 a	0.315	**0.699**	**0.424**	<0.020	**0.647**	**1.89**	**0.482**	<0.270	<0.017	<0.019	0.108
Dibenzo(a,h)Anthracene	0.063 a	0.26 a	0.04	**0.146**	<0.065	<0.020	**0.152**	**0.544**	**0.099**	<0.108	<0.017	<0.019	0.018
Fluoranthene	0.6 a	5.1 a	0.55	**1**	**0.814**	<0.020	**0.977**	**2.19**	**0.697**	0.526	<0.017	<0.019	0.176
Fluorene	0.019 a	0.54 a	**0.35**	**0.056**	**0.335**	<0.020	**0.052**	**1.35**	**0.034**	**0.187**	<0.007	<0.019	<0.017
Hexachlorobenzene	NA	NA	<0.273	<0.516	<0.013	<0.008	<0.520	<0.01	<0.016	<0.027	<0.007	<0.019	<0.017
Indeno(1,2,3-cd)Pyrene	NA	NA	0.116	0.632	0.195	<0.020	0.677	1.59	0.443	<0.270	<0.017	<0.019	0.085
Naphthalene	0.16 a	2.1 a	**0.178**	**0.282**	**2.65**	<0.020	0.157	**3.32**	0.093	**1.15**	<0.017	<0.019	<0.017
Phenanthrene	0.24 a	1.5 a	**1.37**	**0.404**	**1.08**	<0.020	**0.378**	**5.13**	**0.259**	**0.716**	<0.017	<0.019	0.069
Pyrene	0.665 a	2.6 a	**0.754**	**1.09**	**1.06**	<0.020	**1.09**	**4.65**	**0.733**	0.644	<0.017	0.019	0.176
Total PAHs	4.022 a	44.792 a	**5.783**	**7.868**	**9.756**	<0.020	**7.57**	**33.829**	**5.252**	**4.268**	<0.017	0.019	1.175
Extractable Petroleum Hyrdocarbons													
C11-C22 Aromatics1,2	NA	NA	598	39.3	-	-	52.9	-	43.8	787	-	-	<16.8
C11-C22 Unadjusted Aromatics1	NA	NA	604	39.3	-	-	52.9	-	43.8	787	-	-	<16.8
C19-C36 Aliphatics1	NA	NA	202	98.8	-	-	125	-	129	221	-	-	<16.8
C9-C18 Aliphatics1	NA	NA	165	<39.0	-	-	<38.5	-	<43.1	335	-	-	<16.8
Total EPH	NA	NA	965	138.1	-	-	177.9	-	172.8	1343	-	-	<16.8

Source: Table 3D from "Supplemental Phase II Comprehensive Site Assessment, Former Everett Staging Yard, Water-Side, Everett, Massachusetts, Release Tracking Number 3-13341", prepared by GZA, December 2015.

Table 3D
SEDIMENT POLYCYCLIC AROMATIC HYDROCARBONS AND EXTRACTABLE PETROLEUM HYDROCARBON RESULTS

Wynn Resort Casino
Everett, Massachusetts

Sample ID	Marine Sediment Benchmarks		GZ-210 2ft-4ft	GZ-211 0ft-0_5ft	GZ-211 4ft-6ft	GZ-212 0_5ft-2ft	GZ-212 0ft-0_5ft	GZ-213 0ft-0_5ft	GZ-213 4ft-6ft	GZ-214 0ft-0_5ft	GZ-214 2ft-4ft	GZ-214 4ft-6ft	GZ-214 6ft-8ft
Date Sampled			3/30/2015	3/30/2015	3/30/2015	03/24/2015	03/24/2015	3/25/2015	3/25/2015	3/30/2015	3/30/2015		3/30/2015
Depth (ft)			2-4	0-0.5	4-6	0.5-2	0-0.5	0-0.5	4-6	0-0.5	2-4	4-6	6-8
Type			Deep	Shallow	Deep	Shallow	Shallow	Shallow	Deep	Shallow	Deep	Deep	Deep
Group			OFF-E	OFF-E	OFF-E	OFF-E	OFF-E	ON	ON	ON	ON	ON	ON
Analyte	ERLs	ERMs											
Polycyclic Aromatic Hydrocarbons (PAHs)													
2-Methylnaphthalene	0.07 a	0.67 a	<0.018	<0.016	<0.019	<0.018	<0.017	0.028	<0.016	0.049	<0.019	<0.018	<0.017
Acenaphthene	0.016 a	0.5 a	<0.018	<0.016	<0.019	<0.018	**0.025**	**0.024**	<0.016	**0.194**	<0.019	<0.018	<0.017
Acenaphthylene	0.044 a	0.64 a	<0.018	0.027	<0.019	0.019	0.024	**0.163**	<0.016	**0.14**	<0.019	<0.018	<0.017
Anthracene	0.085 a	1.1 a	<0.018	0.085	<0.019	**0.094**	0.075	**0.171**	<0.016	**0.346**	<0.019	<0.018	<0.017
Benzo(a)anthracene	0.261 a	1.6 a	<0.018	0.233	<0.019	**0.302**	0.151	**0.314**	<0.016	**0.677**	<0.019	<0.018	<0.017
Benzo(a)pyrene	0.43 a	1.6 a	<0.018	0.243	<0.019	0.273	0.161	0.425	<0.016	**0.804**	<0.019	<0.018	<0.017
Benzo(b)fluoranthene	NA	1.8 b	<0.018	0.294	<0.019	0.314	0.194	0.569	<0.016	1.02	<0.019	<0.018	<0.017
Benzo(g,h,i)perylene	NA	NA	<0.018	0.164	<0.019	0.145	0.111	0.212	<0.016	0.402	<0.019	<0.018	<0.017
Benzo(k)fluoranthene	NA	NA	<0.018	0.084	<0.019	0.09	0.065	0.182	<0.016	0.322	<0.019	<0.018	<0.017
Chrysene	0.384 a	2.8 a	<0.018	0.231	<0.019	0.296	0.16	0.362	<0.016	**0.722**	<0.019	<0.018	<0.017
Dibenzo(a,h)Anthracene	0.063 a	0.26 a	<0.018	0.038	<0.019	0.044	0.027	**0.07**	<0.016	**0.131**	<0.019	<0.018	<0.017
Fluoranthene	0.6 a	5.1 a	<0.018	0.403	<0.019	0.454	0.31	0.525	<0.016	**1.33**	<0.019	<0.018	<0.017
Fluorene	0.019 a	0.54 a	<0.018	**0.02**	<0.019	<0.018	**0.024**	**0.052**	<0.016	**0.143**	<0.019	<0.018	<0.017
Hexachlorobenzene	NA	NA	<0.018	<0.016	<0.019	<0.007	<0.007	<0.009	<0.006	<0.024	<0.019	<0.018	<0.017
Indeno(1,2,3-cd)Pyrene	NA	NA	<0.018	0.174	<0.019	0.167	0.119	0.266	<0.016	0.517	<0.019	<0.018	<0.017
Naphthalene	0.16 a	2.1 a	<0.018	0.026	<0.019	<0.018	0.024	0.073	<0.016	**0.2**	<0.019	<0.018	<0.017
Phenanthrene	0.24 a	1.5 a	<0.018	0.156	<0.019	0.115	0.184	**0.262**	<0.016	**0.812**	<0.019	<0.018	<0.017
Pyrene	0.665 a	2.6 a	<0.018	0.382	<0.019	0.45	0.294	**0.751**	<0.016	**1.21**	<0.019	<0.018	<0.017
Total PAHs	4.022 a	44.792 a	<0.018	2.56	<0.019	2.763	1.948	**4.449**	<0.016	**9.019**	<0.019	<0.018	<0.017
Extractable Petroleum Hyrdocarbons													
C11-C22 Aromatics1,2	NA	NA	-	<16.2	-	-	<16.8	57.6	-	101	<18.9	<18.0	-
C11-C22 Unadjusted Aromatics1	NA	NA	-	<16.2	-	-	<16.8	61.3	-	103	<18.9	<18.0	-
C19-C36 Aliphatics1	NA	NA	-	<16.2	-	-	18.2	78.6	-	117	<18.9	<18.0	-
C9-C18 Aliphatics1	NA	NA	-	<16.2	-	-	<16.8	<21.6	-	26.1	<18.9	<18.0	-
Total EPH	NA	NA	-	<16.2	-	-	18.2	136.2	-	244.1	<18.9	<18.0	-

Source: Table 3D from "Supplemental Phase II Comprehensive Site Assessment, Former Everett Staging Yard, Water-Side, Everett, Massachusetts, Release Tracking Number 3-13341", prepared by GZA, December 2015.

Wynn Resort Casino
Everett, Massachusetts

Sample ID	Marine Sediment Benchmarks		GZ-215 0ft-0_5ft	GZ-215 4ft-6ft	GZ-216 0ft-0_5ft	GZ-216 2ft-4ft	GZ-216 4ft-6ft	GZ-217 0ft-0_5ft	GZ-217 6ft-8ft	GZ-218 0_5ft-2ft	GZ-218 0ft-0_5ft	GZ-218 4ft-6ft	GZ-219 0ft-0_5ft
Date Sampled			03/24/2015		03/24/2015	03/24/2015	03/24/2015	03/24/2015	03/24/2015	3/25/2015	3/25/2015	3/25/2015	3/25/2015
Depth (ft)			0-0.5	4-6	0-0.5	2-4	4-6	0-0.5	6-8	0.5-2	0-0.5	4-6	0-0.5
Type			Shallow	Deep	Shallow	Deep	Deep	Shallow	Deep	Shallow	Shallow	Deep	Shallow
Group			ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON
Analyte	ERLs	ERMs											
Polycyclic Aromatic Hydrocarbons (PAHs)													
2-Methylnaphthalene	0.07 a	0.67 a	0.03	<0.015	0.049	<0.020	<0.018	**0.094**	<0.019	<0.109	0.033	<0.017	0.031
Acenaphthene	0.016 a	0.5 a	**0.039**	<0.015	**0.039**	**0.029**	<0.018	**0.079**	<0.019	**0.03**	**0.032**	<0.017	**0.027**
Acenaphthylene	0.044 a	0.64 a	**0.081**	<0.015	**0.149**	0.021	<0.018	**0.368**	<0.019	**0.328**	**0.212**	<0.017	**0.127**
Anthracene	0.085 a	1.1 a	**0.161**	<0.015	**0.24**	**0.1**	<0.018	**0.556**	<0.019	**0.336**	**0.234**	<0.017	**0.175**
Benzo(a)anthracene	0.261 a	1.6 a	**0.327**	<0.015	**0.442**	**0.327**	<0.018	**0.808**	<0.019	**0.718**	**0.527**	<0.017	**0.355**
Benzo(a)pyrene	0.43 a	1.6 a	0.382	<0.015	**0.497**	0.279	<0.018	**0.818**	<0.019	**0.674**	**0.735**	<0.017	**0.459**
Benzo(b)fluoranthene	NA	1.8 b	0.512	<0.015	0.594	0.315	<0.018	0.985	<0.019	0.804	1.2	<0.017	0.719
Benzo(g,h,i)perylene	NA	NA	0.217	<0.015	0.419	0.139	<0.018	0.472	<0.019	0.282	0.404	<0.017	0.249
Benzo(k)fluoranthene	NA	NA	0.145	<0.015	0.205	0.113	<0.018	0.334	<0.019	0.216	0.293	<0.017	0.167
Chrysene	0.384 a	2.8 a	0.371	<0.015	**0.587**	0.305	0.018	**1.03**	<0.019	**0.882**	**0.713**	<0.017	**0.491**
Dibenzo(a,h)Anthracene	0.063 a	0.26 a	0.06	<0.015	**0.104**	0.045	<0.018	**0.154**	<0.019	<0.109	**0.127**	<0.017	**0.072**
Fluoranthene	0.6 a	5.1 a	**0.695**	<0.015	0.59	0.47	0.031	**0.924**	<0.019	**1.24**	**0.991**	<0.017	**0.624**
Fluorene	0.019 a	0.54 a	**0.053**	<0.015	**0.104**	**0.026**	<0.018	**0.18**	<0.019	**0.081**	**0.054**	<0.017	**0.046**
Hexachlorobenzene	NA	NA	<0.021	<0.015	<0.018	<0.008	<0.007	<0.009	<0.008	<0.022	<0.010	<0.007	<0.009
Indeno(1,2,3-cd)Pyrene	NA	NA	0.265	<0.015	0.435	0.151	<0.018	0.547	<0.019	0.33	0.493	<0.017	0.295
Naphthalene	0.16 a	2.1 a	0.13	<0.015	**0.184**	0.021	<0.018	**0.25**	<0.019	<0.109	0.1	<0.017	0.082
Phenanthrene	0.24 a	1.5 a	**0.445**	<0.015	**0.248**	0.11	<0.018	**0.762**	<0.019	**0.248**	**0.345**	<0.017	0.227
Pyrene	0.665 a	2.6 a	0.654	<0.015	**1.07**	0.47	0.031	**1.7**	<0.019	**1.49**	**1.12**	0.018	**0.849**
Total PAHs	4.022 a	44.792 a	**4.567**	<0.015	**5.956**	2.921	0.08	**10.061**	<0.019	**7.659**	**7.613**	0.018	**4.995**
Extractable Petroleum Hyrdocarbons													
C11-C22 Aromatics1,2	NA	NA	37.6	-	199	<20.3	-	217	-	38.8	57.2	-	63
C11-C22 Unadjusted Aromatics1	NA	NA	37.6	-	204	20.6	-	227	-	42.7	62	-	68.7
C19-C36 Aliphatics1	NA	NA	64.9	-	124	<20.3	-	188	-	43.3	97.5	-	108
C9-C18 Aliphatics1	NA	NA	<21.6	-	29.4	<20.3	-	59	-	<21.6	<25.2	-	<23.1
Total EPH	NA	NA	102.5	-	352.4	<20.3	-	464	-	82.1	154.7	-	171

Source: Table 3D from "Supplemental Phase II Comprehensive Site Assessment, Former Everett Staging Yard, Water-Side, Everett, Massachusetts, Release Tracking Number 3-13341", prepared by GZA, December 2015.

Table 3D
SEDIMENT POLYCYCLIC AROMATIC HYDROCARBONS AND EXTRACTABLE PETROLEUM HYDROCARBON RESULTS

Wynn Resort Casino
Everett, Massachusetts

Sample ID	Marine Sediment Benchmarks		GZ-219 4ft-6ft	GZ-220 0_5ft-2ft	GZ-220 0ft-0_5ft	GZ-220 2ft-4ft	GZ-221 0ft-0_5ft	GZ-221 4ft-6ft	GZ-222 0_5ft-2ft	GZ-222 0ft-0_5ft	GZ-222 2ft-4ft	GZ-223 0ft-0_5ft	GZ-223 2ft-4ft
Date Sampled			3/25/2015	3/30/2015	3/30/2015	3/30/2015	3/30/2015	3/30/2015	3/30/2015	3/30/2015	3/30/2015	3/30/2015	3/30/2015
Depth (ft)			4-6	0.5-2	0-0.5	2-4	0-0.5	4-6	0.5-2	0-0.5	2-4	0-0.5	2-4
Type			Deep	Shallow	Shallow	Deep	Shallow	Deep	Shallow	Shallow	Deep	Shallow	Deep
Group			ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON
Analyte	ERLs	ERMs											
Polycyclic Aromatic Hydrocarbons (PAHs)													
2-Methylnaphthalene	0.07 a	0.67 a	<0.016	**0.423**	<0.025	<0.019	<0.026	<0.018	0.029	0.025	<0.018	**0.09**	0.036
Acenaphthene	0.016 a	0.5 a	<0.016	**0.271**	**0.039**	<0.019	**0.027**	<0.018	**0.021**	**0.026**	<0.018	**0.241**	**0.032**
Acenaphthylene	0.044 a	0.64 a	<0.016	**0.925**	**0.077**	<0.019	**0.083**	<0.018	**0.198**	**0.104**	**0.319**	**0.183**	**0.677**
Anthracene	0.085 a	1.1 a	<0.016	**1.74**	**0.138**	<0.019	**0.107**	<0.018	**0.25**	**0.142**	**0.351**	**0.557**	**0.516**
Benzo(a)anthracene	0.261 a	1.6 a	<0.016	**2.15**	**0.268**	0.023	**0.269**	<0.018	**0.425**	**0.347**	**0.725**	**1.09**	**1.58**
Benzo(a)pyrene	0.43 a	1.6 a	<0.016	**2.18**	0.339	0.025	0.359	<0.018	**0.452**	**0.45**	**0.596**	**1.25**	**1.32**
Benzo(b)fluoranthene	NA	1.8 b	<0.016	3.36	0.471	0.03	0.507	<0.018	0.527	0.673	0.519	1.84	1.52
Benzo(g,h,i)perylene	NA	NA	<0.016	0.902	0.162	<0.019	0.298	<0.018	0.164	0.216	0.279	0.853	0.669
Benzo(k)fluoranthene	NA	NA	<0.016	0.693	0.121	<0.019	0.137	<0.018	0.171	0.174	0.134	0.52	1.51
Chrysene	0.384 a	2.8 a	<0.016	**2.33**	0.34	0.028	0.345	<0.018	**0.518**	**0.439**	**0.763**	**1.17**	**1.58**
Dibenzo(a,h)Anthracene	0.063 a	0.26 a	<0.016	**0.385**	0.052	<0.019	**0.071**	<0.018	**0.067**	0.063	**0.086**	**0.239**	**0.247**
Fluoranthene	0.6 a	5.1 a	<0.016	**5.89**	**0.602**	0.045	0.578	<0.018	**0.914**	**0.652**	**0.949**	**2.21**	**2.12**
Fluorene	0.019 a	0.54 a	<0.016	**0.378**	**0.049**	<0.019	**0.037**	<0.018	**0.049**	**0.045**	**0.043**	**0.316**	**0.098**
Hexachlorobenzene	NA	NA	<0.006	<0.027	<0.025	<0.019	<0.026	<0.018	<0.019	<0.022	<0.018	<0.024	<0.022
Indeno(1,2,3-cd)Pyrene	NA	NA	<0.016	1.24	0.209	<0.019	0.32	<0.018	0.216	0.27	0.271	1.03	0.677
Naphthalene	0.16 a	2.1 a	<0.016	**1.41**	0.105	<0.019	0.083	<0.018	0.086	0.082	0.028	**0.26**	0.081
Phenanthrene	0.24 a	1.5 a	<0.016	**1.19**	**0.362**	<0.019	**0.279**	<0.018	0.161	**0.299**	0.15	**1.94**	**0.301**
Pyrene	0.665 a	2.6 a	<0.016	**5.17**	0.58	0.045	0.564	<0.018	**0.81**	0.609	**1.32**	**2.26**	**3.41**
Total PAHs	4.022 a	44.792 a	<0.016	**30.637**	3.914	0.196	**4.064**	<0.018	**5.058**	**4.616**	**6.533**	**16.049**	**16.374**
Extractable Petroleum Hyrdocarbons													
C11-C22 Aromatics1,2	NA	NA	-	179	100	-	133	-	-	65.5	-	56.7	-
C11-C22 Unadjusted Aromatics1	NA	NA	-	179	106	-	192	-	-	67.8	-	58.1	-
C19-C36 Aliphatics1	NA	NA	-	58.4	130	-	110	-	-	77.9	-	68.3	-
C9-C18 Aliphatics1	NA	NA	-	<26.6	25.9	-	<25.9	-	-	<22.2	-	<24.0	-
Total EPH	NA	NA	-	237.4	255.9	-	243	-	-	143.4	-	125	-

Source: Table 3D from "Supplemental Phase II Comprehensive Site Assessment, Former Everett Staging Yard, Water-Side, Everett, Massachusetts, Release Tracking Number 3-13341", prepared by GZA, December 2015.

Wynn Resort Casino
Everett, Massachusetts

Sample ID	Marine Sediment Benchmarks		GZ-224 0_5ft-2ft	GZ-224 0ft-0_5ft	GZ-225 0ft-0_5ft	GZ-225 4ft-6ft	GZ-225 6ft-7.2ft	GZ-226 0_5ft-2ft	GZ-226 0ft-0_5ft	GZ-226 2ft-4ft	LC-101 0ft-0_5ft	LC-101 2ft-4ft	LC-101 6ft-8ft
Date Sampled			3/30/2015	3/30/2015	03/27/2015	03/27/2015	03/27/2015	3/30/2015	3/30/2015	3/30/2015	03/26/2015	03/26/2015	03/26/2015
Depth (ft)			0.5-2	0-0.5	0-0.5	4-6	6-7.2	0.5-2	0-0.5	2-4	0-0.5	2-4	6-8
Type			Shallow	Shallow	Shallow	Deep	Deep	Shallow	Shallow	Deep	Shallow	Deep	Deep
Group			ON	ON	ON	ON	ON	ON	ON	ON	LC	LC	LC
Analyte	ERLs	ERMs											
Polycyclic Aromatic Hydrocarbons (PAHs)													
2-Methylnaphthalene	0.07 a	0.67 a	**0.088**	0.033	<0.025	<0.022	<0.016	0.024	0.03	<0.017	**0.23**	<0.020	<0.017
Acenaphthene	0.016 a	0.5 a	**0.07**	**0.046**	<0.025	<0.022	<0.016	**0.022**	**0.037**	<0.017	**0.302**	<0.020	<0.017
Acenaphthylene	0.044 a	0.64 a	**1.29**	**0.111**	**0.055**	**0.072**	<0.016	**0.128**	**0.144**	<0.017	**1.17**	**0.051**	<0.017
Anthracene	0.085 a	1.1 a	**1.18**	**0.168**	**0.089**	0.056	<0.016	**0.169**	**0.183**	<0.017	**2.65**	0.052	<0.017
Benzo(a)anthracene	0.261 a	1.6 a	**2.85**	**0.578**	0.195	0.144	<0.016	**0.447**	**0.392**	<0.017	**3.97**	0.089	<0.017
Benzo(a)pyrene	0.43 a	1.6 a	**2.33**	**0.755**	0.237	0.143	<0.016	**0.516**	**0.545**	<0.017	**4.25**	0.091	<0.017
Benzo(b)fluoranthene	NA	1.8 b	2.87	1.13	0.365	0.155	<0.016	0.553	0.823	<0.017	5.03	0.135	<0.017
Benzo(g,h,i)perylene	NA	NA	1.02	0.501	0.102	0.048	<0.016	0.212	0.237	<0.017	1.66	0.045	<0.017
Benzo(k)fluoranthene	NA	NA	0.593	0.311	0.132	0.05	<0.016	0.161	0.268	<0.017	1.28	0.035	<0.017
Chrysene	0.384 a	2.8 a	**3.51**	**0.688**	0.256	0.167	<0.016	**0.449**	**0.486**	0.019	**3.63**	0.1	<0.017
Dibenzo(a,h)Anthracene	0.063 a	0.26 a	**0.395**	**0.167**	0.032	<0.022	<0.016	0.055	**0.076**	<0.017	**0.656**	<0.020	<0.017
Fluoranthene	0.6 a	5.1 a	**4.69**	**0.876**	0.401	0.256	<0.016	**0.753**	**0.764**	0.028	**8.56**	0.169	<0.017
Fluorene	0.019 a	0.54 a	**0.257**	**0.059**	<0.025	<0.022	<0.016	**0.044**	**0.057**	<0.017	**0.747**	<0.020	<0.017
Hexachlorobenzene	NA	NA	<0.023	<0.018	<0.025	<0.022	<0.016	<0.020	<0.023	<0.017	<0.025	<0.020	<0.017
Indeno(1,2,3-cd)Pyrene	NA	NA	1.17	0.603	0.126	0.057	<0.016	0.244	0.319	<0.017	2.08	0.052	<0.017
Naphthalene	0.16 a	2.1 a	**0.224**	0.1	0.045	<0.022	<0.016	0.071	0.136	<0.017	**0.867**	0.055	<0.017
Phenanthrene	0.24 a	1.5 a	**0.933**	**0.353**	0.138	0.053	<0.016	**0.248**	**0.314**	<0.017	**5.46**	0.042	<0.017
Pyrene	0.665 a	2.6 a	**5.37**	**0.795**	0.355	0.265	<0.016	**0.72**	**0.853**	0.033	**7.27**	0.193	<0.017
Total PAHs	4.022 a	44.792 a	**28.84**	**7.274**	2.528	1.466	<0.016	**4.816**	**5.664**	0.08	**49.812**	1.109	<0.017
Extractable Petroleum Hyrdocarbons													
C11-C22 Aromatics1,2	NA	NA	172	23.7	25.9	-	-	-	25.9	-	72.7	-	-
C11-C22 Unadjusted Aromatics1	NA	NA	193	24.8	31.9	-	-	-	25.9	-	88.3	-	-
C19-C36 Aliphatics1	NA	NA	166	38.6	80.9	-	-	-	<22.9	-	118	-	-
C9-C18 Aliphatics1	NA	NA	<23.2	<18.0	<25.3	-	-	-	<22.9	-	<25.2	-	-
Total EPH	NA	NA	338	62.3	106.8	-	-	-	25.9	-	190.7	-	-

Source: Table 3D from "Supplemental Phase II Comprehensive Site Assessment, Former Everett Staging Yard, Water-Side, Everett, Massachusetts, Release Tracking Number 3-13341", prepared by GZA, December 2015.

Table 3D
SEDIMENT POLYCYCLIC AROMATIC HYDROCARBONS AND EXTRACTABLE PETROLEUM HYDROCARBON RESULTS

Wynn Resort Casino
Everett, Massachusetts

Sample ID	Marine Sediment Benchmarks		LC-102 0_5ft-2ft	LC-102 0ft-0_5ft	LC-103 0ft-0_5ft	LC-103 2ft-4ft	LC-103 4ft-6ft	LC-104 0_5ft-2ft	LC-104 0ft-0_5ft	LC-105 0ft-0_5ft	LC-105 2ft-4ft	LC-105 4ft-6ft	LC-106 0_5ft-2ft
Date Sampled			03/26/2015	03/26/2015	03/26/2015	03/26/2015	03/26/2015	03/26/2015	03/26/2015	03/26/2015	03/26/2015	03/26/2015	03/26/2015
Depth (ft)			0.5-2	0-0.5	0-0.5	2-4	4-6	0.5-2	0-0.5	0-0.5	2-4	4-6	0.5-2
Type			Shallow	Shallow	Shallow	Deep	Deep	Shallow	Shallow	Shallow	Deep	Deep	Shallow
Group	ERLs	ERMs	LC	LC	LC	LC	LC	LC	LC	LC	LC	LC	LC
Analyte													
Polycyclic Aromatic Hydrocarbons (PAHs)													
2-Methylnaphthalene	0.07 a	0.67 a	**0.126**	**0.127**	0.049	<0.017	<0.017	**0.447**	0.041	0.046	<0.028	<0.016	**0.08**
Acenaphthene	0.016 a	0.5 a	**0.074**	**0.108**	**0.054**	<0.017	<0.017	**1.56**	**0.058**	**0.07**	<0.028	<0.016	**0.072**
Acenaphthylene	0.044 a	0.64 a	**0.41**	**0.341**	**0.221**	<0.017	<0.017	**1.04**	**0.176**	**0.296**	**0.15**	0.04	**0.33**
Anthracene	0.085 a	1.1 a	**0.363**	**0.511**	**0.27**	<0.017	<0.017	**6.84**	**0.242**	**0.379**	**0.137**	0.039	**0.343**
Benzo(a)anthracene	0.261 a	1.6 a	**0.619**	**1.21**	**0.726**	<0.017	<0.017	**11.8**	**0.713**	**1.07**	0.181	0.046	**0.624**
Benzo(a)pyrene	0.43 a	1.6 a	**0.677**	**1.51**	**0.92**	<0.017	<0.017	**11.5**	**0.884**	**1.45**	0.244	0.052	**0.924**
Benzo(b)fluoranthene	NA	1.8 b	0.955	2.53	1.29	<0.017	<0.017	13.7	1.27	2.3	0.328	0.054	1.53
Benzo(g,h,i)perylene	NA	NA	0.37	0.706	0.759	<0.017	<0.017	7.45	0.617	1.08	0.178	0.028	0.416
Benzo(k)fluoranthene	NA	NA	0.287	0.694	0.326	<0.017	<0.017	1.61	0.308	0.49	0.093	0.019	0.445
Chrysene	0.384 a	2.8 a	**0.672**	**1.57**	**0.87**	<0.017	<0.017	**11.4**	**0.924**	**1.48**	0.232	0.04	**0.778**
Dibenzo(a,h)Anthracene	0.063 a	0.26 a	**0.115**	**0.232**	**0.185**	<0.017	<0.017	**1.74**	**0.168**	**0.296**	0.053	<0.016	**0.134**
Fluoranthene	0.6 a	5.1 a	**1.19**	**2.33**	**1.38**	<0.017	<0.017	**33.8**	**1.52**	**2.28**	0.369	0.132	**1.22**
Fluorene	0.019 a	0.54 a	**0.127**	**0.181**	**0.084**	<0.017	<0.017	**2.87**	**0.082**	**0.106**	**0.03**	**0.025**	**0.108**
Hexachlorobenzene	NA	NA	<0.037	<0.038	<0.028	<0.017	<0.017	<0.020	<0.034	<0.037	<0.028	<0.016	<0.033
Indeno(1,2,3-cd)Pyrene	NA	NA	0.41	0.888	0.824	<0.017	<0.017	8.75	0.699	1.24	0.184	0.029	0.55
Naphthalene	0.16 a	2.1 a	**0.58**	**0.544**	**0.248**	<0.017	<0.017	**1.3**	**0.212**	**0.223**	**0.176**	0.032	**0.49**
Phenanthrene	0.24 a	1.5 a	**0.481**	**1.16**	**0.609**	<0.017	<0.017	**28.3**	**0.718**	**0.953**	0.08	0.113	**0.594**
Pyrene	0.665 a	2.6 a	**1.6**	**2.45**	**1.51**	0.023	<0.017	**29.8**	**1.45**	**2.33**	0.481	0.136	**1.36**
Total PAHs	4.022 a	44.792 a	**9.056**	**17.092**	**10.325**	0.023	<0.017	**173.907**	**10.082**	**16.089**	2.916	0.785	**9.998**
Extractable Petroleum Hyrdocarbons													
C11-C22 Aromatics1,2	NA	NA	434	40.8	53	-	-	-	47.7	45.3	-	<16.2	93.7
C11-C22 Unadjusted Aromatics1	NA	NA	434	43	58.9	-	-	-	51.1	49.1	-	<16.2	99.9
C19-C36 Aliphatics1	NA	NA	266	99.4	90.7	-	-	-	105	109	-	<16.2	192
C9-C18 Aliphatics1	NA	NA	145	<37.3	<27.8	-	-	-	<34.3	<37.0	-	<16.2	36.2
Total EPH	NA	NA	845	140.2	143.7	-	-	-	152.7	154.3	-	<16.2	321.9

Source: Table 3D from "Supplemental Phase II Comprehensive Site Assessment, Former Everett Staging Yard, Water-Side, Everett, Massachusetts, Release Tracking Number 3-13341", prepared by GZA, December 2015.

Table 3D
SEDIMENT POLYCYCLIC AROMATIC HYDROCARBONS AND EXTRACTABLE PETROLEUM HYDROCARBON RESULTS

Wynn Resort Casino
Everett, Massachusetts

Sample ID	Marine Sediment Benchmarks		LC-106 0ft-0_5ft	LC-106 4ft-6ft	LC-107 0ft-0_5ft	LC-107 2ft-4ft	LC-108 0_5ft-2ft	LC-108 0ft-0_5ft	LC-108 4ft-6ft	LC-109 0ft-0_5ft	LC-109 4ft-6ft	LC-110 0ft-0_5ft	LC-110 2ft-4ft
Date Sampled			03/26/2015	03/26/2015	03/26/2015	03/26/2015	03/26/2015	03/26/2015	03/26/2015	03/26/2015	03/26/2015	03/27/2015	03/27/2015
Depth (ft)			0-0.5	4-6	0-0.5	2-4	0.5-2	0-0.5	4-6	0-0.5	4-6	0-0.5	2-4
Type			Shallow	Deep	Shallow	Deep	Shallow	Shallow	Deep	Shallow	Deep	Shallow	Deep
Group	ERLs	ERMs	LC	LC	LC	LC	LC	LC	LC	LC	LC	LC	LC
Analyte													
Polycyclic Aromatic Hydrocarbons (PAHs)													
2-Methylnaphthalene	0.07 a	0.67 a	0.046	**0.805**	0.05	**0.758**	0.044	0.056	**0.344**	**0.074**	**3.48**	**0.084**	**0.232**
Acenaphthene	0.016 a	0.5 a	**0.055**	**0.728**	**0.092**	**2.27**	**0.054**	**0.08**	**2.31**	**0.094**	**27**	**0.147**	**0.175**
Acenaphthylene	0.044 a	0.64 a	**0.198**	**0.8**	**0.268**	**0.488**	**0.264**	**0.31**	**1.8**	**0.417**	**101**	**0.429**	**1.15**
Anthracene	0.085 a	1.1 a	**0.292**	**1.3**	**0.419**	**5.61**	**0.257**	**0.349**	**4.6**	**0.423**	**177**	**0.574**	**1.16**
Benzo(a)anthracene	0.261 a	1.6 a	**0.62**	**1.15**	**1.26**	**10.8**	**0.469**	**0.877**	**4.25**	**1.01**	**129**	**1.4**	**3.32**
Benzo(a)pyrene	0.43 a	1.6 a	**0.888**	**0.99**	**1.64**	**7.84**	**0.579**	**1.2**	**4.54**	**1.36**	**130**	**1.72**	**3.86**
Benzo(b)fluoranthene	NA	1.8 b	1.37	1.37	2.9	10.6	0.79	1.71	5.31	2.1	147	2.27	4.17
Benzo(g,h,i)perylene	NA	NA	0.38	0.337	0.845	4.33	0.312	0.691	3.59	0.85	87.8	1.07	1.34
Benzo(k)fluoranthene	NA	NA	0.489	0.482	0.751	3.73	0.323	0.596	1.67	0.472	40.1	0.668	0.807
Chrysene	0.384 a	2.8 a	**0.893**	**1.25**	**1.72**	**10.8**	**0.467**	**1.19**	**4.21**	**1.27**	**104**	**1.54**	**3.56**
Dibenzo(a,h)Anthracene	0.063 a	0.26 a	**0.116**	**0.122**	**0.26**	**1.23**	**0.097**	**0.217**	**0.688**	**0.248**	**23**	**0.31**	**0.521**
Fluoranthene	0.6 a	5.1 a	**1.64**	**2.19**	**3.21**	**31.9**	**0.772**	**1.84**	**13.5**	**2.18**	**411**	**2.52**	**5.75**
Fluorene	0.019 a	0.54 a	**0.082**	**0.248**	**0.126**	**2.97**	**0.082**	**0.118**	**1.86**	**0.165**	**80.1**	**0.194**	**0.3**
Hexachlorobenzene	NA	NA	<0.039	<0.026	<0.040	<0.025	<0.030	<0.015	<0.037	<0.036	<0.043	<0.030	<0.018
Indeno(1,2,3-cd)Pyrene	NA	NA	0.473	0.402	1.05	5.51	0.372	0.812	3.65	0.99	93.9	1.32	1.68
Naphthalene	0.16 a	2.1 a	**0.234**	**4.9**	**0.205**	**1.32**	**0.168**	**0.281**	**3.34**	**0.372**	**20.7**	**0.537**	**0.543**
Phenanthrene	0.24 a	1.5 a	**0.634**	**2.27**	**1.15**	**24.9**	**0.448**	**0.878**	**8.35**	**1.14**	**415**	**1.3**	**1.51**
Pyrene	0.665 a	2.6 a	**1.29**	**2.52**	**2.74**	**23.8**	**1.14**	**1.89**	**11.5**	**2.21**	**322**	**2.68**	**6.26**
Total PAHs	4.022 a	44.792 a	**9.7**	**21.864**	**18.686**	**148.856**	**6.638**	**13.095**	**75.512**	**15.375**	**2312.08**	**18.763**	**36.338**
Extractable Petroleum Hyrdocarbons													
C11-C22 Aromatics1,2	NA	NA	45.1	-	149	631	-	66.5	371	103	-	137	-
C11-C22 Unadjusted Aromatics1	NA	NA	47.3	-	163	638	-	72	496	121	-	152	-
C19-C36 Aliphatics1	NA	NA	132	-	277	474	-	138	275	163	-	179	-
C9-C18 Aliphatics1	NA	NA	<39.4	-	<41.0	293	-	<38.7	139	<36.1	-	34.9	-
Total EPH	NA	NA	177.1	-	426	1398	-	204.5	785	266	-	350.9	-

Source: Table 3D from "Supplemental Phase II Comprehensive Site Assessment, Former Everett Staging Yard, Water-Side, Everett, Massachusetts, Release Tracking Number 3-13341", prepared by GZA, December 2015.

Table 3D
SEDIMENT POLYCYCLIC AROMATIC HYDROCARBONS AND EXTRACTABLE PETROLEUM HYDROCARBON RESULTS

Wynn Resort Casino
Everett, Massachusetts

Sample ID	Marine Sediment Benchmarks				LC-111 0_5ft-2ft	LC-111 0ft-0_5ft	LC-111 4ft-6ft	LC-112 0ft-0_5ft	LC-112 4ft-6ft
Date Sampled					03/27/2015	03/27/2015	03/27/2015	03/27/2015	03/27/2015
Depth (ft)					0.5-2	0-0.5	4-6	0-0.5	4-6
Type					Shallow	Shallow	Deep	Shallow	Deep
Group	ERLs		ERMs		LC	LC	LC	LC	LC
Analyte									
Polycyclic Aromatic Hydrocarbons (PAHs)									
2-Methylnaphthalene	0.07	a	0.67	a	**0.277**	**0.106**	<0.021	**0.19**	<0.016
Acenaphthene	0.016	a	0.5	a	**0.084**	**0.122**	<0.021	**0.104**	<0.016
Acenaphthylene	0.044	a	0.64	a	**1.02**	**0.452**	<0.021	**0.484**	0.032
Anthracene	0.085	a	1.1	a	**0.854**	**0.567**	<0.021	**0.556**	**0.095**
Benzo(a)anthracene	0.261	a	1.6	a	**1.63**	**1.34**	0.028	**1.25**	0.187
Benzo(a)pyrene	0.43	a	1.6	a	**1.96**	**1.82**	0.034	**1.76**	0.182
Benzo(b)fluoranthene	NA		1.8	b	2.6	2.45	0.043	2.43	0.188
Benzo(g,h,i)perylene	NA		NA		0.84	0.961	0.022	0.776	0.096
Benzo(k)fluoranthene	NA		NA		0.71	0.808	<0.021	0.968	0.061
Chrysene	0.384	a	2.8	a	**1.56**	**1.54**	0.031	**1.43**	0.175
Dibenzo(a,h)Anthracene	0.063	a	0.26	a	**0.348**	**0.294**	<0.021	**0.251**	0.023
Fluoranthene	0.6	a	5.1	a	**1.8**	**2.65**	0.051	**2.27**	0.363
Fluorene	0.019	a	0.54	a	**0.214**	**0.172**	<0.021	**0.171**	**0.023**
Hexachlorobenzene	NA		NA		<0.028	<0.032	<0.021	<0.030	<0.016
Indeno(1,2,3-cd)Pyrene	NA		NA		1.07	1.23	0.024	0.998	0.113
Naphthalene	0.16	a	2.1	a	**2.24**	**0.7**	<0.021	**0.908**	0.026
Phenanthrene	0.24	a	1.5	a	**0.759**	**1.23**	<0.021	**1.09**	0.194
Pyrene	0.665	a	2.6	a	**4.35**	**2.6**	0.07	**2.36**	0.38
Total PAHs	4.022	a	44.792	a	**22.316**	**19.042**	0.303	**17.996**	2.138
Extractable Petroleum Hyrdocarbons									
C11-C22 Aromatics1,2	NA		NA		-	139	-	45.9	<16.1
C11-C22 Unadjusted Aromatics1	NA		NA		-	175	-	50.3	<16.1
C19-C36 Aliphatics1	NA		NA		-	137	-	52.9	<16.1
C9-C18 Aliphatics1	NA		NA		-	<32.0	-	<31.0	<16.1
Total EPH	NA		NA		-	276	-	98.8	<16.1

Source: Table 3D from "Supplemental Phase II Comprehensive Site Assessment, Former Everett Staging Yard, Water-Side, Everett, Massachusetts, Release Tracking Number 3-13341", prepared by GZA, December 2015.

Wynn Resort Casino
Everett, Massachusetts

Notes:

1. Results are presented in mg/kg unless otherwise noted.
2. "<" indicates that an analyte was tested for but not detected above the Method Reporting Limit (MRL). "-" indicates that an analyte was not tested for. NA indicates that a benchmark value is not available.
3. Samples are designated as "Shallow" if any portion of the sample depth occurs within the uppermost 2 feet of sediment. All other samples are designated as "Deep."
4. Group designations are as follows: ON = On-Site, OFF-W = Off-Site West, OFF-E = Off-Site East, and LC = Local Conditions.
5. Marine sediment benchmarks are from the following sources:
    a. Effects Range - Low (ERL) and Effects Range - Median (ERM) Marine Sediment screening values from Long, et al., 1995.
    b. ERL and ERM equivalent Marine Sediment benchmark values from http://epa.gov/region5/waste/cars/pdfs/ecological-screening-levels-200308.pdf
6. Bolded values exceed the conservative ERL screening value.
7. Shaded values exceed the ERM benchmark value.
8. The LC-# series of samples are Local Conditions samples

Source: Table 3D from "Supplemental Phase II Comprehensive Site Assessment, Former Everett Staging Yard, Water-Side, Everett, Massachusetts, Release Tracking Number 3-13341", prepared by GZA, December 2015.

Table 3E
SEDIMENT VOLATILE ORGANIC COMPOUNDS RESULTS

Wynn Resort Casino
Everett, Massachusetts

Sample ID	Marine Sediment Benchmarks		GZ-201 0ft-3ft	GZ-203 0ft-3ft	GZ-205 0ft-3ft	GZ-206 0ft-3ft	GZ-207 0ft-3ft	GZ-211 0ft-3ft	GZ-213 0ft-3ft	GZ-215 0ft-3ft	GZ-217 0ft-3ft	GZ-219 0ft-3ft	GZ-221 0ft-3ft	GZ-223 0ft-3ft	GZ-225 0ft-3ft
Date Sampled				03/24/2015	3/25/2015	3/25/2015	3/25/2015	3/30/2015	3/25/2015		03/24/2015	3/25/2015	3/30/2015	3/30/2015	03/27/2015
Depth (ft)			0-3	0-3	0-3	0-3	0-3	0-3	0-3	0-3	0-3	0-3	0-3	0-3	0-3
Type			Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow
Group	ERLs	ERMs	OFF-E	OFF-E	OFF-E	ON	ON	OFF-E	ON	ON	ON	ON	ON	ON	ON
Analyte															
Volatile Organic Compounds (Low Level)															
1,1,1,2-Tetrachloroethane	NA	NA	<0.0054	<0.0063	<0.0158	<0.0143	<0.0163	<0.0056	<0.0021	<0.0017	<0.0028	<0.0059	<0.0047	<0.0066	<0.0062
1,1,1-Trichloroethane	NA	NA	<0.0054	<0.0063	<0.0158	<0.0143	<0.0163	<0.0056	<0.0021	<0.0017	<0.0028	<0.0059	<0.0047	<0.0066	<0.0062
1,1,2,2-Tetrachloroethane	NA	NA	<0.0022	<0.0025	<0.0063	<0.0057	<0.0065	<0.0023	<0.0008	<0.0007	<0.0011	<0.0023	<0.0019	<0.0026	<0.0025
1,1,2-Trichloroethane	NA	NA	<0.0054	<0.0063	<0.0158	<0.0143	<0.0163	<0.0056	<0.0021	<0.0017	<0.0028	<0.0059	<0.0047	<0.0066	<0.0062
1,1-Dichloroethane	NA	NA	<0.0054	<0.0063	<0.0158	<0.0143	<0.0163	<0.0056	<0.0021	<0.0017	<0.0028	<0.0059	<0.0047	<0.0066	<0.0062
1,1-Dichloroethene	NA	NA	<0.0054	<0.0063	<0.0158	<0.0143	<0.0163	<0.0056	<0.0021	<0.0017	<0.0028	<0.0059	<0.0047	<0.0066	<0.0062
1,1-Dichloropropene	NA	NA	<0.0054	<0.0063	<0.0158	<0.0143	<0.0163	<0.0056	<0.0021	<0.0017	<0.0028	<0.0059	<0.0047	<0.0066	<0.0062
1,2,3-Trichlorobenzene	NA	NA	<0.0054	<0.0063	<0.0158	<0.0143	<0.0163	<0.0056	<0.0021	<0.0017	<0.0028	<0.0059	<0.0047	<0.0066	<0.0062
1,2,3-Trichloropropane	NA	NA	<0.0054	<0.0063	<0.0158	<0.0143	<0.0163	<0.0056	<0.0021	<0.0017	<0.0028	<0.0059	<0.0047	<0.0066	<0.0062
1,2,4-Trichlorobenzene	NA	NA	<0.0054	<0.0063	<0.0158	<0.0143	<0.0163	<0.0056	<0.0021	<0.0017	<0.0028	<0.0059	<0.0047	<0.0066	<0.0062
1,2,4-Trimethylbenzene	NA	NA	<0.0054	0.0382	<0.0158	0.0716	<0.0163	<0.0056	<0.0021	<0.0017	<0.0028	<0.0059	<0.0047	<0.0066	<0.0062
1,2-Dibromo-3-Chloropropane	NA	NA	<0.0054	<0.0063	<0.0158	<0.0143	<0.0163	<0.0056	<0.0021	<0.0017	<0.0028	<0.0059	<0.0047	<0.0066	<0.0062
1,2-Dibromoethane	NA	NA	<0.0054	<0.0063	<0.0158	<0.0143	<0.0163	<0.0056	<0.0021	<0.0017	<0.0028	<0.0059	<0.0047	<0.0066	<0.0062
1,2-Dichlorobenzene	NA	0.013 b	<0.0054	<0.0063	<0.0158	<0.0143	<0.0163	<0.0056	<0.0021	<0.0017	<0.0028	<0.0059	<0.0047	<0.0066	<0.0062
1,2-Dichloroethane	NA	NA	<0.0054	<0.0063	<0.0158	<0.0143	<0.0163	<0.0056	<0.0021	<0.0017	<0.0028	<0.0059	<0.0047	<0.0066	<0.0062
1,2-Dichloropropane	NA	NA	<0.0054	<0.0063	<0.0158	<0.0143	<0.0163	<0.0056	<0.0021	<0.0017	<0.0028	<0.0059	<0.0047	<0.0066	<0.0062
1,3,5-Trimethylbenzene	NA	NA	<0.0054	0.0234	<0.0158	0.0448	<0.0163	<0.0056	<0.0021	<0.0017	<0.0028	<0.0059	<0.0047	<0.0066	<0.0062
1,3-Dichlorobenzene	NA	NA	<0.0054	<0.0063	<0.0158	<0.0143	<0.0163	<0.0056	<0.0021	<0.0017	<0.0028	<0.0059	<0.0047	<0.0066	<0.0062
1,3-Dichloropropane	NA	NA	<0.0054	<0.0063	<0.0158	<0.0143	<0.0163	<0.0056	<0.0021	<0.0017	<0.0028	<0.0059	<0.0047	<0.0066	<0.0062
1,4-Dichlorobenzene	NA	0.11 a	<0.0054	<0.0063	<0.0158	<0.0143	<0.0163	<0.0056	<0.0021	<0.0017	<0.0028	<0.0059	<0.0047	<0.0066	<0.0062
1,4-Dioxane	NA	NA	<0.109	<0.127	<0.316	<0.285	<0.326	<0.113	<0.0412	<0.0348	<0.0569	<0.117	<0.0939	<0.132	<0.124
2,2-Dichloropropane	NA	NA	<0.0054	<0.0063	<0.0158	<0.0143	<0.0163	<0.0056	<0.0021	<0.0017	<0.0028	<0.0059	<0.0047	<0.0066	<0.0062
2-Butanone	NA	NA	<0.0109	0.205	0.0433	0.316	0.0436	<0.0113	0.0068	<0.0035	0.0119	<0.0117	0.0095	<0.0132	<0.0124
2-Chlorotoluene	NA	NA	0.074	2.12	0.079	3.35	0.0237	<0.0056	<0.0021	<0.0017	<0.0028	<0.0059	<0.0047	<0.0066	<0.0062
2-Hexanone	NA	NA	<0.0109	<0.0127	<0.0316	<0.0285	<0.0326	<0.0113	<0.0041	<0.0035	<0.0057	<0.0117	<0.0094	<0.0132	<0.0124
4-Chlorotoluene	NA	NA	<0.0054	0.825	<0.0158	1.89	<0.0163	<0.0056	<0.0021	<0.0017	<0.0028	<0.0059	<0.0047	<0.0066	<0.0062
4-Isopropyltoluene	NA	NA	<0.0054	<0.0063	<0.0158	<0.0143	<0.0163	<0.0056	<0.0021	<0.0017	<0.0028	<0.0059	<0.0047	<0.0066	<0.0062
4-Methyl-2-Pentanone	NA	NA	<0.0109	0.0163	<0.0316	<0.0285	<0.0326	<0.0113	<0.0041	<0.0035	<0.0057	<0.0117	<0.0094	<0.0132	<0.0124
Acetone	NA	NA	<0.0109	1.18	0.278	1.75	0.317	0.0206	0.0504	0.0171	0.0898	<0.0117	0.0742	0.0716	0.0617
Benzene	0.34 b	NA	<0.0054	0.0366	<0.0158	0.0469	<0.0163	<0.0056	<0.0021	<0.0017	<0.0028	<0.0059	<0.0047	<0.0066	<0.0062
Bromobenzene	NA	NA	<0.0054	<0.0063	<0.0158	<0.0143	<0.0163	<0.0056	<0.0021	<0.0017	<0.0028	<0.0059	<0.0047	<0.0066	<0.0062
Bromochloromethane	NA	NA	<0.0054	<0.0063	<0.0158	<0.0143	<0.0163	<0.0056	<0.0021	<0.0017	<0.0028	<0.0059	<0.0047	<0.0066	<0.0062
Bromodichloromethane	NA	NA	<0.0054	<0.0063	<0.0158	<0.0143	<0.0163	<0.0056	<0.0021	<0.0017	<0.0028	<0.0059	<0.0047	<0.0066	<0.0062
Bromoform	NA	NA	<0.0054	<0.0063	<0.0158	<0.0143	<0.0163	<0.0056	<0.0021	<0.0017	<0.0028	<0.0059	<0.0047	<0.0066	<0.0062
Bromomethane	NA	NA	<0.0109	<0.0127	<0.0316	<0.0285	<0.0326	<0.0113	<0.0041	<0.0035	<0.0057	<0.0117	<0.0094	<0.0132	<0.0124
Carbon Disulfide	NA	NA	<0.0054	0.0294	0.024	0.0422	0.0334	0.0103	0.0045	0.0066	0.006	0.0078	0.0083	0.0066	0.0142
Carbon Tetrachloride	NA	NA	<0.0054	<0.0063	<0.0158	<0.0143	<0.0163	<0.0056	<0.0021	<0.0017	<0.0028	<0.0059	<0.0047	<0.0066	<0.0062
Chlorobenzene	NA	NA	<0.0054	0.0324	<0.0158	0.0641	<0.0163	<0.0056	<0.0021	<0.0017	<0.0028	<0.0059	<0.0047	<0.0066	<0.0062
Chloroethane	NA	NA	<0.0109	<0.0127	<0.0316	<0.0285	<0.0326	<0.0113	<0.0041	<0.0035	<0.0057	<0.0117	<0.0094	<0.0132	<0.0124
Chloroform	NA	NA	<0.0054	<0.0063	<0.0158	<0.0143	<0.0163	<0.0056	<0.0021	<0.0017	<0.0028	<0.0059	<0.0047	<0.0066	<0.0062
Chloromethane	NA	NA	<0.0109	<0.0127	<0.0316	<0.0285	<0.0326	<0.0113	<0.0041	<0.0035	<0.0057	<0.0117	<0.0094	<0.0132	<0.0124
cis-1,2-Dichloroethene	NA	NA	<0.0054	<0.0063	<0.0158	<0.0143	<0.0163	<0.0056	<0.0021	<0.0017	<0.0028	<0.0059	<0.0047	<0.0066	<0.0062
cis-1,3-Dichloropropene	NA	NA	<0.0054	<0.0063	<0.0158	<0.0143	<0.0163	<0.0056	<0.0021	<0.0017	<0.0028	<0.0059	<0.0047	<0.0066	<0.0062
Dibromochloromethane	NA	NA	<0.0022	<0.0025	<0.0063	<0.0057	<0.0065	<0.0023	<0.0008	<0.0007	<0.0011	<0.0023	<0.0019	<0.0026	<0.0025
Dibromomethane	NA	NA	<0.0054	<0.0063	<0.0158	<0.0143	<0.0163	<0.0056	<0.0021	<0.0017	<0.0028	<0.0059	<0.0047	<0.0066	<0.0062
Dichlorodifluoromethane	NA	NA	<0.0109	<0.0127	<0.0316	<0.0285	<0.0326	<0.0113	<0.0041	<0.0035	<0.0057	<0.0117	<0.0094	<0.0132	<0.0124
Diethyl Ether	NA	NA	<0.0054	0.0102	<0.0158	<0.0143	<0.0163	<0.0056	<0.0021	<0.0017	<0.0028	<0.0059	<0.0047	<0.0066	<0.0062
Di-isopropyl ether	NA	NA	<0.0054	<0.0063	<0.0158	<0.0143	<0.0163	<0.0056	<0.0021	<0.0017	<0.0028	<0.0059	<0.0047	<0.0066	<0.0062
Ethyl tertiary-butyl ether	NA	NA	<0.0054	<0.0063	<0.0158	<0.0143	<0.0163	<0.0056	<0.0021	<0.0017	<0.0028	<0.0059	<0.0047	<0.0066	<0.0062
Ethylbenzene	1.4 b	NA	<0.0054	0.18	<0.0158	0.398	<0.0163	<0.0056	<0.0021	<0.0017	<0.0028	<0.0059	<0.0047	<0.0066	<0.0062
Hexachlorobutadiene	NA	NA	<0.0054	<0.0063	<0.0158	<0.0143	<0.0163	<0.0056	<0.0021	<0.0017	<0.0028	<0.0059	<0.0047	<0.0066	<0.0062

Source: Table 3E from "Supplemental Phase II Comprehensive Site Assessment, Former Everett Staging Yard, Water-Side, Everett, Massachusetts, Release Tracking Number 3-13341", prepared by GZA, December 2015.

Sample ID	Marine Sediment Benchmarks		GZ-201 0ft-3ft	GZ-203 0ft-3ft	GZ-205 0ft-3ft	GZ-206 0ft-3ft	GZ-207 0ft-3ft	GZ-211 0ft-3ft	GZ-213 0ft-3ft	GZ-215 0ft-3ft	GZ-217 0ft-3ft	GZ-219 0ft-3ft	GZ-221 0ft-3ft	GZ-223 0ft-3ft	GZ-225 0ft-3ft
Date Sampled				03/24/2015	3/25/2015	3/25/2015	3/25/2015	3/30/2015	3/25/2015		03/24/2015	3/25/2015	3/30/2015	3/30/2015	03/27/2015
Depth (ft)			0-3	0-3	0-3	0-3	0-3	0-3	0-3	0-3	0-3	0-3	0-3	0-3	0-3
Type			Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow
Group	ERLs	ERMs	OFF-E	OFF-E	OFF-E	ON	ON	OFF-E	ON	ON	ON	ON	ON	ON	ON
Analyte															
Isopropylbenzene	NA	NA	<0.0054	0.0088	<0.0158	0.0155	<0.0163	<0.0056	<0.0021	<0.0017	<0.0028	<0.0059	<0.0047	<0.0066	<0.0062
Methyl tert-Butyl Ether	NA	NA	<0.0054	<0.0063	<0.0158	<0.0143	<0.0163	<0.0056	<0.0021	<0.0017	<0.0028	<0.0059	<0.0047	<0.0066	<0.0062
Methylene Chloride	NA	NA	<0.0109	<0.0127	<0.0316	<0.0285	<0.0326	<0.0113	<0.0041	<0.0035	<0.0057	<0.0117	<0.0094	<0.0132	<0.0124
Naphthalene	0.16 a	2.1 a	0.0105	**0.761**	<0.0158	**0.994**	0.0216	<0.0056	<0.0021	<0.0017	<0.0028	<0.0059	<0.0047	<0.0066	<0.0062
n-Butylbenzene	NA	NA	<0.0054	<0.0063	<0.0158	<0.0143	<0.0163	<0.0056	<0.0021	<0.0017	<0.0028	<0.0059	<0.0047	<0.0066	<0.0062
n-Propylbenzene	NA	NA	<0.0054	<0.0063	<0.0158	<0.0143	<0.0163	<0.0056	<0.0021	<0.0017	<0.0028	<0.0059	<0.0047	<0.0066	<0.0062
sec-Butylbenzene	NA	NA	<0.0054	0.0069	<0.0158	0.0161	<0.0163	<0.0056	<0.0021	<0.0017	<0.0028	<0.0059	<0.0047	<0.0066	<0.0062
Styrene	NA	NA	<0.0054	<0.0063	<0.0158	<0.0143	<0.0163	<0.0056	<0.0021	<0.0017	<0.0028	<0.0059	<0.0047	<0.0066	<0.0062
tert-Butylbenzene	NA	NA	<0.0054	<0.0063	<0.0158	<0.0143	<0.0163	<0.0056	<0.0021	<0.0017	<0.0028	<0.0059	<0.0047	<0.0066	<0.0062
Tertiary-amyl methyl ether	NA	NA	<0.0054	<0.0063	<0.0158	<0.0143	<0.0163	<0.0056	<0.0021	<0.0017	<0.0028	<0.0059	<0.0047	<0.0066	<0.0062
Tetrachloroethene	0.45 b	NA	<0.0054	<0.0063	<0.0158	<0.0143	<0.0163	<0.0056	<0.0021	<0.0017	<0.0028	<0.0059	<0.0047	<0.0066	<0.0062
Tetrahydrofuran	NA	NA	<0.0054	<0.0063	<0.0158	<0.0143	<0.0163	<0.0056	<0.0021	<0.0017	<0.0028	<0.0059	<0.0047	<0.0066	<0.0062
Toluene	2.5 b	NA	<0.0054	0.0423	<0.0158	0.1	<0.0163	<0.0056	<0.0021	<0.0017	<0.0028	<0.0059	<0.0047	<0.0066	<0.0062
trans-1,2-Dichloroethene	NA	NA	<0.0054	<0.0063	<0.0158	<0.0143	<0.0163	<0.0056	<0.0021	<0.0017	<0.0028	<0.0059	<0.0047	<0.0066	<0.0062
trans-1,3-Dichloropropene	NA	NA	<0.0054	<0.0063	<0.0158	<0.0143	<0.0163	<0.0056	<0.0021	<0.0017	<0.0028	<0.0059	<0.0047	<0.0066	<0.0062
Trichloroethene	1.6 b	NA	<0.0054	<0.0063	<0.0158	<0.0143	<0.0163	<0.0056	<0.0021	<0.0017	<0.0028	<0.0059	<0.0047	<0.0066	<0.0062
Trichlorofluoromethane	NA	NA	<0.0054	<0.0063	<0.0158	<0.0143	<0.0163	<0.0056	<0.0021	<0.0017	<0.0028	<0.0059	<0.0047	<0.0066	<0.0062
Vinyl Chloride	NA	NA	<0.0109	<0.0127	<0.0316	<0.0285	<0.0326	<0.0113	<0.0041	<0.0035	<0.0057	<0.0117	<0.0094	<0.0132	<0.0124
Xylene O	NA	NA	<0.0054	0.0501	<0.0158	0.102	<0.0163	<0.0056	<0.0021	<0.0017	<0.0028	<0.0059	<0.0047	<0.0066	<0.0062
Xylene P,M	NA	NA	<0.0109	0.0758	<0.0316	0.143	<0.0326	<0.0113	<0.0041	<0.0035	<0.0057	<0.0117	<0.0094	<0.0132	<0.0124
Xylenes (Total)	NA	NA	<0.0109	0.126	<0.0316	0.245	<0.0326	<0.0113	<0.0041	<0.0035	<0.0057	<0.0117	<0.0094	<0.0132	<0.0124

Source: Table 3D from "Supplemental Phase II Comprehensive Site Assessment, Former Everett Staging Yard, Water-Side, Everett, Massachusetts, Release Tracking Number 3-13341", prepared by GZA, December 2015.

Sample ID	Marine Sediment Benchmarks		GZ-201 0ft-3ft	GZ-203 0ft-3ft	GZ-205 0ft-3ft	GZ-206 0ft-3ft	GZ-207 0ft-3ft	GZ-211 0ft-3ft	GZ-213 0ft-3ft	GZ-215 0ft-3ft	GZ-217 0ft-3ft	GZ-219 0ft-3ft	GZ-221 0ft-3ft	GZ-223 0ft-3ft	GZ-225 0ft-3ft
Date Sampled				03/24/2015	3/25/2015	3/25/2015	3/25/2015	3/30/2015	3/25/2015		03/24/2015	3/25/2015	3/30/2015	3/30/2015	03/27/2015
Depth (ft)			0-3	0-3	0-3	0-3	0-3	0-3	0-3	0-3	0-3	0-3	0-3	0-3	0-3
Type			Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow
Group	ERLs	ERMs	OFF-E	OFF-E	OFF-E	ON	ON	OFF-E	ON	ON	ON	ON	ON	ON	ON
Analyte															
Volatile Organic Compounds (Methanol)															
1,1,1,2-Tetrachloroethane	NA	NA	<0.392	<0.403	-	<0.497	-	-	-	-	<0.201	-	-	-	-
1,1,1-Trichloroethane	NA	NA	<0.196	<0.202	-	<0.248	-	-	-	-	<0.100	-	-	-	-
1,1,2,2-Tetrachloroethane	NA	NA	<0.196	<0.202	-	<0.248	-	-	-	-	<0.100	-	-	-	-
1,1,2-Trichloroethane	NA	NA	<0.196	<0.202	-	<0.248	-	-	-	-	<0.100	-	-	-	-
1,1-Dichloroethane	NA	NA	<0.196	<0.202	-	<0.248	-	-	-	-	<0.100	-	-	-	-
1,1-Dichloroethene	NA	NA	<0.196	<0.202	-	<0.248	-	-	-	-	<0.100	-	-	-	-
1,1-Dichloropropene	NA	NA	<0.196	<0.202	-	<0.248	-	-	-	-	<0.100	-	-	-	-
1,2,3-Trichlorobenzene	NA	NA	<0.196	<0.202	-	<0.248	-	-	-	-	<0.100	-	-	-	-
1,2,3-Trichloropropane	NA	NA	<0.196	<0.202	-	<0.248	-	-	-	-	<0.100	-	-	-	-
1,2,4-Trichlorobenzene	NA	NA	<0.196	<0.202	-	<0.248	-	-	-	-	<0.100	-	-	-	-
1,2,4-Trimethylbenzene	NA	NA	<0.196	<0.202	-	<0.248	-	-	-	-	<0.100	-	-	-	-
1,2-Dibromo-3-Chloropropane	NA	NA	<0.784	<0.806	-	<0.993	-	-	-	-	<0.402	-	-	-	-
1,2-Dibromoethane	NA	NA	<0.196	<0.202	-	<0.248	-	-	-	-	<0.100	-	-	-	-
1,2-Dichlorobenzene	NA	0.013 b	<0.196	<0.202	-	<0.248	-	-	-	-	<0.100	-	-	-	-
1,2-Dichloroethane	NA	NA	<0.196	<0.202	-	<0.248	-	-	-	-	<0.100	-	-	-	-
1,2-Dichloropropane	NA	NA	<0.196	<0.202	-	<0.248	-	-	-	-	<0.100	-	-	-	-
1,3,5-Trimethylbenzene	NA	NA	<0.196	<0.202	-	<0.248	-	-	-	-	<0.100	-	-	-	-
1,3-Dichlorobenzene	NA	NA	<0.196	<0.202	-	<0.248	-	-	-	-	<0.100	-	-	-	-
1,3-Dichloropropane	NA	NA	<0.196	<0.202	-	<0.248	-	-	-	-	<0.100	-	-	-	-
1,4-Dichlorobenzene	NA	0.11 a	<0.196	<0.202	-	<0.248	-	-	-	-	<0.100	-	-	-	-
1,4-Dioxane - Screen	NA	NA	<19.6	<20.2	-	<24.8	-	-	-	-	<10.0	-	-	-	-
2,2-Dichloropropane	NA	NA	<0.392	<0.403	-	<0.497	-	-	-	-	<0.201	-	-	-	-
2-Butanone	NA	NA	<0.784	<0.806	-	<0.993	-	-	-	-	<0.402	-	-	-	-
2-Chlorotoluene	NA	NA	<0.196	0.552	-	7.56	-	-	-	-	<0.100	-	-	-	-
2-Hexanone	NA	NA	<0.784	<0.806	-	<0.993	-	-	-	-	<0.402	-	-	-	-
4-Chlorotoluene	NA	NA	<0.196	<0.202	-	2.25	-	-	-	-	<0.100	-	-	-	-
4-Isopropyltoluene	NA	NA	<0.196	<0.202	-	<0.248	-	-	-	-	<0.100	-	-	-	-
4-Methyl-2-Pentanone	NA	NA	<0.784	<0.806	-	<0.993	-	-	-	-	<0.402	-	-	-	-
Acetone	NA	NA	<0.784	1.31	-	1.44	-	-	-	-	0.434	-	-	-	-
Benzene	0.34 b	NA	<0.196	<0.202	-	<0.248	-	-	-	-	<0.100	-	-	-	-
Bromobenzene	NA	NA	<0.196	<0.202	-	<0.248	-	-	-	-	<0.100	-	-	-	-
Bromochloromethane	NA	NA	<0.196	<0.202	-	<0.248	-	-	-	-	<0.100	-	-	-	-
Bromodichloromethane	NA	NA	<0.196	<0.202	-	<0.248	-	-	-	-	<0.100	-	-	-	-
Bromoform	NA	NA	<0.196	<0.202	-	<0.248	-	-	-	-	<0.100	-	-	-	-
Bromomethane	NA	NA	<0.392	<0.403	-	<0.497	-	-	-	-	<0.201	-	-	-	-
Carbon Disulfide	NA	NA	<0.196	<0.202	-	<0.248	-	-	-	-	<0.100	-	-	-	-
Carbon Tetrachloride	NA	NA	<0.196	<0.202	-	<0.248	-	-	-	-	<0.100	-	-	-	-
Chlorobenzene	NA	NA	<0.196	<0.202	-	<0.248	-	-	-	-	<0.100	-	-	-	-
Chloroethane	NA	NA	<0.392	<0.403	-	<0.497	-	-	-	-	<0.201	-	-	-	-
Chloroform	NA	NA	<0.196	<0.202	-	<0.248	-	-	-	-	<0.100	-	-	-	-
Chloromethane	NA	NA	<0.392	<0.403	-	<0.497	-	-	-	-	<0.201	-	-	-	-
cis-1,2-Dichloroethene	NA	NA	<0.196	<0.202	-	<0.248	-	-	-	-	<0.100	-	-	-	-
cis-1,3-Dichloropropene	NA	NA	<0.196	<0.202	-	<0.248	-	-	-	-	<0.100	-	-	-	-
Dibromochloromethane	NA	NA	<0.196	<0.202	-	<0.248	-	-	-	-	<0.100	-	-	-	-
Dibromomethane	NA	NA	<0.196	<0.202	-	<0.248	-	-	-	-	<0.100	-	-	-	-
Dichlorodifluoromethane	NA	NA	<0.196	<0.202	-	<0.248	-	-	-	-	<0.100	-	-	-	-
Diethyl Ether	NA	NA	<0.196	<0.202	-	<0.248	-	-	-	-	<0.100	-	-	-	-
Di-isopropyl ether	NA	NA	<0.196	<0.202	-	<0.248	-	-	-	-	<0.100	-	-	-	-
Ethyl tertiary-butyl ether	NA	NA	<0.196	<0.202	-	<0.248	-	-	-	-	<0.100	-	-	-	-
Ethylbenzene	1.4 b	NA	<0.196	<0.202	-	0.447	-	-	-	-	<0.100	-	-	-	-
Hexachlorobutadiene	NA	NA	<0.196	<0.202	-	<0.248	-	-	-	-	<0.100	-	-	-	-

Source: Table 3D from "Supplemental Phase II Comprehensive Site Assessment, Former Everett Staging Yard, Water-Side, Everett, Massachusetts, Release Tracking Number 3-13341", prepared by GZA, December 2015.

Table 3E
SEDIMENT VOLATILE ORGANIC COMPOUNDS RESULTS

Wynn Resort Casino
Everett, Massachusetts

Sample ID	Marine Sediment Benchmarks		GZ-201 0ft-3ft	GZ-203 0ft-3ft	GZ-205 0ft-3ft	GZ-206 0ft-3ft	GZ-207 0ft-3ft	GZ-211 0ft-3ft	GZ-213 0ft-3ft	GZ-215 0ft-3ft	GZ-217 0ft-3ft	GZ-219 0ft-3ft	GZ-221 0ft-3ft	GZ-223 0ft-3ft	GZ-225 0ft-3ft
Date Sampled				03/24/2015	3/25/2015	3/25/2015	3/25/2015	3/30/2015	3/25/2015		03/24/2015	3/25/2015	3/30/2015	3/30/2015	03/27/2015
Depth (ft)			0-3	0-3	0-3	0-3	0-3	0-3	0-3	0-3	0-3	0-3	0-3	0-3	0-3
Type			Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow
Group	ERLs	ERMs	OFF-E	OFF-E	OFF-E	ON	ON	OFF-E	ON	ON	ON	ON	ON	ON	ON
Analyte															
Isopropylbenzene	NA	NA	<0.196	<0.202	-	<0.248	-	-	-	-	<0.100	-	-	-	-
Methyl tert-Butyl Ether	NA	NA	<0.196	<0.202	-	<0.248	-	-	-	-	<0.100	-	-	-	-
Methylene Chloride	NA	NA	<0.784	<0.806	-	<0.993	-	-	-	-	<0.402	-	-	-	-
Naphthalene	0.16 a	2.1 a	<0.196	**0.637**	-	**4.84**	-	-	-	-	<0.100	-	-	-	-
n-Butylbenzene	NA	NA	<0.196	<0.202	-	<0.248	-	-	-	-	<0.100	-	-	-	-
n-Propylbenzene	NA	NA	<0.196	<0.202	-	<0.248	-	-	-	-	<0.100	-	-	-	-
sec-Butylbenzene	NA	NA	<0.196	<0.202	-	<0.248	-	-	-	-	<0.100	-	-	-	-
Styrene	NA	NA	<0.196	<0.202	-	<0.248	-	-	-	-	<0.100	-	-	-	-
tert-Butylbenzene	NA	NA	<0.196	<0.202	-	<0.248	-	-	-	-	<0.100	-	-	-	-
Tertiary-amyl methyl ether	NA	NA	<0.196	<0.202	-	<0.248	-	-	-	-	<0.100	-	-	-	-
Tetrachloroethene	0.45 b	NA	<0.196	<0.202	-	<0.248	-	-	-	-	<0.100	-	-	-	-
Tetrahydrofuran	NA	NA	<0.784	<0.806	-	<0.993	-	-	-	-	<0.402	-	-	-	-
Toluene	2.5 b	NA	<0.196	<0.202	-	<0.248	-	-	-	-	<0.100	-	-	-	-
trans-1,2-Dichloroethene	NA	NA	<0.196	<0.202	-	<0.248	-	-	-	-	<0.100	-	-	-	-
trans-1,3-Dichloropropene	NA	NA	<0.196	<0.202	-	<0.248	-	-	-	-	<0.100	-	-	-	-
Trichloroethene	1.6 b	NA	<0.196	<0.202	-	<0.248	-	-	-	-	<0.100	-	-	-	-
Trichlorofluoromethane	NA	NA	<0.196	<0.202	-	<0.248	-	-	-	-	<0.100	-	-	-	-
Vinyl Chloride	NA	NA	<0.196	<0.202	-	<0.248	-	-	-	-	<0.100	-	-	-	-
Xylene O	NA	NA	<0.196	<0.202	-	<0.248	-	-	-	-	<0.100	-	-	-	-
Xylene P,M	NA	NA	<0.392	<0.403	-	<0.497	-	-	-	-	<0.201	-	-	-	-
Xylenes (Total)	NA	NA	<0.392	<0.403	-	<0.497	-	-	-	-	<0.201	-	-	-	-

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Source: Table 3D from "Supplemental Phase II Comprehensive Site Assessment, Former Everett Staging Yard, Water-Side, Everett, Massachusetts, Release Tracking Number 3-13341", prepared by GZA, December 2015.

Wynn Resort Casino
Everett, Massachusetts

Notes:

1. Results are presented in mg/kg unless otherwise noted.
2. "<" indicates that an analyte was tested for but not detected above the Method Reporting Limit (MRL). "-" indicates that an analyte was not tested for. NA indicates that a benchmark value is not available.
3. Samples are designated as "Shallow" if any portion of the sample depth occurs within the uppermost 2 feet of sediment. All other samples are designated as "Deep."
4. Group designations are as follows: ON = On-Site, OFF-W = Off-Site West, OFF-E = Off-Site East, and LC = Local Conditions.
5. Marine sediment benchmarks are from the following sources:
    a. Effects Range - Low (ERL) and Effects Range - Median (ERM) Marine Sediment screening values from Long, et al., 1995.
    b. ERL and ERM equivalent Marine Sediment benchmark values from http://epa.gov/region5/waste/cars/pdfs/ecological-screening-levels-200308.pdf
6. Bolded values exceed the conservative ERL screening value.
7. Shaded values exceed the ERM benchmark value.
8. The LC-# series of samples are Local Conditions samples

Source: Table 3D from "Supplemental Phase II Comprehensive Site Assessment, Former Everett Staging Yard, Water-Side, Everett, Massachusetts, Release Tracking Number 3-13341", prepared by GZA, December 2015.

Table 4A
2013 TOXICITY TEST RESULTS
Leptocheirus plumulosus 28-day Exposures

Wynn Resort Casino
Everett, Massachusetts

Sample ID	Percent Survival	Biomass (mg)	Reproduction (offspring)	Signficant Difference From Lab Control:			Arsenic	Lead	Mercury
				Survival	Biomass	Reproduction	(mg/kg)		
GZ-104T 0-0_5ft	54	0.3262	0.679		*	*	182	1070	2.51
GZ-114T 0-0_5ft	64	0.355	0.853		*	*	41.4	288	1.15
GZ-116T 0-0_5ft	86	0.8829	1.296			*	75.7	116	0.484
GZ-126T 0-0_5ft	84	0.3373	0		*	*	24.5	140	0.506
GZ-135T 0-0_5ft	94	0.8751	1.56			*	7.4	29.3	0.099
GZ-137T 0-0_5ft	82	0.4499	0.3		*	*	17.9	133	0.777
Laboratory Control	91	1.393	4.194				--	--	--

Notes:

1. Endpoint values (percent survival, biomass, and reproduction) are averages among five replicates run for each sample.
2. Biomass is average mg/individual at test initiation (dry weight of surviving amphipods/20).
3. Reproduction is average number of offspring per surviving adult amphipod.
4. * indicates that there was a statistally significant difference at the 95% confidence level between the water-side samples and the local conditions reference sample for the toxicity test endpoint.

Source: Table 4A from "Supplemental Phase II Comprehensive Site Assessment, Former Everett Staging Yard, Water-Side, Everett, Massachusetts, Release Tracking Number 3-13341", prepared by GZA, December 2015.

Table Modified Table 4B
2015 Toxicity Test Results - Leptocheirus plumulosus 28-day Expsoures
Wynn Resort Casino
Everett, MA

Sample ID	Percent Survival	Biomass (mg)	Reproduction (Offspring)	Significant Difference From Lab Control: Survival		Biomass		Reproduction		Arsenic	Lead (mg/kg)	Mercury
				Artificial	Natural	Artificial	Natural	Artificial	Natural			
Artificial Laboratory Control	62	0.8779	1.73							--	--	--
Natural Laboratory Control	71	1.035	1.352							--	--	--
GZ-203	77	1.418	1.457							25.5	200	0.728
GZ-207	69	1.272	1.183							37.6	237	0.668
GZ-209	73	1.473	3.029							38.6	245	1.03
GZ-213	82	1.167	0.3294					*		54.1	190	0.551
GZ-214	70	1.213	0.8542							43.7	263	0.847
GZ-217	57	0.538	0.1511				*	*	*	164	791	0.979
GZ-223	85	1.46	1.613							35.6	250	0.974
GZ-224	71	0.9412	0.1184					*	*	70.7	649	0.672
GZ-225	73	1.021	1.357							41.1	389	0.319

Created by: AMR 12/4/2016
Checked by: SM 12/5/2016

Notes:

1. Endpoint values (percent survival, biomass, and reproduction) are averaged among five replicates run for each sample.
2. Biomass is average mg/individual at test initiation (dry weight of surviving amphipods/20)
3. Reproduction is average number of offspring per surviving adult amphipod.
4. * indicates that there was a statistically significant difference at the 95% confidence level between the Site sample and the artificial and natural laboratory controls.
5. Table has been modified from Table 4B in GZA's Supplement Phase II CSA (GZA, 2015).

Source: Table 4B from "Supplemental Phase II Comprehensive Site Assessment, Former Everett Staging Yard, Water-Side, Everett, Massachusetts, Release Tracking Number 3-13341", prepared by GZA, December 2015.

Table 5
Local Conditions Database (mg/kg)
Wynn Resort Casino
Everett, MA

Source	Sample Location	Interval (Inches)	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Mercury	Nickel	Lead	Selenium	Silver	Thallium	Vanadium	Zinc	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b,k)fluoranthene	Benzo(g,h,i)perylene
USGS	8	2-4	< 5	< 3	46	< 0.5	< 1	NA	19	NA	15	24	NA	< 0.2	NA	38	130	< 0.37	< 0.22	< 0.29	< 0.44	< 0.51	< 2.9	< 0.32
USGS	9	2-4	< 5	7	45	< 0.5	1	NA	49	NA	19	96	NA	0.2	NA	25	430	< 0.37	< 0.22	< 0.29	< 0.44	< 0.51	< 2.9	< 0.32
USGS	10	2-4	< 5	12	82	< 0.5	2	NA	91	NA	26	200	NA	0.5	NA	37	690	< 0.37	< 0.22	< 0.29	2.9	< 0.51	7.4	< 0.32
USGS	11	2-4	< 5	8	120	< 0.5	2	NA	140	NA	29	310	NA	2.4	NA	34	430	< 0.37	< 0.22	< 0.29	8	16	14	9.9
USGS	12	2-4	< 5	4	120	< 0.5	1	NA	120	NA	19	240	NA	2.8	NA	26	220	< 0.37	< 0.22	< 0.29	< 0.44	< 0.51	1.5	< 0.32
USGS	13	2-4	< 5	6	72	< 0.5	< 1	NA	87	NA	25	210	NA	3.3	NA	44	210	2.2	< 0.22	< 0.29	29	32	26	17
USGS	14	2-4	< 5	9	110	< 0.5	2	NA	120	NA	27	340	NA	1.8	NA	46	390	< 0.37	< 0.22	< 0.29	7.9	12	10	< 0.32
USGS	15	2-4	< 5	9	130	< 0.5	2	NA	100	NA	34	340	NA	1.8	NA	36	380	< 0.37	< 0.22	< 0.29	11	16	14	15
USGS	16	2-4	< 5	17	150	0.7	3	NA	180	NA	36	410	NA	2.0	NA	53	760	< 0.37	< 0.22	< 0.29	20	31	31	37
USGS	17	2-4	< 5	3	42	< 0.5	< 1	NA	33	NA	15	78	NA	< 0.2	NA	36	130	< 0.37	< 0.22	< 0.29	< 0.44	< 0.51	< 2.9	< 0.32
USGS	18	2-4	< 5	4	43	< 0.5	< 1	NA	41	NA	15	120	NA	0.3	NA	21	180	< 0.37	< 0.22	< 0.29	< 0.44	< 0.51	< 2.9	< 0.32
USGS	19	2-4	< 5	7	57	< 0.5	1	NA	69	NA	16	140	NA	0.4	NA	32	330	< 0.37	< 0.22	< 0.29	4.5	3.9	6.9	< 0.32
USGS	20	2-4	< 5	4	65	< 0.5	< 1	NA	51	NA	19	130	NA	0.4	NA	27	240	< 0.37	< 0.22	< 0.29	< 0.44	< 0.51	< 2.9	< 0.32
USGS	21	2-4	< 5	3	44	< 0.5	< 1	NA	30	NA	13	84	NA	< 0.2	NA	27	140	< 0.37	< 0.22	< 0.29	< 0.44	< 0.51	< 2.9	< 0.32
USGS	22	2-4	< 5	12	62	< 0.5	< 1	NA	70	NA	19	140	NA	0.5	NA	36	320	< 0.37	< 0.22	< 0.29	2.6	5	6.1	< 0.32
USGS	23	2-4	< 5	14	140	0.7	3	NA	170	NA	34	410	NA	1.6	NA	51	780	< 0.37	< 0.22	< 0.29	17	26	26	24
USGS	24	2-4	< 5	< 3	64	0.8	< 1	NA	23	NA	24	28	NA	< 0.2	NA	49	95	< 0.37	< 0.22	< 0.29	< 0.44	< 0.51	< 2.9	< 0.32
USGS	25	2-4	< 5	10	72	0.7	1	NA	79	NA	20	230	NA	0.5	NA	35	330	< 0.37	< 0.22	< 0.29	3.8	6.1	5.8	3.9
USGS	26	2-4	< 5	19	140	0.8	3	NA	210	NA	35	560	NA	2.5	NA	58	790	< 0.37	< 0.22	< 0.29	15	24	25	23
USGS	27	2-4	< 5	4	58	< 0.5	< 1	NA	49	NA	14	210	NA	< 0.2	NA	19	230	< 0.37	< 0.22	< 0.29	5.4	6.6	6.1	< 0.32
USGS	28	2-4	< 5	7	74	< 0.5	< 1	NA	80	NA	19	250	NA	0.6	NA	29	280	< 0.37	< 0.22	< 0.29	< 0.44	< 0.51	< 2.9	< 0.32
USGS	29	2-4	< 5	13	140	0.7	3	NA	190	NA	36	420	NA	2.0	NA	53	790	< 0.37	< 0.22	< 0.29	18	27	26	27
USGS	30	2-4	< 5	16	160	0.8	4	NA	220	NA	38	460	NA	2.2	NA	58	880	< 0.37	< 0.22	< 0.29	16	26	25	22
USGS	31	2-4	< 5	22	180	1.0	4	NA	250	NA	40	460	NA	2.3	NA	67	930	< 0.37	< 0.22	< 0.29	13	24	22	22
USGS	32	2-4	< 5	5	56	< 0.5	1	NA	63	NA	14	220	NA	0.2	NA	24	260	< 0.37	< 0.22	< 0.29	1.3	1.9	3.1	< 0.32
USGS	33	2-4	< 5	7	100	0.6	2	NA	110	NA	25	190	NA	0.9	NA	42	420	< 0.37	< 0.22	< 0.29	< 0.44	< 0.51	< 2.9	< 0.32
USGS	34	2-4	< 5	19	170	2.7	6	NA	230	NA	42	430	NA	2.1	NA	65	900	< 0.37	< 0.22	< 0.29	12	25	22	21
USGS	35	2-4	< 5	17	170	0.9	5	NA	260	NA	45	480	NA	2.4	NA	67	1100	< 0.37	< 0.22	< 0.29	14	27	25	19
USGS	36	2-4	< 5	13	150	0.9	4	NA	230	NA	42	460	NA	2.7	NA	64	960	< 0.37	< 0.22	< 0.29	9.9	19	18	12
USGS	37	2-4	< 5	16	170	1	5	NA	270	NA	45	440	NA	2.3	NA	69	970	< 0.37	< 0.22	< 0.29	16	39	34	23
USGS	38	2-4	< 5	15	160	1	5	NA	260	NA	43	470	NA	2.7	NA	67	1000	< 0.37	< 0.22	< 0.29	9.7	31	19	14
USGS	39	2-4	< 5	14	150	0.9	4	NA	230	NA	41	430	NA	2.5	NA	63	950	< 0.37	< 0.22	< 0.29	9.1	16	16	9.3
USGS	40	2-4	< 5	16	94	0.7	3	NA	150	NA	33	230	NA	1.2	NA	68	570	< 0.37	< 0.22	< 0.29	< 0.44	< 0.51	4.9	< 0.32
USGS	41	2-4	< 5	21	110	0.6	4	NA	140	NA	34	290	NA	1	NA	59	610	< 0.37	< 0.22	2.5	8.8	13	11	6.5
USGS	42	2-4	< 5	5	48	< 0.5	1	NA	50	NA	16	210	NA	0.4	NA	24	190	< 0.37	< 0.22	< 0.29	4.9	3.9	5.8	< 0.32
USGS	43	2-4	< 5	4	110	< 0.5	2	NA	120	NA	28	420	NA	0.4	NA	35	430	14	< 0.22	45	60	79	55	39
USGS	45	2-4	< 5	8	54	< 0.5	1	NA	55	NA	24	130	NA	0.5	NA	43	580	13	< 0.22	26	24	30	20	14
USGS	46	2-4	< 5	17	140	1.4	7	NA	240	NA	69	540	NA	1.4	NA	75	1700	< 0.37	< 0.22	< 0.29	23	42	36	43
USGS	47	2-4	< 5	19	130	0.9	5	NA	230	NA	54	550	NA	1.4	NA	71	1300	< 0.37	< 0.22	7.3	36	65	53	61
USGS	48	2-4	< 5	30	170	1.1	6	NA	320	NA	70	750	NA	2	NA	100	1500	< 0.37	< 0.22	< 0.29	22	45	39	36
USGS	49	2-4	< 5	28	96	0.9	3	NA	180	NA	39	320	NA	1.5	NA	74	760	< 0.37	< 0.22	< 0.29	7.5	11	10	5.2
USGS	50	2-4	< 5	15	77	0.7	3	NA	140	NA	35	250	NA	0.9	NA	58	700	< 0.37	< 0.22	< 0.29	< 0.44	< 0.51	0.29	< 0.32
GZA-2013	GZ-LC6 0-0_5ft	0-6	< 5.7	18.2	91.1	1.05	4.21	96.2	NA	0.911	32.7	312	< 5.68	1.73	< 5.68	65.6	726	< 0.238	< 0.238	< 0.238	0.647	0.923	1.85	0.904
GZA-2013	GZ-LC7 0-0_5ft	0-6	< 5.9	30.4	83	0.8	3.37	89.8	NA	0.972	31.6	321	< 5.89	1.82	< 5.89	63.1	743	< 0.245	0.274	0.255	0.686	0.98	1.911	0.99
GZA-2013	GZ-LC8 0-0_5ft	0-6	< 6.4	32.7	101	0.97	3.53	96.7	NA	1.05	33	362	< 6.37	1.96	< 6.37	74.3	884	< 0.256	0.767	0.829	2.39	2.92	6.96	2.87
GZA-2013	GZ-LC9 0-0_5ft	0-6	< 6	33.6	92.7	0.85	3.47	90.6	NA	1	32.2	341	< 6.05	1.85	< 6.05	68.3	804	< 0.238	0.638	0.59	1.66	1.61	4.25	1.79
GZA-2013	GZ-LC10 0-0_5ft	0-6	< 3.7	27.2	77	0.65	3.42	73.2	NA	0.89	31.5	275	< 3.66	1.62	< 3.66	58.4	709	< 0.147	0.593	0.452	0.886	1.26	2.359	0.915
Wehran/MassDEP	SD-28	0-6	NA	27	NA	< 0.57	1.9	97	150	0.41	45	270	NA	< 1.1	NA	NA	850	*	*	*	4	*	5	*
Wehran/MassDEP	SD-34	0-10	< 5.9	8	NA	< 0.49	2	21	45	< 0.199	< 20	310	< 4.9	< 0.9	< 0.49	NA	170	*	*	*	*	*	*	*
Wehran/MassDEP	SD-41	0-6	NA	25	NA	0.67	6.5	49	150	0.805	37	380	< 6.5	0.3	< 0.57	NA	370	20	9	20	29	32	30	*
Wehran/MassDEP	SD-42	0-6	NA	19	NA	< 1.2	5	64	200	0.696	< 4	520	NA	< 2.4	< 1.2	NA	730	*	*	*	10	10	20	*
Wehran/MassDEP	SD-44	0-6	< 3.9	2.7	NA	< 0.32	1.2	9.4	24	< 0.121	< 13	130	< 3.2	< 0.45	< 0.32	NA	95	NL	*	4	4	3	5	*

Notes
NA - Not analyzed.
< Not detected at the detection limit indicates.
* Not detected, detection limits not provided.
All units mg/kg

Table 5
Local Conditions Database (mg/kg)
Wynn Resort Casino
Everett, MA

Source	Sample Location	Interval (Inches)	Chrysene	Dibenzo(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c.d)pyrene	Naphthalene	Phenanthrene	Pyrene	Total PAHs	Total PCBs	Bis(2-Ethylhexyl)phthalate	C11-C22	C19-C36	C9-C18
USGS	8	2-4	< 0.28	< 0.58	< 0.12	< 0.11	< 0.4	< 0.61	< 0.17	< 0.05	7.37	< 0.87	NA	NA	NA	NA
USGS	9	2-4	< 0.28	< 0.58	1.8	< 0.11	< 0.4	< 0.61	< 0.17	1.9	10.9	< 0.87	NA	NA	NA	NA
USGS	10	2-4	< 0.28	< 0.58	6.8	< 0.11	< 0.4	< 0.61	< 0.17	7.4	28.36	< 0.87	NA	NA	NA	NA
USGS	11	2-4	17	< 0.58	21	< 0.11	11	< 0.61	5.3	18	122.38	< 0.87	NA	NA	NA	NA
USGS	12	2-4	1.4	< 0.58	3.5	< 0.11	< 0.4	< 0.61	< 0.17	3.5	13.92	< 0.87	NA	NA	NA	NA
USGS	13	2-4	42	8.6	70	< 0.11	19	< 0.61	53	53	353.03	< 0.87	NA	NA	NA	NA
USGS	14	2-4	12	< 0.58	17	< 0.11	< 0.4	< 0.61	4.6	15	81.4	< 0.87	NA	NA	NA	NA
USGS	15	2-4	18	8.7	23	< 0.11	15	< 0.61	10	20	152.3	< 0.87	NA	NA	NA	NA
USGS	16	2-4	36	21	44	< 0.11	37	< 0.61	14	39	311.6	< 0.87	NA	NA	NA	NA
USGS	17	2-4	< 0.28	< 0.58	< 0.12	< 0.11	< 0.4	< 0.61	< 0.17	< 0.05	7.37	< 0.87	NA	NA	NA	NA
USGS	18	2-4	< 0.28	< 0.58	< 0.12	< 0.11	< 0.4	< 0.61	< 0.17	< 0.05	7.37	< 0.87	NA	NA	NA	NA
USGS	19	2-4	5.5	< 0.58	11	< 0.11	< 0.4	< 0.61	< 0.17	9.8	44.67	< 0.87	NA	NA	NA	NA
USGS	20	2-4	< 0.28	< 0.58	< 0.12	< 0.11	< 0.4	< 0.61	< 0.17	< 0.05	7.37	< 0.87	NA	NA	NA	NA
USGS	21	2-4	< 0.28	< 0.58	8.6	< 0.11	< 0.4	< 0.61	< 0.17	7.7	23.5	< 0.87	NA	NA	NA	NA
USGS	22	2-4	6.1	< 0.58	9	< 0.11	< 0.4	< 0.61	< 0.17	9	40.87	< 0.87	NA	NA	NA	NA
USGS	23	2-4	31	< 0.58	41	< 0.11	20	< 0.61	15	36	238.18	< 0.87	NA	NA	NA	NA
USGS	24	2-4	< 0.28	< 0.58	< 0.12	< 0.11	< 0.4	< 0.61	< 0.17	< 0.05	7.37	< 0.87	NA	NA	NA	NA
USGS	25	2-4	6.1	< 0.58	9.5	< 0.11	< 0.4	< 0.61	2.9	8.5	49.18	< 0.87	NA	NA	NA	NA
USGS	26	2-4	26	< 0.58	30	< 0.11	19	< 0.61	8.7	28	200.88	< 0.87	NA	NA	NA	NA
USGS	27	2-4	10	< 0.58	13	< 0.11	< 0.4	< 0.61	7.9	13	64.9	< 0.87	NA	NA	NA	NA
USGS	28	2-4	< 0.28	< 0.58	160	< 0.11	< 0.4	< 0.61	270	120	557.03	< 0.87	NA	NA	NA	NA
USGS	29	2-4	29	< 0.58	32	< 0.11	24	< 0.61	6.8	28	219.98	< 0.87	NA	NA	NA	NA
USGS	30	2-4	27	< 0.58	30	< 0.11	24	< 0.61	< 0.17	27	199.35	< 0.87	NA	NA	NA	NA
USGS	31	2-4	24	15	26	< 0.11	27	< 0.61	< 0.17	27	201.77	< 0.87	NA	NA	NA	NA
USGS	32	2-4	4.1	< 0.58	5.7	< 0.11	< 0.4	< 0.61	< 0.17	4.5	23.67	< 0.87	NA	NA	NA	NA
USGS	33	2-4	< 0.28	< 0.58	5.3	< 0.11	< 0.4	< 0.61	< 0.17	6.6	19.1	< 0.87	NA	NA	NA	NA
USGS	34	2-4	24	< 0.58	25	< 0.11	19	< 0.61	< 0.17	24	174.35	< 0.87	NA	NA	NA	NA
USGS	35	2-4	31	< 0.58	3	< 0.11	18	< 0.61	7.9	30	177.08	< 0.87	NA	NA	NA	NA
USGS	36	2-4	22	< 0.58	24	< 0.11	11	< 0.61	4.7	23	145.78	< 0.87	NA	NA	NA	NA
USGS	37	2-4	42	< 0.58	32	< 0.11	26	< 0.61	< 0.17	33	247.35	< 0.87	NA	NA	NA	NA
USGS	38	2-4	22	< 0.58	21	< 0.11	14	< 0.61	3.7	21	157.58	< 0.87	NA	NA	NA	NA
USGS	39	2-4	19	< 0.58	18	< 0.11	11	< 0.61	< 0.17	19	119.75	< 0.87	NA	NA	NA	NA
USGS	40	2-4	< 0.28	< 0.58	7.2	< 0.11	< 0.4	< 0.61	< 0.17	6.6	23	< 0.87	NA	NA	NA	NA
USGS	41	2-4	15	< 0.58	16	< 0.11	6.5	< 0.61	8.2	16	105.39	< 0.87	NA	NA	NA	NA
USGS	42	2-4	6.6	< 0.58	14	< 0.11	< 0.4	< 0.61	< 0.17	13	51.27	< 0.87	NA	NA	NA	NA
USGS	43	2-4	83	23	120	10	46	< 0.61	98	100	772.83	< 0.87	NA	NA	NA	NA
USGS	45	2-4	36	< 0.58	48	8.2	16	< 0.61	52	51	339.61	< 0.87	NA	NA	NA	NA
USGS	46	2-4	38	11	30	< 0.11	38	< 0.61	< 0.17	33	295.77	< 0.87	NA	NA	NA	NA
USGS	47	2-4	60	16	56	< 0.11	55	< 0.61	11	58	479.61	< 0.87	NA	NA	NA	NA
USGS	48	2-4	44	15	51	< 0.11	39	< 0.61	14	49	355.6	< 0.87	NA	NA	NA	NA
USGS	49	2-4	14	0.58	15	< 0.11	< 0.4	< 0.61	7.4	14	86.68	< 0.87	NA	NA	NA	NA
USGS	50	2-4	< 0.28	0.58	0.12	< 0.11	< 0.4	< 0.61	< 0.17	< 0.05	4.76	< 0.87	NA	NA	NA	NA
GZA-2013	GZ-LC6 0-0_5ft	0-6	0.933	0.657	1.52	< 0.238	0.923	< 0.238	0.39	1.32	11.019	0.92	27.1	498	950	< 147
GZA-2013	GZ-LC7 0-0_5ft	0-6	0.951	< 0.245	1.48	< 0.245	1	0.245	0.402	1.36		2	32.8	317	646	< 150
GZA-2013	GZ-LC8 0-0_5ft	0-6	4.03	0.829	7.49	< 0.256	2.18	0.389	1.52	6.01		1.8	32.4	457	1050	< 162
GZA-2013	GZ-LC9 0-0_5ft	0-6	2.07	0.476	3.43	< 0.238	2.02	0.438	0.905	2.5		1.7	21.5	403	755	< 153
GZA-2013	GZ-LC10 0-0_5ft	0-6	1.17	0.252	1.63	< 0.147	0.962	0.464	0.569	1.71		1.67	27.2	229	390	< 92.7
Wehran/MassDEP	SD-28	0-6	5	*	5	*	*	*	*	4	23	6.7	310	NA	NA	NA
Wehran/MassDEP	SD-34	0-10	*	*	*	*	*	*	*	*	*	0.4	25	NA	NA	NA
Wehran/MassDEP	SD-41	0-6	30	*	65	20	*	63	75	50	483	1.8	154	NA	NA	NA
Wehran/MassDEP	SD-42	0-6	9	*	48	*	*	*	9	30	129	< 4	370	NA	NA	NA
Wehran/MassDEP	SD-44	0-6	4	*	18	5	*	5	10	8	66	< 1.2	3	NA	NA	NA

Created by: NTG 08/31/2016
Checked by: AMR 12/6/2016

Notes
NA - Not analyzed.
< Not detected at the detection limit indicates.
* Not detected, detection limits not provided.
All units mg/kg

Table 6
Local Conditions Comparison
Wynn Resort Casino
Everett, MA

Parameter (mg/kg)	Site		Local Conditions		Is Site Consistent with Local Conditions?
	Median	Maximum	Median	Maximum	
Antimony	1.5	2.5	5	11	Yes [a]
Arsenic	33	182	13	59	No [b]
Barium	44	190	98	180	Yes [c]
Beryllium	0.38	1.5	0.65	2.7	Yes [a]
Cadmium	1.0	9.0	2.0	7.0	Yes [c]
Chromium	47	169	82	97	No [d]
Mercury	0.75	3	0.85	1.1	No [d]
Nickel	16	84	32	70	Yes [c]
Lead	209	1070	310	750	Yes [c]
Selenium	2.8	52.8	5.8	6.5	No [d]
Silver	1.1	5.1	1.4	3.3	No [d]
Thallium	1.4	1.4	3.7	6.37	Yes [a]
Vanadium	58	354	50	100	No [b]
Zinc	266	1230	610	1700	Yes [a]
Total PAHs	5.0	22	3.6	16	Yes [c]
Total PCBs	0.88	3	0.40	2	No [b]
Bis(2-Ethylhexyl)phthalate	--	--	--	--	-- [e]
C11-C22	--	--	--	--	-- [e]
C19-C36	--	--	--	--	-- [e]
C9-C18	--	--	--	--	-- [e]

Created by: NTG 12/5/2016
Checked by: AMR 12/5/2016

Notes:

[a] Both the median and maximum concentrations for Site samples are lower than those of the local conditions samples.

[b] Both the median and the maximum concentrations for Site samples are higher than those of the local conditions samples.

[c] The median concentration for the Site samples is below the median of the local conditions sample, and the maximum of the site sample is within 50% of the maximum of the local conditions samples.

[d] The median concentration for the Site samples is below the median of the local conditions sample, but the maximum of the site sample is more than 50% greater than the maximum local concentration sample.

[e] Local conditions comparison could not be performed due to sample size.

Table 7
Ecological Benchmark Comparison
Wynn Resort Casino
Everett, MA

Parameter (mg/kg) [a]	Maximum Detected Concentration [b]	Ecological Sediment Screening Benchmark	Source [c]	Is Max > Benchmark? [d]
PCBs				
Total PCBs	3.4	0.18	ER-M	Yes
SVOCs				
Bis(2-ethylhexyl)phthalate	131	3.1	WA AET	Yes
Di-n-octylphthalate	7.9	6.2	WA AET	Yes
Hexachlorobutadiene	0.28	0.12	WA AET	Yes
PAHs				
2-Methylnaphthalene	0.17	0.67	ER-M	No
Acenaphthene	0.24	0.5	ER-M	No
Acenaphthylene	0.65	0.64	ER-M	Yes
Anthracene	0.97	1.1	ER-M	No
Benzo(a)anthracene	1.9	1.6	ER-M	Yes
Benzo(a)pyrene	2.0	1.6	ER-M	Yes
Benzo(b)fluoranthene	3.2	1.8	WA AET	Yes
Benzo(k)fluoranthene	1.2	1.8	WA AET	No
Benzo(g,h,i)perylene	1.7	0.67	WA AET	Yes
Chrysene	2.1	2.8	ER-M	No
Dibenzo(a,h)anthracene	0.46	0.26	ER-M	Yes
Fluoranthene	3.6	5.1	ER-M	No
Fluorene	0.32	0.54	ER-M	No
Indeno(1,2,3-cd)pyrene	1.9	0.69	WA AET	Yes
Naphthalene	0.83	2.1	ER-M	No
Phenanthrene	2.1	1.5	ER-M	Yes
Pyrene	3.3	2.6	ER-M	Yes
Total PAHs	22	45	ER-M	No
EPH				
C11-C12 Aromatics	472	--	--	--
C9-C18 Aliphatics	114	--	--	--
C19-C36 Aliphatics	783	--	--	--
Total EPH	1274	--	--	--
Metals				
Antimony	2.5	9.3	NOAA Squirt	No
Arsenic	182	70	ER-M	Yes
Barium	190	48	NOAA Squirt	Yes
Beryllium	1.5	--	--	--
Cadmium	9.0	9.6	ER-M	No
Chromium	169	370	ER-M	No
Lead	1070	218	ER-M	Yes
Mercury	2.5	0.71	ER-M	Yes
Nickel	84	51.6	ER-M	Yes
Selenium	53	1	NOAA Squirt	Yes
Silver	5.1	3.7	ER-M	Yes
Vanadium	354	57	NOAA Squirt	Yes
Zinc	1230	410	ER-M	Yes

Created by: AMR 12/4/2016
Checked by: SM 12/52016

Notes:
[a] Only detected parameters are shown.
[b] 0-6 inch sediment interval
[c] Sources:
ER-M: NOAA Effects Range - Median concentrations (Long *et al.* , 1995)
WA AET - Washington State marine sediment apparent effects thresholds (AETs) (WAC 173-204, 2013)
NOAA Squirt - NOAA Screening Quick References Tables (Buchman, 2008)
[d] A maximum (max) detected concentration that is higher than the screening benchmark indicates a potentially significant expsoure.

-- Benchmark not available
EPH - Extractable petroleum hydrocarbons
PAHs - Polycyclic aromatic hydrocarbons
PCBs - Polychlorinated biphenyls
NOAA - National Oceanographic & Atmospheric Administration
mg/kg - milligrams per kilogram

Table 8
Comparison of Local Conditions Values to ER-Ms
Wynn Resort Casino
Everett, MA

Parameter	75th Percentile	90th Percentile [a]	ER-M [b]
Antimony	<5	5.8	9.3
Arsenic	19	29.2	70
Barium	140	170	48
Beryllium	0.9	1.03	--
Cadmium	4	5	9.6
Chromium	96	97	370
Lead	430	520	218
Mercury	0.979	1.045	0.71
Nickel	37.5	45	51.6
Selenium	<6.29	<6.5	1
Silver	2.1	2.5	3.7
Vanadium	65	71	57
Zinc	827	988	410
Total PAHs	224	418	45
Total PCBs	0.87	1.76	0.18
Bis(2-Ethylhexyl)phthalate	32.6	32.8	3.1
C11-C22	478	498	--
C19-C36	1000	1050	--
C9-C18	<157	<162	--

[a] For parameters with small data sets (Bis(2-Ethylhexyl)phthalate, C11-C22, C19-C36, and C-9-C18), the maximum value is presented.

[b] If ER-M is not avaialble, equivalent value is shown (seeTable 7 for source).

-- ER-M or other benchmark not available

< - Parameter indicated was not detected at the concentration shown.

Table 9
Sediment Analytical Results Used in the Method 3 Risk Calculations
Wynn Resort Casino
Everett, Massachusetts

Sample ID:	GZ-101 0-0_5ft	GZ-109 0_5-2_5ft	GZ-109T 0-0_5ft	GZ-110B 0-0_5ft	GZ-113T 0-0_5ft	GZ-116 0_5-2ft	GZ-116T 0-0_5ft	GZ-118A 0_5-1ft	GZ-118A 0-0_5ft	GZ-120T 0-0_5ft	GZ-127 0_5-2ft	GZ-127 0-0_5ft
Date Sampled:	08/01/2013	08/02/2013	08/06/2013	08/05/2013	08/06/2013	08/02/2013	08/06/2013	08/05/2013	08/05/2013	08/06/2013	08/05/2013	08/05/2013
Depth (ft):	0-0.5	0.5-2.5	0-0.5	0-0.5	0-0.5	0.5-2	0-0.5	0.5-1	0-0.5	0-0.5	0.5-2	0-0.5
Type:	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow
Analyte Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
8260B VOC- Low Level												
2-Butanone	-	-	-	-	-	-	-	-	-	-	-	-
Acetone	-	-	-	-	-	-	-	-	-	-	-	-
Carbon Disulfide	-	-	-	-	-	-	-	-	-	-	-	-
8082A Polychlorinated Biphenyls (PCBs)												
Total PCBs	-	<0.0389	-	-	1.92	3.935	0.667	-	-	-	-	-
8270D sVOC												
Benzo(a)anthracene	-	<1.53	-	-	<0.314	<0.906	0.442	-	-	-	-	-
Benzo(a)pyrene	-	<0.767	-	-	0.231	<0.455	0.596	-	-	-	-	-
Benzo(b)fluoranthene	-	<1.53	-	-	<0.314	<0.906	0.981	-	-	-	-	-
Benzo(k)fluoranthene	-	<1.53	-	-	<0.314	<0.906	0.342	-	-	-	-	-
bis(2-Ethylhexyl)phthalate	-	<1.53	-	-	2.27	543	2.94	-	-	-	-	-
Chrysene	-	1.88	-	-	0.256	<0.455	0.647	-	-	-	-	-
Di-n-octylphthalate	-	<1.53	-	-	<0.314	34.8	<0.293	-	-	-	-	-
Fluoranthene	-	4.91	-	-	0.431	0.981	0.901	-	-	-	-	-
Phenanthrene	-	<1.53	-	-	<0.314	<0.906	<0.293	-	-	-	-	-
Pyrene	-	5.34	-	-	0.408	<0.906	0.816	-	-	-	-	-
8270D (SIM) Polynuclear Aromatic Hydrocarbons (PAH)												
2-Methylnaphthalene	-	0.114	-	-	<0.079	<0.057	<0.074	-	-	-	-	-
Acenaphthene	-	0.12	-	-	<0.079	<0.057	<0.074	-	-	-	-	-
Acenaphthylene	-	0.204	-	-	<0.079	<0.057	<0.074	-	-	-	-	-
Anthracene	-	0.741	-	-	<0.079	0.094	<0.074	-	-	-	-	-
Benzo(a)anthracene	-	1.12	-	-	0.117	0.172	0.198	-	-	-	-	-
Benzo(a)pyrene	-	0.563	-	-	0.149	0.165	0.18	-	-	-	-	-
Benzo(b)fluoranthene	-	1.35	-	-	0.206	0.293	0.227	-	-	-	-	-
Benzo(g,h,i)perylene	-	0.3	-	-	0.13	0.144	0.115	-	-	-	-	-
Benzo(k)fluoranthene	-	1.42	-	-	<0.079	0.085	0.074	-	-	-	-	-
Chrysene	-	1.18	-	-	0.158	0.234	0.221	-	-	-	-	-
Dibenzo(a,h)Anthracene	-	<0.102	-	-	<0.079	<0.057	<0.074	-	-	-	-	-
Fluoranthene	-	<0.102	-	-	0.203	0.355	0.295	-	-	-	-	-
Fluorene	-	0.163	-	-	<0.079	<0.057	<0.074	-	-	-	-	-
Indeno(1,2,3-cd)Pyrene	-	0.369	-	-	0.139	0.154	0.121	-	-	-	-	-
Naphthalene	-	0.496	-	-	<0.079	0.119	<0.074	-	-	-	-	-
Phenanthrene	-	0.733	-	-	0.108	0.167	0.189	-	-	-	-	-
Pyrene	-	2.41	-	-	0.237	0.383	0.407	-	-	-	-	-
MADEP-EPH												
C11-C22 Aromatics1,2	-	2480	-	-	175	674	60.2	-	-	-	-	-
C19-C36 Aliphatics1	-	1570	-	-	329	154	85	-	-	-	-	-
C9-C18 Aliphatics1	-	262	-	-	51.4	<102	<43.4	-	-	-	-	-
MCP-14 Metals												
Antimony	<2.4	2.5	<2.7	<1.3	<1.8	1.6	<1.6	<1.2	<1.3	2.5	<1.5	2.3
Arsenic	48.2	229	75.7	28.5	39.7	249	75.7	106	155	172	24.7	94.7
Barium	50.2	40.8	45.9	14.1	21.9	33.9	32.6	25.2	23.5	52.5	27.2	89.4
Beryllium	0.48	<0.30	0.57	0.19	0.29	0.13	0.49	0.29	0.25	0.34	0.26	0.34
Cadmium	1.9	1.52	1.68	0.67	0.95	0.85	1.04	0.46	0.59	0.83	<0.29	1.2
Chromium	50.9	24.5	62	19	32.8	71.4	39.8	17.7	15.1	27.3	17.2	32
Lead	280	394	209	208	101	467	116	69	80.6	306	97.4	369
Mercury	1.2	3.99	1.43	1.53	0.754	2.7	0.484	0.276	0.249	0.74	1.69	0.876
Nickel	17.3	13.5	22.5	6.2	15.3	3.5	15.8	8.6	7.4	8.5	8.6	9.5
Selenium	2.74	104	5.44	6.23	1.81	4.36	1.58	<1.24	<1.30	<1.63	<1.47	1.91
Silver	1.47	1.46	1.59	0.32	0.91	3.9	0.97	0.57	0.67	1.65	0.63	1.94
Thallium	<2.40	<1.45	<2.75	<1.25	<1.78	1.37	<1.56	<1.24	<1.30	<1.63	<1.47	<1.58
Vanadium	63.7	25	84.5	14.6	52.9	25	57.5	34.5	32.8	39.3	24.1	56.6
Zinc	364	169	279	173	147	67.5	182	70.9	73.3	157	80	217

Table 9
Sediment Analytical Results Used in the Method 3 Risk Calculations
Wynn Resort Casino
Everett, Massachusetts

Sample ID:	GZ-213 0ft-0_5ft	GZ-213 0ft-3ft	GZ-214 0ft-0_5ft	GZ-215 0ft-0_5ft	GZ-215 0ft-3ft	GZ-216 0ft-0_5ft	GZ-217 0ft-0_5ft	GZ-217 0ft-3ft	GZ-218 0_5ft-2ft	GZ-218 0ft-0_5ft	GZ-219 0ft-0_5ft	GZ-219 0ft-3ft
Date Sampled:	3/25/2015	3/25/2015	3/30/2015			03/24/2015	03/24/2015	03/24/2015	3/25/2015	3/25/2015	3/25/2015	3/25/2015
Depth (ft):	0-0.5	0-3	0-0.5	0-0.5	0-3	0-0.5	0-0.5	0-3	0.5-2	0-0.5	0-0.5	0-3
Type:	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow
Analyte Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
8260B VOC- Low Level												
2-Butanone	-	0.0068	-	-	<0.0035	-	-	0.0119	-	-	-	<0.0117
Acetone	-	0.0504	-	-	0.0171	-	-	0.0898	-	-	-	<0.0117
Carbon Disulfide	-	0.0045	-	-	0.0066	-	-	0.006	-	-	-	0.0078
8082A Polychlorinated Biphenyls (PCBs)												
Total PCBs	1.211	0.0554	0.4356	0.724	<0.0083	0.779	0.2224	0.1014	<0.0078	0.7	0.4925	<0.0081
8270D sVOC												
Benzo(a)anthracene	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(a)pyrene	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(b)fluoranthene	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(k)fluoranthene	-	-	-	-	-	-	-	-	-	-	-	-
bis(2-Ethylhexyl)phthalate	3.29	<0.254	0.874	1.1	<0.215	7.28	0.358	<0.254	0.307	3.37	0.631	<0.261
Chrysene	-	-	-	-	-	-	-	-	-	-	-	-
Di-n-octylphthalate	<0.284	<0.254	<0.329	<0.291	<0.215	<0.599	<0.283	<0.254	<0.289	<0.335	<0.306	<0.261
Fluoranthene	-	-	-	-	-	-	-	-	-	-	-	-
Phenanthrene	-	-	-	-	-	-	-	-	-	-	-	-
Pyrene	-	-	-	-	-	-	-	-	-	-	-	-
8270D (SIM) Polynuclear Aromatic Hydrocarbons (PAH)												
2-Methylnaphthalene	0.028	-	0.049	0.03	-	0.049	0.094	-	<0.109	0.033	0.031	-
Acenaphthene	0.024	-	0.194	0.039	-	0.039	0.079	-	0.03	0.032	0.027	-
Acenaphthylene	0.163	-	0.14	0.081	-	0.149	0.368	-	0.328	0.212	0.127	-
Anthracene	0.171	-	0.346	0.161	-	0.24	0.556	-	0.336	0.234	0.175	-
Benzo(a)anthracene	0.314	-	0.677	0.327	-	0.442	0.808	-	0.718	0.527	0.355	-
Benzo(a)pyrene	0.425	-	0.804	0.382	-	0.497	0.818	-	0.674	0.735	0.459	-
Benzo(b)fluoranthene	0.569	-	1.02	0.512	-	0.594	0.985	-	0.804	1.2	0.719	-
Benzo(g,h,i)perylene	0.212	-	0.402	0.217	-	0.419	0.472	-	0.282	0.404	0.249	-
Benzo(k)fluoranthene	0.182	-	0.322	0.145	-	0.205	0.334	-	0.216	0.293	0.167	-
Chrysene	0.362	-	0.722	0.371	-	0.587	1.03	-	0.882	0.713	0.491	-
Dibenzo(a,h)Anthracene	0.07	-	0.131	0.06	-	0.104	0.154	-	<0.109	0.127	0.072	-
Fluoranthene	0.525	-	1.33	0.695	-	0.59	0.924	-	1.24	0.991	0.624	-
Fluorene	0.052	-	0.143	0.053	-	0.104	0.18	-	0.081	0.054	0.046	-
Indeno(1,2,3-cd)Pyrene	0.266	-	0.517	0.265	-	0.435	0.547	-	0.33	0.493	0.295	-
Naphthalene	0.073	-	0.2	0.13	-	0.184	0.25	-	<0.109	0.1	0.082	-
Phenanthrene	0.262	-	0.812	0.445	-	0.248	0.762	-	0.248	0.345	0.227	-
Pyrene	0.751	-	1.21	0.654	-	1.07	1.7	-	1.49	1.12	0.849	-
MADEP-EPH												
C11-C22 Aromatics1,2	57.6	21.6	101	37.6	17.1	199	217	37.6	38.8	57.2	63	24.6
C19-C36 Aliphatics1	78.6	20.9	117	64.9	<16.2	124	188	61.3	43.3	97.5	108	29.4
C9-C18 Aliphatics1	<21.6	<19.1	26.1	<21.6	<16.2	29.4	59	<19.0	<21.6	<25.2	<23.1	<19.6
MCP-14 Metals												
Antimony	<1.23	<4.41	<3.97	<4.13	<4.08	<1.09	1.57	1.54	<4.55	<1.13	<1.08	1.32
Arsenic	54.1	57.9	43.7	45.8	8.17	52.2	164	92.1	183	58.2	71.7	66.3
Barium	33.4	25.2	42.7	30.9	21.3	43.7	73.5	47.6	68.2	44.2	36.8	52
Beryllium	0.33	0.28	0.35	0.34	0.23	0.4	0.48	0.44	0.67	0.38	0.33	0.47
Cadmium	0.72	2.39	0.42	0.53	0.92	0.66	<0.48	1.12	0.79	<0.45	<0.43	1
Chromium	36.1	23.2	38	37.1	14.7	55.5	56.1	41.5	49.6	48.2	38.2	40.4
Lead	190	282	263	234	42.7	268	791	545	738	279	271	506
Mercury	0.551	0.467	0.847	0.982	0.221	0.467	0.979	0.969	7.07	0.393	0.572	1.2
Nickel	13	8.91	19.2	15.3	7.87	18	25	15.1	18	16.5	17.5	13.4
Selenium	<4.93	6.85	<7.94	<8.26	<8.16	5.19	52.8	22.6	28.6	<4.50	<4.33	15.2
Silver	0.71	<0.44	0.65	0.54	<0.41	0.89	1.23	0.64	<0.45	0.73	0.58	<0.50
Thallium	<0.39	<0.44	<0.32	<0.33	<0.33	<0.35	<0.38	<0.40	<0.45	<0.45	<0.43	<0.40
Vanadium	55.1	22.4	56.8	53.2	22.6	65.8	61.3	38	45	61	50.2	33.2
Zinc	325	913	205	227	406	265	393	515	410	270	266	481

Table 9
Sediment Analytical Results Used in the Method 3 Risk Calculations
Wynn Resort Casino
Everett, Massachusetts

Sample ID:	GZ-220 0_5ft-2ft	GZ-220 0ft-0_5ft	GZ-221 0ft-0_5ft	GZ-221 0ft-3ft	GZ-222 0_5ft-2ft	GZ-222 0ft-0_5ft	GZ-223 0ft-0_5ft	GZ-223 0ft-3ft	GZ-224 0_5ft-2ft	GZ-224 0ft-0_5ft	GZ-225 0ft-0_5ft	GZ-225 0ft-3ft
Date Sampled:	3/30/2015	3/30/2015	3/30/2015	3/30/2015	3/30/2015	3/30/2015	3/30/2015	3/30/2015	3/30/2015	3/30/2015	03/27/2015	03/27/2015
Depth (ft):	0.5-2	0-0.5	0-0.5	0-3	0.5-2	0-0.5	0-0.5	0-3	0.5-2	0-0.5	0-0.5	0-3
Type:	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow
Analyte Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
8260B VOC- Low Level												
2-Butanone	-	-	-	0.0095	-	-	-	<0.0132	-	-	-	<0.0124
Acetone	-	-	-	0.0742	-	-	-	0.0716	-	-	-	0.0617
Carbon Disulfide	-	-	-	0.0083	-	-	-	0.0066	-	-	-	0.0142
8082A Polychlorinated Biphenyls (PCBs)												
Total PCBs	0.0092	0.608	1.702	0.0929	-	0.776	0.534	<0.0080	0.0385	0.2087	0.511	0.1043
8270D sVOC												
Benzo(a)anthracene	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(a)pyrene	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(b)fluoranthene	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(k)fluoranthene	-	-	-	-	-	-	-	-	-	-	-	-
bis(2-Ethylhexyl)phthalate	<0.718	1.5	2.11	<0.267	-	1.33	1.34	<0.330	<0.309	0.502	1.01	3.08
Chrysene	-	-	-	-	-	-	-	-	-	-	-	-
Di-n-octylphthalate	<0.718	<0.331	<0.345	<0.267	-	<0.302	<0.322	<0.330	<0.309	<0.244	<0.335	<0.283
Fluoranthene	-	-	-	-	-	-	-	-	-	-	-	-
Phenanthrene	-	-	-	-	-	-	-	-	-	-	-	-
Pyrene	-	-	-	-	-	-	-	-	-	-	-	-
8270D (SIM) Polynuclear Aromatic Hydrocarbons (PAH)												
2-Methylnaphthalene	0.423	<0.025	<0.026	-	0.029	0.025	0.09	-	0.088	0.033	<0.025	-
Acenaphthene	0.271	0.039	0.027	-	0.021	0.026	0.241	-	0.07	0.046	<0.025	-
Acenaphthylene	0.925	0.077	0.083	-	0.198	0.104	0.183	-	1.29	0.111	0.055	-
Anthracene	1.74	0.138	0.107	-	0.25	0.142	0.557	-	1.18	0.168	0.089	-
Benzo(a)anthracene	2.15	0.268	0.269	-	0.425	0.347	1.09	-	2.85	0.578	0.195	-
Benzo(a)pyrene	2.18	0.339	0.359	-	0.452	0.45	1.25	-	2.33	0.755	0.237	-
Benzo(b)fluoranthene	3.36	0.471	0.507	-	0.527	0.673	1.84	-	2.87	1.13	0.365	-
Benzo(g,h,i)perylene	0.902	0.162	0.298	-	0.164	0.216	0.853	-	1.02	0.501	0.102	-
Benzo(k)fluoranthene	0.693	0.121	0.137	-	0.171	0.174	0.52	-	0.593	0.311	0.132	-
Chrysene	2.33	0.34	0.345	-	0.518	0.439	1.17	-	3.51	0.688	0.256	-
Dibenzo(a,h)Anthracene	0.385	0.052	0.071	-	0.067	0.063	0.239	-	0.395	0.167	0.032	-
Fluoranthene	5.89	0.602	0.578	-	0.914	0.652	2.21	-	4.69	0.876	0.401	-
Fluorene	0.378	0.049	0.037	-	0.049	0.045	0.316	-	0.257	0.059	<0.025	-
Indeno(1,2,3-cd)Pyrene	1.24	0.209	0.32	-	0.216	0.27	1.03	-	1.17	0.603	0.126	-
Naphthalene	1.41	0.105	0.083	-	0.086	0.082	0.26	-	0.224	0.1	0.045	-
Phenanthrene	1.19	0.362	0.279	-	0.161	0.299	1.94	-	0.933	0.353	0.138	-
Pyrene	5.17	0.58	0.564	-	0.81	0.609	2.26	-	5.37	0.795	0.355	-
MADEP-EPH												
C11-C22 Aromatics1,2	179	100	133	130	-	65.5	56.7	77.6	172	23.7	25.9	<21.3
C19-C36 Aliphatics1	58.4	130	110	84.3	-	77.9	68.3	38.4	166	38.6	80.9	<21.3
C9-C18 Aliphatics1	<26.6	25.9	<25.9	23.8	-	<22.2	<24.0	<24.9	<23.2	<18.0	<25.3	<21.3
MCP-14 Metals												
Antimony	<3.94	<4.20	<4.08	<4.18	<3.65	<3.70	<4.03	<3.70	<4.20	<4.13	0.51	0.5
Arsenic	210	45.8	37.9	135	48.4	28	35.6	137	185	70.7	41.1	27.8
Barium	59.3	48.4	36	77.6	37.5	32.7	38.5	91.5	64	35.5	36.5	32.3
Beryllium	0.52	0.4	0.37	0.54	0.54	0.29	0.32	0.67	0.64	<0.41	0.22	0.49
Cadmium	2.76	0.52	0.43	1.96	0.41	<0.37	<0.40	1.58	2.47	<0.41	<0.44	<0.44
Chromium	44.4	49.5	46.6	91.4	31.5	38.6	43.2	62.7	71.2	85.5	38.8	26.4
Lead	582	317	197	703	175	192	250	1120	919	649	389	83.5
Mercury	3.46	1.05	0.892	4.41	1.31	0.779	0.974	11.9	10.6	0.672	0.319	0.628
Nickel	11.8	15.7	14.9	13.4	14.9	12.1	12.9	16.5	15.3	84.4	13.7	15.1
Selenium	65.4	<8.40	<8.16	30.7	27.7	<7.41	<8.06	63.6	66.5	<8.26	2.75	<4.37
Silver	1.17	0.83	0.63	0.66	<0.36	0.47	0.49	0.53	0.68	4.08	<0.44	<0.44
Thallium	<0.31	<0.34	<0.33	<0.33	<0.29	<0.30	<0.32	<0.30	<0.34	<0.33	<0.35	<0.35
Vanadium	45.2	59.3	63.4	38.7	34.9	48.8	49.7	45.5	41.4	54.2	48.2	32.8
Zinc	547	266	214	624	169	180	227	462	679	217	202	92.5

Table 9
Sediment Analytical Results Used in the Method 3 Risk Calculations
Wynn Resort Casino
Everett, Massachusetts

Sample ID:	GZ-226 0_5ft-2ft	GZ-226 0ft-0_5ft	GZ-210 0_5ft-2ft	GZ-210 0ft-0_5ft	GZ-211 0ft-0_5ft	GZ-211 0ft-3ft	GZ-212 0_5ft-2ft	GZ-212 0ft-0_5ft	GZ-122 0_5-2ft	GZ-122T 0-0_5ft	GZ-124 0-0_5ft	GZ-125A 0-0_5ft
Date Sampled:	3/30/2015	3/30/2015	3/30/2015	3/30/2015	3/30/2015	3/30/2015	03/24/2015	03/24/2015	08/02/2013	08/06/2013	08/02/2013	08/05/2013
Depth (ft):	0.5-2	0-0.5	0.5-2	0-0.5	0-0.5	0-3	0.5-2	0-0.5	0.5-2	0-0.5	0-0.5	0-0.5
Type:	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow
Analyte Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
8260B VOC- Low Level												
2-Butanone	-	-	-	-	-	<0.0113	-	-	-	-	-	-
Acetone	-	-	-	-	-	0.0206	-	-	-	-	-	-
Carbon Disulfide	-	-	-	-	-	0.0103	-	-	-	-	-	-
8082A Polychlorinated Biphenyls (PCBs)												
Total PCBs	-	1.359	-	0.1208	0.1174	<0.0083	-	0.1788	<0.0395	0.1524	-	-
8270D sVOC												
Benzo(a)anthracene	-	-	-	-	-	-	-	-	<0.255	<0.229	-	-
Benzo(a)pyrene	-	-	-	-	-	-	-	-	<0.128	<0.115	-	-
Benzo(b)fluoranthene	-	-	-	-	-	-	-	-	<0.255	<0.229	-	-
Benzo(k)fluoranthene	-	-	-	-	-	-	-	-	<0.255	<0.229	-	-
bis(2-Ethylhexyl)phthalate	-	1.54	-	<0.227	0.363	<0.229	-	0.5	<0.255	<0.229	-	-
Chrysene	-	-	-	-	-	-	-	-	<0.128	<0.115	-	-
Di-n-octylphthalate	-	<0.304	-	<0.227	<0.215	<0.229	-	<0.227	<0.255	<0.229	-	-
Fluoranthene	-	-	-	-	-	-	-	-	<0.255	<0.229	-	-
Phenanthrene	-	-	-	-	-	-	-	-	<0.255	<0.229	-	-
Pyrene	-	-	-	-	-	-	-	-	<0.255	<0.229	-	-
8270D (SIM) Polynuclear Aromatic Hydrocarbons (PAH)												
2-Methylnaphthalene	0.024	0.03	<0.019	<0.017	<0.016	-	<0.018	<0.017	<0.013	<0.059	-	-
Acenaphthene	0.022	0.037	<0.019	<0.017	<0.016	-	<0.018	0.025	<0.013	<0.059	-	-
Acenaphthylene	0.128	0.144	<0.019	0.018	0.027	-	0.019	0.024	<0.013	0.07	-	-
Anthracene	0.169	0.183	<0.019	0.047	0.085	-	0.094	0.075	<0.013	0.176	-	-
Benzo(a)anthracene	0.447	0.392	<0.019	0.099	0.233	-	0.302	0.151	0.024	0.418	-	-
Benzo(a)pyrene	0.516	0.545	<0.019	0.114	0.243	-	0.273	0.161	0.02	0.415	-	-
Benzo(b)fluoranthene	0.553	0.823	<0.019	0.137	0.294	-	0.314	0.194	0.022	0.518	-	-
Benzo(g,h,i)perylene	0.212	0.237	<0.019	0.081	0.164	-	0.145	0.111	0.015	0.279	-	-
Benzo(k)fluoranthene	0.161	0.268	<0.019	0.047	0.084	-	0.09	0.065	<0.013	0.185	-	-
Chrysene	0.449	0.486	<0.019	0.108	0.231	-	0.296	0.16	0.022	0.422	-	-
Dibenzo(a,h)Anthracene	0.055	0.076	<0.019	0.018	0.038	-	0.044	0.027	<0.013	0.08	-	-
Fluoranthene	0.753	0.764	<0.019	0.176	0.403	-	0.454	0.31	0.041	0.631	-	-
Fluorene	0.044	0.057	<0.019	<0.017	0.02	-	<0.018	0.024	<0.013	<0.059	-	-
Indeno(1,2,3-cd)Pyrene	0.244	0.319	<0.019	0.085	0.174	-	0.167	0.119	0.016	0.317	-	-
Naphthalene	0.071	0.136	<0.019	<0.017	0.026	-	<0.018	0.024	<0.013	0.073	-	-
Phenanthrene	0.248	0.314	<0.019	0.069	0.156	-	0.115	0.184	0.025	0.296	-	-
Pyrene	0.72	0.853	0.019	0.176	0.382	-	0.45	0.294	0.039	0.617	-	-
MADEP-EPH												
C11-C22 Aromatics1,2	-	25.9	-	<16.8	<16.2	<17.1	-	<16.8	59.5	<34.7	-	-
C19-C36 Aliphatics1	-	<22.9	-	<16.8	<16.2	<17.1	-	18.2	119	<34.7	-	-
C9-C18 Aliphatics1	-	<22.9	-	<16.8	<16.2	<17.1	-	<16.8	<38.2	<34.7	-	-
MCP-14 Metals												
Antimony	<3.83	<4.08	<4.07	<4.18	<12.9	<4.29	<4.76	<4.95	2.6	<1.2	<1.3	<1.5
Arsenic	91.8	32.2	6.04	9.98	22.7	10.8	9.78	17.2	51.5	14.2	20.2	5.3
Barium	53.5	41.2	17.4	12.5	16.8	18.7	19.5	20.2	29.4	23.9	21.2	14.2
Beryllium	0.47	0.33	0.3	0.17	0.17	0.27	0.29	0.23	0.3	0.19	0.26	0.2
Cadmium	3.4	<0.41	<0.41	<0.42	1.1	<0.43	<0.48	<0.50	0.72	0.42	0.6	0.3
Chromium	57.8	39.2	14.7	11.9	14.7	16.1	17.7	20	23.7	14.5	16	12
Lead	1210	176	33.1	62.7	87.8	56	87.7	94.1	298	126	89.1	44.8
Mercury	5.43	0.544	0.103	0.203	0.217	0.481	0.188	0.249	0.233	0.229	0.25	0.184
Nickel	12.7	14.1	8.08	6.28	7.24	7.78	8.71	8.39	10.6	5.9	8.3	6.1
Selenium	45.8	<8.16	<1.63	<1.67	2.23	<1.72	<4.76	<4.95	<1.37	<1.18	<1.26	<1.45
Silver	0.7	0.59	<0.41	<0.42	<0.43	<0.43	<0.48	<0.50	0.96	0.65	0.65	<0.29
Thallium	<0.31	<0.33	<0.33	<0.33	<0.34	<0.34	<0.38	<0.40	<1.37	<1.18	<1.26	<1.45
Vanadium	32.7	58.2	17.7	15.4	19.9	16.4	22.4	28.2	46.6	19.8	26.9	15.4
Zinc	1150	187	35.3	173	674	83.6	44.3	120	140	88.7	99.3	52.4

Table 9
Sediment Analytical Results Used in the Method 3 Risk Calculations
Wynn Resort Casino
Everett, Massachusetts

Sample ID:	GZ-126 0_5-2ft	GZ-126T 0-0_5ft	GZ-129T 0-0_5ft	GZ-130 0-0_5ft	GZ-131 0_5-2ft	GZ-131 0-0_5ft	GZ-132 0_5-2ft	GZ-132 0-0_5ft	GZ-133 0_5-2ft	GZ-133 0-0_5ft	Maximum Detected Concentration
Date Sampled:	08/05/2013	08/06/2013	08/06/2013	08/02/2013	08/02/2013	08/02/2013	08/05/2013	08/05/2013	08/05/2013	08/05/2013	
Depth (ft):	0.5-2	0-0.5	0-0.5	0-0.5	0.5-2	0-0.5	0.5-2	0-0.5	0.5-2	0-0.5	
Type:	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	
Analyte Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
8260B VOC- Low Level											
2-Butanone	-	-	-	-	-	-	-	-	-	-	0.012
Acetone	-	-	-	-	-	-	-	-	-	-	0.090
Carbon Disulfide	-	-	-	-	-	-	-	-	-	-	0.014
8082A Polychlorinated Biphenyls (PCBs)											
Total PCBs	<0.0310	0.071	-	-	-	-	-	-	-	-	3.9
8270D sVOC											
Benzo(a)anthracene	<0.203	0.368	-	-	-	-	-	-	-	-	0.44
Benzo(a)pyrene	<0.102	0.379	-	-	-	-	-	-	-	-	0.60
Benzo(b)fluoranthene	<0.203	0.486	-	-	-	-	-	-	-	-	0.98
Benzo(k)fluoranthene	<0.203	<0.252	-	-	-	-	-	-	-	-	0.34
bis(2-Ethylhexyl)phthalate	<0.203	0.42	-	-	-	-	-	-	-	-	543
Chrysene	<0.102	0.426	-	-	-	-	-	-	-	-	1.9
Di-n-octylphthalate	<0.203	<0.252	-	-	-	-	-	-	-	-	35
Fluoranthene	<0.203	0.649	-	-	-	-	-	-	-	-	4.9
Phenanthrene	<0.203	0.282	-	-	-	-	-	-	-	-	0.28
Pyrene	<0.203	0.597	-	-	-	-	-	-	-	-	5.3
8270D (SIM) Polynuclear Aromatic Hydrocarbons (PAH)											
2-Methylnaphthalene	<0.010	<0.064	-	-	-	-	-	-	-	-	0.42
Acenaphthene	<0.010	<0.064	-	-	-	-	-	-	-	-	0.27
Acenaphthylene	0.015	0.084	-	-	-	-	-	-	-	-	1.3
Anthracene	0.115	0.298	-	-	-	-	-	-	-	-	1.7
Benzo(a)anthracene	0.265	0.769	-	-	-	-	-	-	-	-	2.9
Benzo(a)pyrene	0.193	0.738	-	-	-	-	-	-	-	-	2.3
Benzo(b)fluoranthene	0.209	0.84	-	-	-	-	-	-	-	-	3.4
Benzo(g,h,i)perylene	0.091	0.443	-	-	-	-	-	-	-	-	1.0
Benzo(k)fluoranthene	0.074	0.29	-	-	-	-	-	-	-	-	1.4
Chrysene	0.209	0.67	-	-	-	-	-	-	-	-	3.5
Dibenzo(a,h)Anthracene	0.034	0.137	-	-	-	-	-	-	-	-	0.40
Fluoranthene	0.271	0.975	-	-	-	-	-	-	-	-	5.9
Fluorene	0.012	<0.064	-	-	-	-	-	-	-	-	0.38
Indeno(1,2,3-cd)Pyrene	0.105	0.532	-	-	-	-	-	-	-	-	1.2
Naphthalene	0.014	<0.064	-	-	-	-	-	-	-	-	1.4
Phenanthrene	0.067	0.341	-	-	-	-	-	-	-	-	1.9
Pyrene	0.341	1.08	-	-	-	-	-	-	-	-	5.4
MADEP-EPH											
C11-C22 Aromatics1,2	47.7	68	-	-	-	-	-	-	-	-	2480
C19-C36 Aliphatics1	<30.5	49.9	-	-	-	-	-	-	-	-	1570
C9-C18 Aliphatics1	<30.5	<37.9	-	-	-	-	-	-	-	-	262
MCP-14 Metals											
Antimony	<1.2	<1.4	<1.6	<1.6	<1.4	<1.4	<1.3	<1.4	1.8	<1.4	2.6
Arsenic	13.6	24.5	11.6	4.2	23.4	13.8	68.3	21.5	52.8	30.3	249
Barium	22.3	31.8	15	14.6	18.6	19	47.9	27.3	51.3	38.4	92
Beryllium	0.21	0.26	0.18	0.28	0.22	0.15	0.34	0.19	0.27	0.18	0.67
Cadmium	0.35	0.58	<0.32	<0.32	<0.27	<0.28	2.4	<0.28	0.34	<0.28	3.4
Chromium	12.3	19.1	16.6	15.2	16.2	14.7	20.8	18.1	29.6	18.1	91
Lead	91.6	140	44.4	9.2	112	65.2	238	100	218	149	1210
Mercury	0.253	0.506	<0.026	<0.030	0.225	0.269	0.41	0.296	1.05	0.497	12
Nickel	5.9	7.6	6.8	8.9	6.3	5.5	16.6	6.7	10	6	84
Selenium	<1.17	<1.37	<1.60	<1.62	4.43	<1.39	2.25	<1.42	<1.69	<1.38	104
Silver	0.39	0.66	0.42	<0.32	0.71	0.65	<1.29	0.85	1.6	0.9	4.1
Thallium	<1.17	<1.37	<1.60	<1.62	<1.35	<1.39	<1.29	<1.42	<1.69	<1.38	1.4
Vanadium	15.9	22.2	19.5	19.2	18.5	16.8	21.3	24.1	46.4	24.6	85
Zinc	55.2	102	67	29.8	132	72.7	1310	101	165	123	1310

Table 10
Exposure Assumption Values Used for Daily Intake Calculation: Sediment
Wynn Resort Casino
Everett, Massachusetts

Scenario Timeframe: Current and Future Land Use
Medium: Sediment
Exposure Medium: Sediment

Exposure Route	Receptor	Receptor Age	Exposure Points	Parameter Code	Parameter Definition	Value	Units	Rationale	Reference	Intake Equation (MassDEP, 2015)
Ingestion	Current and Future Trespasser	Adolescent (ages 11-18)	Sediment (0-2 ft)	OHM_{sed}	Chemical Concentration in Sediment	Maximum Concentration	mg/kg	Chemical specific	MassDEP, 2015 (310 CMR 40.0926)	The equation for Average Daily Dose (ADD) for Ingestion: $ADD_{ing} = \frac{[OHM]_{sed} \times IR \times RAF \times EF \times EP \times C}{BW \times AT}$
				IR-S	Ingestion Rate of Sediment	50	mg/day	Trespasser value	MassDEP, 2015	
				EF	Exposure Frequency	60	day/yr	2 days per week during non winter months (April-October)	MassDEP, 2015	
				EP	Exposure Period	7	yr	Based on age range	MassDEP, 2015	
				BW	Body Weight	50.7	kg	Trespasser value	MassDEP, 2015	
				AP-C	Averaging Period (Cancer)	25550	day	Lifetime (70 years)	MassDEP, 2015	
				AP-N	Averaging Period (Non-Cancer)	2555	day	365 days for 7 years	MassDEP, 2015	
				CF1	Conversion Factor	1.0.E-06	kg/mg	-		
Dermal	Current and Future Trespasser	Adolescent (ages 11-18)	Sediment (0-2 ft)	OHM_{sed}	Chemical Concentration in Sediment	Maximum Concentration	mg/kg	Chemical specific	MassDEP, 2015 (310 CMR 40.0926)	The equation for Average Daily Dose (ADD) for Dermal Contact: $ADD_{derm} = \frac{[OHM]_{sed} \times SA \times RAF_{derm} \times SAF \times EF \times EP \times C}{BW \times AT}$
				SAF	Surface Adherence Factor	0.14	mg/cm²-event	Trespasser value	MassDEP, 2015	
				RAF	Relative Absorption Factor	chemical-specific	unitless	Chemical specific	MassDEP, 2015	
				SA	Skin Surface Area Available For Contact	2940	cm^2	50th percentile of forearms hands and feet for females	MassDEP, 2015	
				EF	Exposure Frequency	60	day/yr	2 days per week during non winter months (April-October)	MassDEP, 2015	
				EP	Exposure Period	7	yr	Based on age range	MassDEP, 2015	
				BW	Body Weight	50.7	kg	Child park visitor value	MassDEP, 2015	
				AP-C	Averaging Period (Cancer)	25550	day	Lifetime (70 years)	MassDEP, 2015	
				AP-N	Averaging Period (Non-Cancer)	2555	day	365 days for 7 years	MassDEP, 2015	
				CF	Conversion Factor	1.0E-06	kg/mg	-		

Prepared by: KALS 12/2/2016
Checked by: LCG 12/6/2016

Notes:
EPC - Exposure Point Concentration. Calculations shown on Table 3
References:
MassDEP, 2015. Shortforms for Human Health Risk Assessment under the MCP. (March, 2015).
Exposure duration not included in ingestion and dermal assumptions due to value being 1 event per day.

Table 11
Exposure Point Concentrations
Wynn Resort Casino
Everett, Massachusetts

Compound	EPC [(a)] (mg/kg)
Metals	
Antimony	2.6
Arsenic	249
Barium	92
Beryllium	0.67
Cadmium	3.4
Chromium	91
Lead	1210
Mercury	12
Nickel	84
Selenium	104
Silver	4.1
Thallium	1.4
Vanadium	85
Zinc	1310
Volatile Organic Compounds	
2-Butanone	0.012
Acetone	0.090
Carbon Disulfide	0.014
Semi-Volatile Organic Compounds	
2-Methylnaphthalene	0.42
Acenaphthene	0.27
Acenaphthylene	1.3
Anthracene	1.7
Benzo(a)anthracene	2.9
Benzo(a)pyrene	2.3
Benzo(b)fluoranthene	3.4
Benzo(g,h,i)perylene	1.0
Benzo(k)fluoranthene	1.4
bis(2-Ethylhexyl)phthalate	543
Chrysene	3.5
Dibenzo(a,h)Anthracene	0.40
Di-n-octylphthalate	35
Fluoranthene	5.9
Fluorene	0.38
Indeno(1,2,3-cd)Pyrene	1.2
Naphthalene	1.4
Phenanthrene	1.9
Pyrene	5.4
PCBs	
Total PCBs	3.9
EPH	
C11-C22 Aromatics	2480
C19-C36 Aliphatics	1570
C9-C18 Aliphatics	262

Notes:
EPC - Exposure Point Concentration
EPH - Extractable Petroleum Hydrocarbons
PCBs - Polychlorinated Biphenyls
(a) The maximum detected concentration was selected as the EPC for all detected compounds.

Prepared by: KALS 12/5/2016
Checked by: LCG 12/6/2016

Table 12
Dose Response Information for Detected Compounds with Potential Non-Carcinogenic Effects
Wynn Resort Casino
Everett Massachusetts

OIL OR HAZARDOUS MATERIAL	CAS	Chronic Oral Reference Dose (mg/kg/day)		MassDEP 2015 Default? (Yes/No)
Metals				
ANTIMONY	7440360	4.0E-04	1	Yes
ARSENIC	7440382	3.0E-04	1	Yes
BARIUM	7440393	2.0E-01	1	Yes
BERYLLIUM	7440417	2.0E-03	1	Yes
CADMIUM	7440439	5.0E-04	1c	Yes
CHROMIUM	7440473	3.0E-03	1	Yes
LEAD	7439921	7.5E-04	4	Yes
MERCURY	7439976	3.0E-04	1x	Yes
NICKEL	7440020	2.0E-02	1	Yes
SELENIUM	7782492	5.0E-03	1	Yes
SILVER	7440224	5.0E-03	1	Yes
THALLIUM	7440280	8.0E-05	1f	Yes
VANADIUM	7440622	9.0E-03	1	Yes
ZINC	7440666	3.0E-01	1	Yes
Volatile Organic Compounds				
2-BUTANONE	78933	6.0E-01	1	Yes
ACETONE	67641	9.0E-01	1	Yes
CARBON DISULFIDE	75150	1.0E-01	1	No
Semi-Volatile Organic Compounds				
2-METHYLNAPHTHALENE	91576	4.0E-03	1	Yes
ACENAPHTHENE	83329	6.0E-02	1	Yes
ACENAPHTHYLENE	208968	3.0E-02	5d	Yes
ANTHRACENE	120127	3.0E-01	1	Yes
BENZO(a)ANTHRACENE	56553	3.0E-02	5d	Yes
BENZO(a)PYRENE	50328	3.0E-02	5d	Yes
BENZO(b)FLUORANTHENE	205992	3.0E-02	5d	Yes
BENZO(g,h,i)PERYLENE	191242	3.0E-02	5d	Yes
BENZO(k)FLUORANTHENE	207089	3.0E-02	5d	Yes
BIS(2-ETHYLHEXYL)PHTHALATE	117817	2.0E-02	1	Yes
CHRYSENE	218019	3.0E-02	5d	Yes
DIBENZO(a,h)ANTHRACENE	53703	3.0E-02	5d	Yes
DI-N-OCTYLPHTHALATE	117840	1.0E-02	6	No
FLUORANTHENE	206440	4.0E-02	1	Yes
FLUORENE	86737	4.0E-02	1	Yes
INDENO(1,2,3-cd)PYRENE	193395	3.0E-02	5d	Yes
NAPHTHALENE	91203	2.0E-02	1	Yes
PHENANTHRENE	85018	3.0E-02	5d	Yes
PYRENE	129000	3.0E-02	1	Yes
PCBs				
POLYCHLORINATED BIPHENYLS (PCBs)	1336363	2.0E-05	1	Yes
EPH				
C9-C18 ALIPHATICS	C9C18Aliph	1.0E-01	5c	Yes
C11-C22 AROMATICS	C11C22Arom	3.0E-02	5c	Yes
C19-C36 ALIPHATICS	C19C36Aliph	2.0E+00	5c	Yes

Table 12
Dose Response Information for Detected Compounds with Potential Non-Carcinogenic Effects
Wynn Resort Casino
Everett Massachusetts

OIL OR HAZARDOUS MATERIAL	CAS	Chronic Oral Reference Dose (mg/kg/day)	MassDEP 2015 Default? (Yes/No)

Notes:

Preapared by: KALS 12/5/2016

Checked by: LCG 12/6/2016

CAS - Chemical Abstracts Service Number.

EPH - Extractable Petroleum Hydrocarbons.

PCBs - Polychlorinated Biphenyls.

MassDEP obtains dose-response values from several sources. Per 310 CMR 40.0993(5)(a), preference is given to dose-response values derived by the MassDEP. MassDEP default values have been used where available.

The notes provided by MassDEP are as follows:

1 - USEPA, Integrated Risk Information System (IRIS). Current as of December 2016.

1c - IRIS lists two oral RfDs for cadmium, one for food and one for water exposure. The more conservative is used.

1f - This value was withdrawn from IRIS. MassDEP continues to use it pending new toxicity information.

1x - IRIS value for Mercuric Chloride.

4 - Developed for the Risk Assessment ShortForm - Residential Scenario (MassDEP, 1992) by MassDEP staff. Documentation of this value may be found in Appendix D of that document (Lead).

5c - Final Updated Petroleum Hydrocarbon Fraction Toxicity Values for the VPH/EPH/APH Methodology. See: http://www.mass.gov/dep/cleanup/laws/tphtox03.doc

5d - Toxicity values for PAHs are consistent with the approach presented in "Updated Petroleum Hydrocarbon Fraction Toxicity Values for the VPH/EPH/APH Methodology" MassDEP 2003 and Characterizing Risks Posed by Petroleum Contaminated Sites MassDEP 2002.

6 - PPRTVs

For compounds not provided by MassDEP, toxicity values have been selected from the following sources using this hierarchy:

Tier 1: IRIS - Integrated Risk Information System (USEPA, 2016) (http://www.epa.gov/IRIS/).

Tier 2: PPRTV (X) - Preliminary Peer-Reviewed Toxicity Value or Appendix (X) from the National Center for Environmental Assessment (NCEA) (http://hhpprtv.ornl.gov/).

Table 13
Dose Response Information for Detected Compounds with Potential Carcinogenic Effects
Wynn Resort Casino
Everett, Massachusetss

OIL OR HAZARDOUS MATERIAL	CAS	Carcinogen Class	Oral Cancer Slope Factor (mg/kg/day)$^{-1}$		MassDEP 2015 Default? (Yes/No)
Metals					
ANTIMONY	7440360		NA		--
ARSENIC	7440382	A	1.5E+00	1	Yes
BARIUM	7440393		NA		--
BERYLLIUM	7440417		NA		--
CADMIUM	7440439	B1	NA	1	--
CHROMIUM	7440473	D	NA	1	--
LEAD	7439921	B2	NA	1	--
MERCURY	7439976	D	NA	1	--
NICKEL	7440020		NA		--
SELENIUM	7782492	D	NA	1	--
SILVER	7440224	D	NA	1	--
THALLIUM	7440280		NA		--
VANADIUM	7440622		NA		--
ZINC	7440666	D	NA	1	--
Volatile Organic Compounds					
2-BUTANONE	78933	D	NA	1	--
ACETONE	67641	D	NA	1	--
CARBON DISULFIDE	75150		NA		--
Semi-Volatile Organic Compounds					
2-METHYLNAPHTHALENE	91576		NA		--
ACENAPHTHENE	83329		NA		--
ACENAPHTHYLENE	208968	D	NA	1	--
ANTHRACENE	120127	D	NA	1	--
BENZO(a)ANTHRACENE	56553	B2	7.3E-01	1e	Yes
BENZO(a)PYRENE	50328	B2	7.3E+00	1	Yes
BENZO(b)FLUORANTHENE	205992	B2	7.3E-01	1e	Yes
BENZO(g,h,i)PERYLENE	191242		NA		--
BENZO(k)FLUORANTHENE	207089	B2	7.3E-02	1e	Yes
BIS(2-ETHYLHEXYL)PHTHALATE	117817	B2	1.4E-02	1	Yes
CHRYSENE	218019	B2	7.3E-02	1e	Yes
DIBENZO(a,h)ANTHRACENE	53703	B2	7.3E+00	1e	Yes
DI-N-OCTYLPHTHALATE	117840		NA		--
FLUORANTHENE	206440	D	NA	1	--
FLUORENE	86737	D	NA	1	--
INDENO(1,2,3-cd)PYRENE	193395	B2	7.3E-01	1e	Yes
NAPHTHALENE	91203	C	NA	1	--
PHENANTHRENE	85018	D	NA	1	--
PYRENE	129000	D	NA	1	--
PCBs					
POLYCHLORINATED BIPHENYLS (PCBs)	1336363	B2	2.0E+00	1	Yes
EPH					
C9-C18 ALIPHATICS	C9C18Aliph		NA		--
C11-C22 AROMATICS	C11C22Arom		NA		--
C19-C36 ALIPHATICS	C19C36Aliph		NA		--

Notes:

Preapared by: KALS 12/5/2016

Checked by: LCG 12/6/2016

CAS - Chemical Abstracts Service Number.

EPH - Extractable Petroleum Hydrocarbons.

NA - Not Available

PCBs - Polychlorinated Biphenyls.

MassDEP obtains dose-response values from several sources. Per 310 CMR 40.0993(5)(a), preference is given to dose-response values derived by the MassDEP. MassDEP default values have been used where available.

The notes provided by MassDEP are as follows:

1 - USEPA, Integrated Risk Information System (IRIS). Current as of December 2016.

1e - The IRIS Oral Cancer Slope Factor for benzo(a)pyrene is the basis for the Oral Cancer Slope Factor applied to the seven PAH compounds which are designated as category A, B1, B2 or C carcinogens.

Table 14
Relative Absorption Factors
Wynn Resort Casino
Everett, Massachusetts

OIL OR HAZARDOUS MATERIAL	CAS	Soil RAFs							
		Chronic Ingestion $RAF_{nc\text{-}ing}$		Chronic Dermal $RAF_{nc\text{-}derm}$		Cancer Ingestion $RAF_{c\text{-}ing}$		Cancer Dermal $RAF_{c\text{-}derm}$	
Metals									
ANTIMONY	7440360	1	9e	0.1	9e	NA		NA	
ARSENIC	7440382	0.5	9e	0.03	9f	0.5	9e	0.03	9e
BARIUM	7440393	1	9e	0.1	9e	NA		NA	
BERYLLIUM	7440417	1	9e	0.1	9e	NA		NA	
CADMIUM	7440439	0.5	9g	0.01	9e	NA		NA	
CHROMIUM	7440473	1	9e	0.1	9e	NA		NA	
LEAD	7439921	0.5	9	0.006	9	NA		NA	
MERCURY	7439976	0.5	9e	0.1	9e	NA		NA	
NICKEL	7440020	1	9e	0.2	9e	NA		NA	
SELENIUM	7782492	1	9e	0.01	9e	NA		NA	
SILVER	7440224	1	9e	0.3	9e	NA		NA	
THALLIUM	7440280	1	9e	0.01	9e	NA		NA	
VANADIUM	7440622	1	9e	0.1	9e	NA		NA	
ZINC	7440666	1	9e	0.1	9e	NA		NA	
Volatile Organic Compounds									
2-BUTATNONE	78933	1	9e	0.03	9e	NA		NA	
ACETONE	67641	1	9e	0.03	9e	NA		NA	
CARBON DISULFIDE	75150	0.99	9x	0.11	9x	NA		NA	
Semi-Volatile Organic Compounds									
2-METHYLNAPHTHALENE	91576	0.3	9d	0.1	9d	NA		NA	
ACENAPHTHENE	83329	0.3	9d	0.1	9d	NA		NA	
ACENAPHTHYLENE	208968	0.3	9d	0.1	9d	NA		NA	
ANTHRACENE	120127	0.3	9d	0.1	9d	NA		NA	
BENZO(a)ANTHRACENE	56553	0.3	9d	0.02	9d	0.3	9d	0.02	9d
BENZO(a)PYRENE	50328	0.3	9d	0.02	9d	0.3	9d	0.02	9d
BENZO(b)FLUORANTHENE	205992	0.3	9d	0.02	9d	0.3	9d	0.02	9d
BENZO(g,h,i)PERYLENE	191242	0.3	9d	0.1	9d	NA		NA	
BENZO(k)FLUORANTHENE	207089	0.3	9d	0.02	9d	0.3	9d	0.02	9d
BIS(2-ETHYLHEXYL)PHTHALATE	117817	1	9e	0.1	9e	1	9e	0.1	9e
CHRYSENE	218019	0.3	9d	0.02	9d	0.3	9d	0.02	9d
DIBENZO(a,h)ANTHRACENE	53703	0.3	9d	0.02	9d	0.3	9d	0.02	9d
DI-N-OCTYLPHTHALATE	117840	0.91	9x	0.17	9x	NA		NA	
FLUORANTHENE	206440	0.3	9d	0.1	9d	NA		NA	
FLUORENE	86737	0.3	9d	0.1	9d	NA		NA	
INDENO(1,2,3-cd)PYRENE	193395	0.3	9d	0.02	9d	0.3	9d	0.02	9d
NAPHTHALENE	91203	0.3	9d	0.1	9d	NA		NA	
PHENANTHRENE	85018	0.3	9d	0.1	9d	NA		NA	
PYRENE	129000	0.3	9d	0.1	9d	NA		NA	
PCBs									
POLYCHLORINATED BIPHENYLS (PCBs)	1336363	1	9e	0.1	9a	1	9e	0.1	9a
EPH									
C9-C18 ALIPHATICS	C9C18Aliph	1	9e	0.2	9e	NA		NA	
C11-C22 AROMATICS	C11C22Arom	0.3	9d	0.1	9d	NA		NA	
C19-C36 ALIPHATICS	C19C36Aliph	1	9e	0.2	9e	NA		NA	

Table 14
Relative Absorption Factors
Wynn Resort Casino
Everett, Massachusetts

OIL OR HAZARDOUS MATERIAL	CAS	Soil RAFs			
		Chronic Ingestion $RAF_{nc\text{-}ing}$	Chronic Dermal $RAF_{nc\text{-}derm}$	Cancer Ingestion $RAF_{c\text{-}ing}$	Cancer Dermal $RAF_{c\text{-}derm}$

Notes:

Preapared by: KALS 12/5/2016

NA-Not available

Checked by: LCG 12/6/2016

RAFs - Relative Absorption Factors

MassDEP obtains RAFs from several sources. Per 310 CMR 40.0993(5)(a), preference is given to RAFs derived by the MassDEP. MassDEP default values have been used where available.

The notes provided by MassDEP are as follows:

9 - MassDEP 2012 RAF Review. Unless specified otherwise, due to data limitations and consistent with the approach in Ontario Ministry of the Environment (2011 - for full reference see note 48e), a default RAF of 1 was chosen for all organic compounds for oral ingestion of contaminated soil and water.

9a - MassDEP 2012 RAF Review - Dermal RAFs for dioxins, furans, and PCBs consider data presented in: Brewster DW, Banks YB, Clark AM and Birbaum LS. (1998). Comparative Dermal Absorption of 2,3,7,8-Tetrachlorodibenzo-p-dioxin and Three Polychlorinated Dibenzofurans. Toxicol Appl Pharacol 97(1):156-166.
Mayes BA, Brown GL, Mondello FJ, Holtzclaw KW, Hamilton SB, Ramsey AA. (2002).Dermal Absorption in Rhesus Monkeys of Polychlorinated Biphenyls from Soil Contaminated With Aroclor 1260. Regul Toxicol Pharmacol 35(3):289-295.
Roy TA, Hammerstron AK and Schaum J. (2008). Percutaneous Absorption of 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) from Soil. J. Toxicol Environ Health, Part A: Current Issues: 1509-1515.
Wester RC, Maibach HI, Sedik L, Melendres J, and Wade M. (1993). Percutaneous Absorption of PCBs from Soil: In-vivo Rhesus Monkey, In-vitro Human Skin, and Binding to Powered Human Stratum Corneum. J. Toxicol. Environ. Health 39:375-382.
Absorption of these compounds from soil with high to low organic content has been reported to range from less than 1% to over 10%. In light of the variability in the reported dermal absorption values and study characteristics, a default value of 0.1 was selected, which is toward the high end of the reported values.

9d - MassDEP 2012 RAF Review - Based on Magee B, Andersen P and Burmaster. (1996). Absorption Adjustment Factor (AAF) Distributions for Polycyclic Aromatic Hydrocarbons (PAHs). Human and Ecological Risk Assessment 2:841-873.

9e - MassDEP 2012 RAF Review - Based on Ontario Ministry of the Environment (2011). Rationale for the Development of Soil and Ground Water Standards for Use at Contaminated Sites in Ontario (April 15, 2011, Standards Development Branch, Ontario Ministry of the Environment (see Section 2.6, Development of Relative Absorption Factors, pp 61-67 and Table 2.35b Estimation of Dermal Relative Absorption Factors (RAFs) PP 120- 141)
http://www.ene.gov.on.ca/environment/en/resources/STDPROD_081485.html; Accessed March 22, 2012.

9f - MassDEP 2012 RAF Review - Based on USEPA (2004). Risk Assessment Guidance for Superfund Volume 1: Human Health Evaluation Manual Part E, Supplemental Guidance for Dermal Risk Assessment.

9x - Default values for chemical class selected from MassDEP, 1995. Guidance for Disposal Site Risk Characterization, Table B-11.

Table 15
Current and Future Trespasser - Ingestion and Dermal Contact with Sediment 0-2 ft
Wynn Resort Casino
Everett, Massachusetts

Receptor:	Trespasser Older Child
Exposure Medium:	Sediment
Scenario Time Frame:	Current and future
Depth:	0-2
Duration:	Chronic

Parameter	Definition	Units	Value
Irsed	Sediment Ingestion Rate	mg/d	50
SA	Sediment Dermal Contact Skin Exposed	cm2/d	2940
SAF	Sediment Dermal Contact Adherence Rate	mg/cm2	0.14
EF	Sediment Exposure Frequency	d/y	60
EP	Sediment Exposure Period	y	7
ATc	Sediment Averaging Time - Cancer	d	25550
ATn	Sediment Averaging Time - Non-Cancer	d	2555
BW	Body Weight	kg	50.7
CF	Conversion Factor	kg/mg	0.000001

$$Equation\ 1: ADD_{ing} = \frac{[OHM]_{sed} \times IR_{sed} \times RAF \times EF \times EP \times C}{AP \times BW}$$

$$Equation\ 2: ADD_{der} = \frac{[OHM]_{sed} \times SA \times SAF \times RAF \times EF \times EP \times C}{AP \times BW}$$

$$Equation\ 3: HI = \frac{ADD_{ing}}{RfD_{oral}} + \frac{ADD_{derm}}{RfD_{oral}}$$

$$Equation\ 4: ELCR = (LADD_{ing} \times CSF_{oral}) + (LADD_{derm} \times CSF_{oral})$$

Equation:				1			2		3			1			2		4
	$[OHM]_{sed}$	Incidental Ingestion - Noncancer				Dermal Contact - Noncancer			Totals	Incidental Ingestion - Cancer				Dermal Contact - Cancer			Total
Compound	Concentration in Sediment 0-2 ft (mg/kg)	Chronic Oral RfD (mg/kg-d)	Chronic $RAF_{nc\text{-}ing}$ (-)	$ADD_{nc\text{-}ing}$ mg/kg-d	HQ_{ing} (-)	Chronic $RAF_{derm\text{-}nc}$ (-)	$ADD_{nc\text{-}derm}$ mg/kg-d	HQ_{dermal} (-)	Chronic HQ (Site-Wide Soil) (-)	Oral CSF 1/(mg/kg-d)	$RAF_{cancer\text{-}ing}$ (-)	$LADD_{ing}$ mg/kg-d	$Risk_{ingestion}$ (-)	$RAF_{cancer\text{-}derm}$ (-)	$LADD_{derm}$ mg/kg-d	$Risk_{dermal}$ (-)	ELCR (Site-Wide Soil) (-)
Metals																	
ANTIMONY	2.6	4.0E-04	1	4.21E-07	1.05E-03	0.1	3.47E-07	8.67E-04	1.92E-03	NA	NA	NC	NC	NA	NC	NC	NC
ARSENIC	249	3.0E-04	0.5	2.02E-05	6.73E-02	0.03	9.97E-06	3.32E-02	1.01E-01	1.5E+00	0.5	2.02E-06	3.03E-06	0.03	9.97E-07	1.50E-06	4.52E-06
BARIUM	92	2.0E-01	1	1.48E-05	7.42E-05	0.1	1.22E-05	6.11E-05	1.35E-04	NA	NA	NC	NC	NA	NC	NC	NC
BERYLLIUM	0.67	2.0E-03	1	1.09E-07	5.43E-05	0.1	8.94E-08	4.47E-05	9.90E-05	NA	NA	NC	NC	NA	NC	NC	NC
CADMIUM	3.4	5.0E-04	0.5	2.76E-07	5.51E-04	0.01	4.54E-08	9.07E-05	6.42E-04	NA	NA	NC	NC	NA	NC	NC	NC
CHROMIUM	91	3.0E-03	1	1.48E-05	4.94E-03	0.1	1.22E-05	4.07E-03	9.00E-03	NA	NA	NC	NC	NA	NC	NC	NC
LEAD	1210	7.5E-04	0.5	9.81E-05	1.31E-01	0.006	9.69E-06	1.29E-02	1.44E-01	NA	NA	NC	NC	NA	NC	NC	NC
MERCURY	12	3.0E-04	0.5	9.65E-07	3.22E-03	0.1	1.59E-06	5.29E-03	8.51E-03	NA	NA	NC	NC	NA	NC	NC	NC
NICKEL	84	2.0E-02	1	1.37E-05	6.84E-04	0.2	2.25E-05	1.13E-03	1.81E-03	NA	NA	NC	NC	NA	NC	NC	NC
SELENIUM	104	5.0E-03	1	1.69E-05	3.37E-03	0.01	1.39E-06	2.78E-04	3.65E-03	NA	NA	NC	NC	NA	NC	NC	NC
SILVER	4.1	5.0E-03	1	6.61E-07	1.32E-04	0.3	1.63E-06	3.27E-04	4.59E-04	NA	NA	NC	NC	NA	NC	NC	NC
THALLIUM	1.4	8.0E-05	1	2.22E-07	2.78E-03	0.01	1.83E-08	2.29E-04	3.00E-03	NA	NA	NC	NC	NA	NC	NC	NC
VANADIUM	85	9.0E-03	1	1.37E-05	1.52E-03	0.1	1.13E-05	1.25E-03	2.78E-03	NA	NA	NC	NC	NA	NC	NC	NC
ZINC	1310	3.0E-01	1	2.12E-04	7.08E-04	0.1	1.75E-04	5.83E-04	1.29E-03	NA	NA	NC	NC	NA	NC	NC	NC
Volatile Organic Compounds																	
2-BUTANONE	0.012	6.0E-01	1	1.93E-09	3.22E-09	0.03	4.76E-10	7.94E-10	4.01E-09	NA	NA	NC	NC	NA	NC	NC	NC
ACETONE	0.090	9.0E-01	1	1.46E-08	1.62E-08	0.03	3.60E-09	3.99E-09	2.02E-08	NA	NA	NC	NC	NA	NC	NC	NC
CARBON DISULFIDE	0.014	1.0E-01	0.99	2.28E-09	2.28E-08	0.11	2.08E-09	2.08E-08	4.36E-08	NA	NA	NC	NC	NA	NC	NC	NC
Semi-Volatile Organic Compounds																	
2-METHYLNAPHTHALENE	0.42	4.0E-03	0.3	2.06E-08	5.14E-06	0.1	5.65E-08	1.41E-05	1.93E-05	NA	NA	NC	NC	NA	NC	NC	NC
ACENAPHTHENE	0.27	6.0E-02	0.3	1.32E-08	2.20E-07	0.1	3.62E-08	6.03E-07	8.22E-07	NA	NA	NC	NC	NA	NC	NC	NC
ACENAPHTHYLENE	1.3	3.0E-02	0.3	6.27E-08	2.09E-06	0.1	1.72E-07	5.74E-06	7.83E-06	NA	NA	NC	NC	NA	NC	NC	NC
ANTHRACENE	1.7	3.0E-01	0.3	8.46E-08	2.82E-07	0.1	2.32E-07	7.74E-07	1.06E-06	NA	NA	NC	NC	NA	NC	NC	NC
BENZO(a)ANTHRACENE	2.9	3.0E-02	0.3	1.39E-07	4.62E-06	0.02	7.61E-08	2.54E-06	7.16E-06	7.3E-01	0.3	1.39E-08	1.01E-08	0.02	7.61E-09	5.55E-09	1.57E-08
BENZO(a)PYRENE	2.3	3.0E-02	0.3	1.13E-07	3.78E-06	0.02	6.22E-08	2.07E-06	5.85E-06	7.3E+00	0.3	1.13E-08	8.27E-08	0.02	6.22E-09	4.54E-08	1.28E-07
BENZO(b)FLUORANTHENE	3.4	3.0E-02	0.3	1.63E-07	5.45E-06	0.02	8.97E-08	2.99E-06	8.44E-06	7.3E-01	0.3	1.63E-08	1.19E-08	0.02	8.97E-09	6.55E-09	1.85E-08
BENZO(g,h,i)PERYLENE	1.0	3.0E-02	0.3	4.96E-08	1.65E-06	0.1	1.36E-07	4.54E-06	6.19E-06	NA	NA	NC	NC	NA	NC	NC	NC
BENZO(k)FLUORANTHENE	1.4	3.0E-02	0.3	6.91E-08	2.30E-06	0.02	3.79E-08	1.26E-06	3.57E-06	7.3E-02	0.3	6.91E-09	5.04E-10	0.02	3.79E-09	2.77E-10	7.81E-10
BIS(2-ETHYLHEXYL)PHTHALATE	543	2.0E-02	1	8.80E-05	4.40E-03	0.1	7.25E-05	3.62E-03	8.02E-03	1.4E-02	1	8.80E-06	1.23E-07	0.1	7.25E-06	1.01E-07	2.25E-07
CHRYSENE	3.5	3.0E-02	0.3	1.71E-07	5.69E-06	0.02	9.37E-08	3.12E-06	8.81E-06	7.3E-02	0.3	1.71E-08	1.25E-09	0.02	9.37E-09	6.84E-10	1.93E-09
DIBENZO(a,h)ANTHRACENE	0.40	3.0E-02	0.3	1.92E-08	6.40E-07	0.02	1.05E-08	3.51E-07	9.92E-07	7.3E+00	0.3	1.92E-09	1.40E-08	0.02	1.05E-09	7.70E-09	2.17E-08
DI-N-OCTYLPHTHALATE	35	1.0E-02	0.91	5.13E-06	5.13E-04	0.17	7.90E-06	7.90E-04	1.30E-03	NA	NA	NC	NC	NA	NC	NC	NC
FLUORANTHENE	5.9	4.0E-02	0.3	2.86E-07	7.16E-06	0.1	7.86E-07	1.97E-05	2.68E-05	NA	NA	NC	NC	NA	NC	NC	NC
FLUORENE	0.38	4.0E-02	0.3	1.84E-08	4.60E-07	0.1	5.04E-08	1.26E-06	1.72E-06	NA	NA	NC	NC	NA	NC	NC	NC
INDENO(1,2,3-cd)PYRENE	1.2	3.0E-02	0.3	6.03E-08	2.01E-06	0.02	3.31E-08	1.10E-06	3.11E-06	7.3E-01	0.3	6.03E-09	4.40E-09	0.02	3.31E-09	2.42E-09	6.82E-09
NAPHTHALENE	1.4	2.0E-02	0.3	6.86E-08	3.43E-06	0.1	1.88E-07	9.41E-06	1.28E-05	NA	NA	NC	NC	NA	NC	NC	NC
PHENANTHRENE	1.9	3.0E-02	0.3	9.24E-08	3.08E-06	0.1	2.54E-07	8.45E-06	1.15E-05	NA	NA	NC	NC	NA	NC	NC	NC
PYRENE	5.4	3.0E-02	0.3	2.61E-07	8.71E-06	0.1	7.17E-07	2.39E-05	3.26E-05	NA	NA	NC	NC	NA	NC	NC	NC

Table 15
Current and Future Trespasser - Ingestion and Dermal Contact with Sediment 0-2 ft
Wynn Resort Casino
Everett, Massachusetts

Receptor:	Trespasser Older Child
Exposure Medium:	Sediment
Scenario Time Frame:	Current and future
Depth:	0-2
Duration:	Chronic

Parameter	Definition	Units	Value
Irsed	Sediment Ingestion Rate	mg/d	50
SA	Sediment Dermal Contact Skin Exposed	cm2/d	2940
SAF	Sediment Dermal Contact Adherence Rate	mg/cm2	0.14
EF	Sediment Exposure Frequency	d/y	60
EP	Sediment Exposure Period	y	7
ATc	Sediment Averaging Time - Cancer	d	25550
ATn	Sediment Averaging Time - Non-Cancer	d	2555
BW	Body Weight	kg	50.7
CF	Conversion Factor	kg/mg	0.000001

$$Equation\ 1: ADD_{ing} = \frac{[OHM]_{sed} \times IR_{sed} \times RAF \times EF \times EP \times C}{AP \times BW}$$

$$Equation\ 2: ADD_{der} = \frac{[OHM]_{sed} \times SA \times SAF \times RAF \times EF \times EP \times C}{AP \times BW}$$

$$Equation\ 3: HI = \frac{ADD_{ing}}{RfD_{oral}} + \frac{ADD_{derm}}{RfD_{oral}}$$

$$Equation\ 4: ELCR = (LADD_{ing} \times CSF_{oral}) + (LADD_{derm} \times CSF_{oral})$$

Equation:				**1**			**2**		**3**			**1**			**2**		**4**
	$[OHM]_{sed}$	**Incidental Ingestion - Noncancer**				**Dermal Contact - Noncancer**			**Totals**	**Incidental Ingestion - Cancer**				**Dermal Contact - Cancer**			**Total**
Compound	Concentration in Sediment 0-2 ft (mg/kg)	Chronic Oral RfD (mg/kg-d)	Chronic $RAF_{nc\text{-}ing}$ (-)	$ADD_{nc\text{-}ing}$ mg/kg-d	HQ_{ing} (-)	Chronic $RAF_{derm\text{-}nc}$ (-)	$ADD_{nc\text{-}derm}$ mg/kg-d	HQ_{dermal} (-)	Chronic HQ (Site-Wide Soil) (-)	Oral CSF 1/(mg/kg-d)	$RAF_{cancer\text{-}ing}$ (-)	$LADD_{ing}$ mg/kg-d	$Risk_{ingestion}$ (-)	$RAF_{cancer\text{-}derm}$ (-)	$LADD_{derm}$ mg/kg-d	$Risk_{dermal}$ (-)	ELCR (Site-Wide Soil) (-)
PCBs																	
TOTAL PCBs	3.9	2.0E-05	1	6.38E-07	3.19E-02	0.1	5.25E-07	2.63E-02	5.82E-02	2.0E+00	1	6.38E-08	1.28E-07	0.1	5.25E-08	1.05E-07	2.33E-07
EPH																	
C9-C18 ALIPHATICS	262	1.0E-01	1	4.25E-05	4.25E-04	0.2	6.99E-05	6.99E-04	1.12E-03	NA	NA	NC	NC	NA	NC	NC	NC
C11-C22 AROMATICS	2480	3.0E-02	0.3	1.21E-04	4.02E-03	0.1	3.31E-04	1.10E-02	1.51E-02	NA	NA	NC	NC	NA	NC	NC	NC
C19-C36 ALIPHATICS	1570	2.0E+00	1	2.55E-04	1.27E-04	0.2	4.19E-04	2.10E-04	3.37E-04	NA	NA	NC	NC	NA	NC	NC	NC
Total					0.26			0.10					3.40E-06			1.77E-06	
								Total HI:	**0.4**							**Total ELCR:**	**5E-06**

Notes:
ADD - Average Daily Dose (non-carcinogens).
LADD - Lifetime Average Daily Dose (carcinogens) - The equation is exactly the same as the ADD, however encompasses lifetime exposure assumptions.
HI - Hazard Index
HQ - Hazard Quotient
ELCR - Excess Lifetime Cancer Risk
CSF - Cancer Slope Factor
NA - Not available
NC - Not calculated
PCBs - Polychlorinated Biphenyls.
EPH - Extractable Petroleum Hydrocarbons.

Prepared By: KALS 12/6/2016
Checked By: LCG 12/6/2016

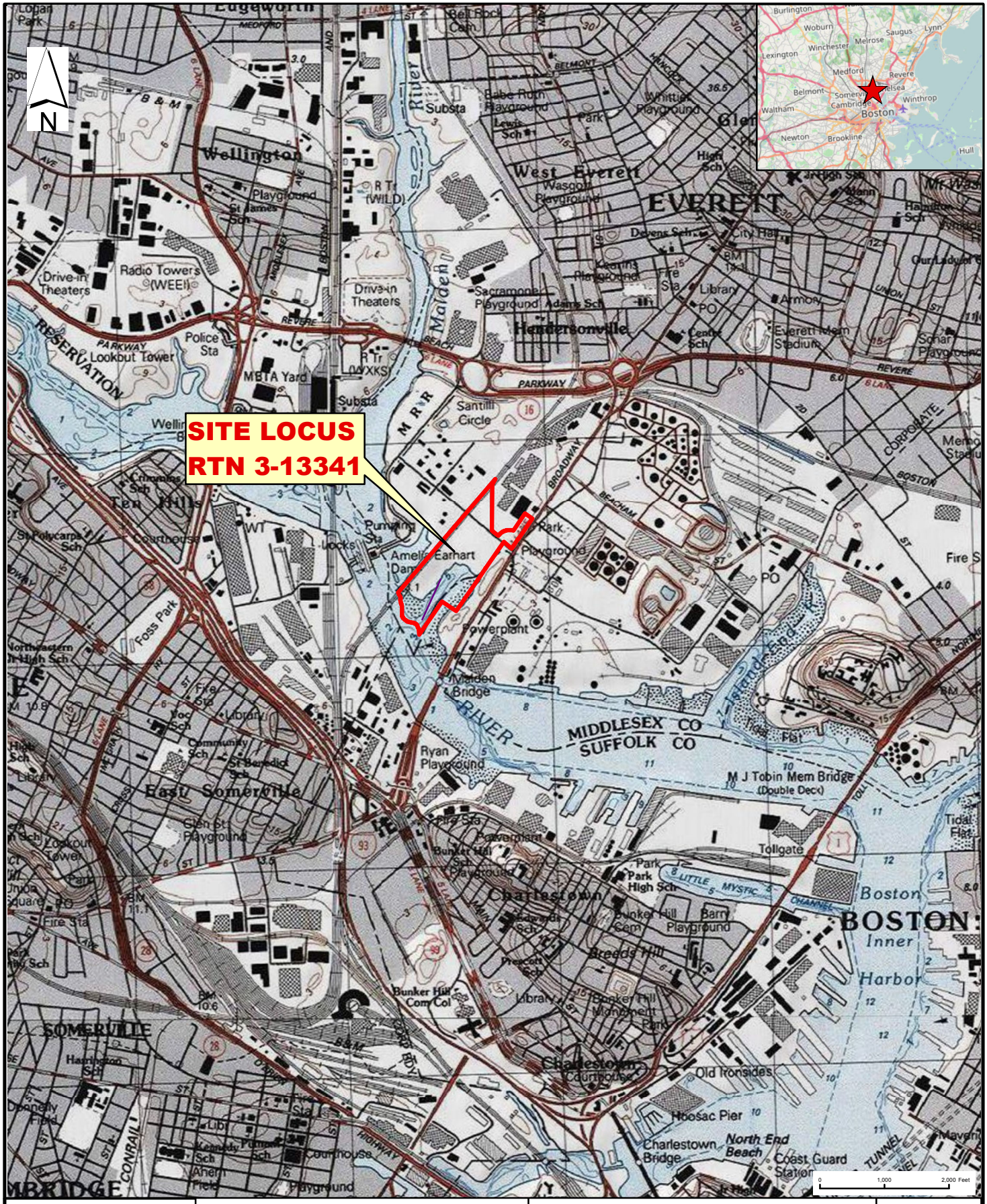
Table 16
Summary of Potential Carcinogenic Risk and Hazard Index
Wynn Resort Casino
Everett, Massachusetts

Receptor	Exposure Media/Route	HI	ELCR
Trespasser	Sediment - Dermal Contact	0.10	1.77E-06
	Sediment - Ingestion	0.26	3.40E-06
	Total:	**0.4**	**5E-06**

Notes:
HI - Hazard Index
ELCR - Excess Lifetime Cancer Risk

Prepared By: KALS 12/7/2016
Checked By: LCG 12/7/2016

FIGURES



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SITE:
Former Everett Staging Yard
1 Horizon Way, Everett, MA
RTN 3-13341

Approximate Parcel Boundary

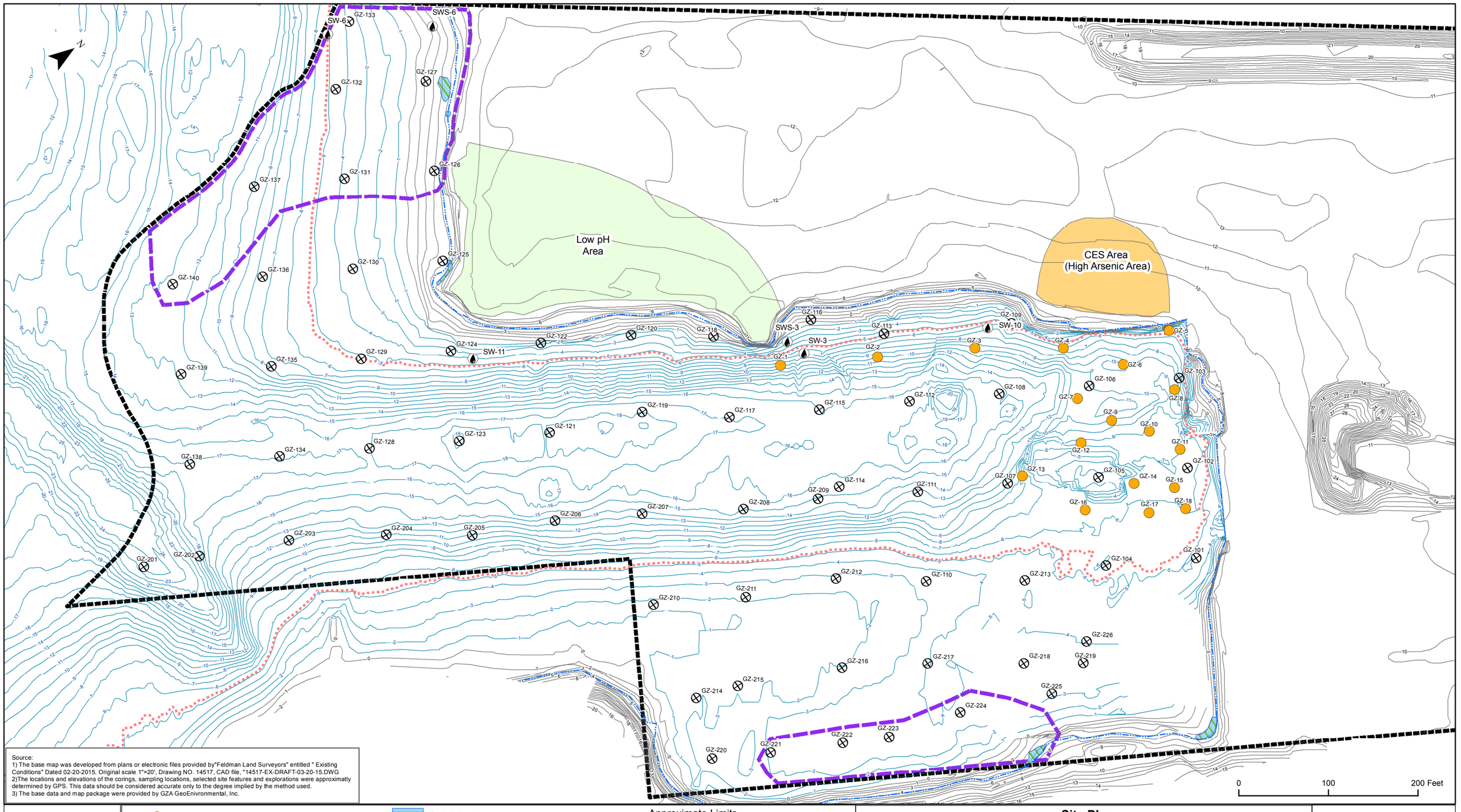
TITLE:
Site Location Map

1

SCALE:	DATE:	PROJECT:
1 inch = 2,000 feet	12/23/2016	3651160042.003

DRAWN BY: M. Martin **CHECKED BY:** C. Platt

LOCATION: P:\Comm-Ind\Projects\Clients T to Z\Wynn\3651160042\GIS



Source:
1) The base map was developed from plans or electronic files provided by"Feldman Land Surveyors" entitled " Existing Conditions" Dated 02-20-2015, Original scale 1"=20', Drawing NO. 14517, CAD file, "14517-EX-DRAFT-03-20-15.DWG
2)The locations and elevations of the corings, sampling locations, selected site features and explorations were approximatly determined by GPS. This data should be considered accurate only to the degree implied by the method used.
3) The base data and map package were provided by GZA GeoEnivronmental, Inc.

amec foster wheeler

- 2013 Core Locations for Dredge Permits
- 2013 and 2015 Sediment Core Locations
- GZA Surface Water, Surface Water Seep
- Approximate Parcel Boundary
- Salt Marsh
- Bathymetric Contour (<0) NAVD88
- Topographic Contour (>0) NAVD88
- Mean Low Water
- Mean High Water
- Approximate Limits of Low Penetration Depth and Shallow Refusals
- CES Area (High Arsenic Area)
- Low pH Area

Site Plan
Former Everett Staging Yard
1 Horizon Way, Everett, MA
RTN 313341

Drawn By: M. Martin	Checked By: C. Platt
PROJECT NO: 3651160042.003	Date :12/19/2016

FIGURE NO:
2

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SITE:
Former Everett Staging Yard
1 Horizon Way, Everett, MA
RTN 3-13341

Mystic River Sample Locations

Approximate Parcel Boundary

TITLE:
GZA Mystic River Sediment Sample Locations

SCALE:	DATE:	PROJECT:
1 inch = 600 feet	12/19/2016	3651160042.003

DRAWN BY: M. Martin **CHECKED BY:** C. Platt

LOCATION: P:\Comm-Ind\Projects\Clients T to Z\Wynn\3651160042\GIS

3



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SITE:

Former Everett Staging Yard
1 Horizon Way, Everett, MA
RTN 3-13341

Source:
WehranEnviroTech, A study of the Mystic, Malden, and Island End Rivers (May 1989)

Breault, R.F., Durant, J.L., and Robatt, A., 2005. "Sediment Quality of Lakes, River, and Estuaries in the Mystic River Basin, Eastern Massachusetts, 2001-03." U.S. Geological Survey Scientific Investigations Report 2005-5191.

TITLE:

Local Conditions Sample Locations

SCALE: 1 " = 2,000 '	**DATE:** 12/19/2016	**PROJECT:** 3651160042.003	4
DRAWN BY: M. Martin	**CHECKED BY:** C. Platt		
LOCATION: P:\Comm-Ind\Projects\Clients T to Z\Wynn\3651160042\GIS			

Service Layer Credits: USGS, MassGIS 2013-2014

Concentrations (mg/kg)	SAMPLE DEPTH (FEET)
63.7	0.0-0.5'
NA	.5-2.0'
151	2.0-4.0'
124	4.0-6.0'
192	6.0' OR GREATER

*NA represents samples not analyzed

Low pH Area

CES Area (High Arsenic Area)

GZ-133: 30.3 / 52.8 / 25.6 / NA / NA
GZ-132: 21.5 / 68.3 / NA / NA / NA
GZ-127: 94.7 / 24.7 / 8 / 5.9 / NA
GZ-126: 24.5 / 13.6 / <1.2 / NA / NA
GZ-131: 13.8 / 23.4 / 3.5 / 4.5 / NA
GZ-137: 17.9 / NA / 15.4 / 7.2 / NA
GZ-125: 5.3 / NA / 1.6 / 2 / 2.5
GZ-130: 4.2 / NA / 3.1 / 2.4 / NA
GZ-140: 11.3 / 28.1 / NA / NA / NA
GZ-136: 34.6 / 27.9 / 5.1 / 3.9 / 4.2
GZ-139: 11 / NA / 2 / NA / <1.4
GZ-135: 7.4 / NA / 3.5 / 5.5 / NA
GZ-129: 11.6 / NA / 3.7 / NA / NA
GZ-124: 20.2 / NA / 1.8 / NA / NA
GZ-122: 14.2 / 51.5 / 6.6 / NA / NA
GZ-120: 172 / NA / 357 / NA / NA
GZ-118: 155 / 106 / NA / NA / NA
GZ-116: 75.7 / 249 / 235 / 4 / 6.9
GZ-113: 39.7 / NA / 46.4 / 78.3 / NA
GZ-109: 75.7 / 229 / NA / NA / NA
GZ-1
GZ-2
GZ-3
GZ-4
GZ-5
GZ-6
GZ-7
GZ-8
GZ-9
GZ-10
GZ-11
GZ-12
GZ-13
GZ-14
GZ-15
GZ-16
GZ-17
GZ-18
GZ-103: NA / NA / 146 / 26.2 / 59.4
GZ-106: NA / NA / 87.5 / 108 / 39.5
GZ-102: NA / NA / 82.4 / 37.6 / 76.6
GZ-105: NA / NA / 110 / 93 / 204
GZ-107: 33.4 / NA / 117 / NA / NA
GZ-108: 51.5 / NA / 86.9 / 89.7 / 135
GZ-112: 54.2 / NA / 94.8 / NA / 87.3
GZ-115: 45.7 / NA / 323 / 204 / NA
GZ-119: 33 / NA / 93.1 / NA / NA
GZ-117: 38.6 / NA / 153 / 112 / NA
GZ-121: 27.3 / NA / 49.1 / 31.3 / NA
GZ-123: 26.8 / NA / 59 / 39.9 / NA
GZ-128: 33.2 / NA / 54.4 / 30.4 / NA
GZ-134: 30.7 / 35.5 / NA / 53.4 / 31.2
GZ-138: 30.3 / 28.6 / 31 / 33.8 / 42.5
GZ-101: 48.2 / NA / 77.3 / 65.4 / 30.3
GZ-104: 182 / NA / 78.7 / 1.9 / 2.9
GZ-213: 54.1 / 57.9 / NA / 5.95 / NA
GZ-226: 32.2 / 91.8 / <1.86 / NA / NA
GZ-219: 71.7 / 66.3 / NA / 3.96 / NA
GZ-218: 58.2 / 183 / NA / 8.14 / NA
GZ-225: 41.1 / 27.8 / NA / 51.9 / 3.46
GZ-217: 164 / 92.1 / NA / NA / 5.33
GZ-224: 70.7 / 185 / NA / NA / NA
GZ-110: 28.5 / NA / 2.5 / NA / NA
GZ-111: 28.8 / NA / 77.6 / NA / 9.5
GZ-209: 41.4 / NA / 152 / 2.2 / NA
GZ-114: 38.6 / NA / 62.2 / NA / 3.54
GZ-208: 34.3 / NA / NA / 36.1 / NA
GZ-207: 37.6 / 44.9 / NA / 71.6 / 6.18
GZ-206: 34.2 / 45.8 / NA / 18.8 / NA
GZ-204: 29.5 / NA / 61.4 / NA / 16.5
GZ-205: 25.8 / 35.7 / 31.2 / NA / 5.22
GZ-203: 25.5 / 36.5 / NA / 18.8 / NA
GZ-202: 29.9 / NA / 15.3 / NA / NA
GZ-201: 17 / 20.4 / NA / 14 / NA
GZ-212: 17.2 / 9.78 / NA / NA / NA
GZ-211: 22.7 / 10.8 / NA / 5.95 / NA
GZ-210: 9.98 / 6.04 / 4.53 / NA / NA
GZ-216: 52.2 / NA / 11.5 / 5.37 / NA
GZ-215: 45.8 / 8.17 / NA / 2.73 / NA
GZ-214: 43.7 / NA / <2.02 / <2.01 / 3.31
GZ-222: 28 / 48.4 / 32.1 / NA / NA
GZ-223: 35.6 / 137 / 107 / NA / NA
GZ-221: 37.9 / 135 / NA / <2.00 / NA
GZ-220: 45.8 / 210 / 3.43 / NA / NA

Source:
1) The base map was developed from plans or electronic files provided by"Feldman Land Surveyors" entitled " Existing Conditions" Dated 02-20-2015, Original scale 1"=20', Drawing NO. 14517, CAD file, "14517-EX-DRAFT-03-20-15.DWG
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3) The base data and map package were provided by GZA GeoEnivronmental, Inc.

0 100 200 Feet

amec foster wheeler

- 2013 Core Locations for Dredge Permits
- 2013 and 2015 Sediment Core Locations
- Approximate Parcel Boundary
- Bathymetric Contour (<0) NAVD88
- Topographic Contour (>0) NAVD88
- Mean High Water
- Mean Low Water
- CES Area (High Arsenic Area)
- Low pH Area
- Salt Marsh

Arsenic Concentrations in Sediment
Former Everett Staging Yard
1 Horizon Way, Everett, MA
RTN 3-13341

Drawn By: M. Martin	Checked By: C. Platt
PROJECT NO: 3651160042.003	Date :12/19/2016

FIGURE NO: **5**

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Concentrations (mg/kg)	SAMPLE DEPTH (FEET)
63.7	0.0-0.5'
NA	.5-2.0'
151	2.0-4.0'
124	4.0-6.0'
192	6.0' OR GREATER

*NA represents samples not analyzed

Low pH Area

CES Area (High Arsenic Area)

GZ-133: 149, 218, 107, NA, NA
GZ-132: 100, 238, NA, NA, NA
GZ-131: 65.2, 112, 3.4, 4.2, NA
GZ-130: 9.2, NA, <2.5, <2.8, NA
GZ-129: 44.4, NA, <2.6, NA, NA
GZ-128: 191, NA, 208, 135, NA
GZ-127: 369, 97.4, 12.4, 8.9, NA
GZ-126: 140, 91.6, <2.5, NA, NA
GZ-125: 44.8, NA, <2.5, <2.5, 3
GZ-124: 89.1, NA, <2.9, NA, NA
GZ-123: 232, NA, 218, 150, NA
GZ-122: 126, 298, 63.5, NA, NA
GZ-121: 240, NA, 288, 165, NA
GZ-120: 306, NA, 9.5, NA, NA
GZ-119: 213, NA, 202, NA, NA
GZ-118: 80.6, 69, NA, NA, NA
GZ-117: 245, NA, 350, 164, NA
GZ-116: 116, 467, 192, 4.3, 22
GZ-115: 281, NA, 283, 344, NA
GZ-114: 288, NA, 667, 3, NA
GZ-113: 101, NA, 187, 246, NA
GZ-112: 266, NA, 357, NA, 178
GZ-111: 226, NA, 190, NA, 32.4
GZ-110: 208, NA, 12.8, NA, NA
GZ-109: 209, 394, NA, NA, NA
GZ-108: 286, NA, 363, 257, 328
GZ-107: 224, NA, 442, NA, NA
GZ-106: NA, NA, 479, 216, 158
GZ-105: NA, NA, 455, 452, 289
GZ-104: 1070, NA, 439, <2.6, 3.7
GZ-103: NA, NA, 495, 65.6, 238
GZ-102: NA, NA, 486, 215, 251
GZ-101: 280, NA, 435, 257, 710
GZ-226: 176, 1210, 13.1, NA, NA
GZ-225: 389, 83.5, NA, 123, 9.92
GZ-224: 649, 919, NA, NA, NA
GZ-223: 250, 1120, 1800, NA, NA
GZ-222: 192, 175, 270, NA, NA
GZ-221: 197, 703, NA, 5.66, NA
GZ-220: 317, 582, 14.2, NA, NA
GZ-219: 271, 506, NA, <4.67, NA
GZ-218: 279, 738, NA, 25.8, NA
GZ-217: 791, 545, NA, NA, 5.15
GZ-216: 268, NA, 73.8, 5.18, NA
GZ-215: 234, 42.7, NA, <4.12, NA
GZ-214: 263, NA, 5.7, <4.02, <3.77
GZ-213: 190, NA, 5.4, NA
GZ-212: 94.1, 87.7, NA, NA, NA
GZ-211: 87.8, 56, NA, 5.95, NA
GZ-210: 62.7, 33.1, 9.49, NA, NA
GZ-209: 245, NA, 233, NA, <3.95
GZ-208: 218, NA, NA, 187, NA
GZ-207: 237, 261, NA, 296, 6.79
GZ-206: 238, 251, NA, 93.4, NA
GZ-205: 186, 142, 192, NA, 6.5
GZ-204: 216, NA, 246, NA, 93.7
GZ-203: 200, 190, NA, 77.2, NA
GZ-202: 237, NA, 73.8, NA, NA
GZ-201: 165, 218, NA, 178, NA
GZ-140: 99.7, 198, NA, NA, NA
GZ-139: 78.3, NA, <3.7, NA, <2.7
GZ-138: 183, 140, 146, 177, 307
GZ-137: 133, NA, 131, 7, NA
GZ-136: 180, 127, 3.5, <2.5, <2.5
GZ-135: 29.3, NA, <2.5, 3, NA
GZ-134: 191, 132, NA, 187, 136

Source:
1) The base map was developed from plans or electronic files provided by"Feldman Land Surveyors" entitled " Existing Conditions" Dated 02-20-2015, Original scale 1"=20', Drawing NO. 14517, CAD file, "14517-EX-DRAFT-03-20-15.DWG
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3) The base data and map package were provided by GZA GeoEnivronmental, Inc.

0 100 200 Feet

amec foster wheeler

- 2013 Core Locations for Dredge Permits
- 2013 and 2015 Sediment Core Locations
- Approximate Parcel Boundary
- Bathymetric Contour (<0) NAVD88
- Topographic Contour (>0) NAVD88
- Mean High Water
- Mean Low Water
- CES Area (High Arsenic Area)
- Low pH Area
- Salt Marsh

Lead Concentrations in Sediment
Former Everett Staging Yard
1 Horizon Way, Everett, MA
RTN 3-13341

Drawn By: M. Martin	Checked By: C. Platt
PROJECT NO: 3651160042.003	Date :12/19/2016

FIGURE NO: **6**

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Concentrations (mg/kg)	SAMPLE DEPTH (FEET)
63.7	0.0-0.5'
NA	.5-2.0'
151	2.0-4.0'
124	4.0-6.0'
192	6.0' OR GREATER

*NA represents samples not analyzed

Low pH Area

CES Area (High Arsenic Area)

Source:
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2)The locations and elevations of the corings, sampling locations, selected site features and explorations were approximatly determined by GPS. This data should be considered accurate only to the degree implied by the method used.
3) The base data and map package were provided by GZA GeoEnivronmental, Inc.

0 100 200 Feet

amec foster wheeler

- 2013 Core Locations for Dredge Permits
- 2013 and 2015 Sediment Core Locations
- Approximate Parcel Boundary
- Bathymetric Contour (<0) NAVD88
- Topographic Contour (>0) NAVD88
- Mean High Water
- Mean Low Water
- CES Area (High Arsenic Area)
- Low pH Area
- Salt Marsh

Mercury Concentrations in Sediment
Former Everett Staging Yard
1 Horizon Way, Everett, MA
RTN 3-13341

Drawn By: M. Martin	Checked By: C. Platt
PROJECT NO: 3651160042.003	Date :12/23/2016

FIGURE NO: 7

P:\Comm-Ind\Projects\Clients T to Z\Wynn\3651160042\GIS 10:32:00 AM,

Concentrations (mg/kg)	SAMPLE DEPTH (FEET)
63.7	0.0-0.5'
NA	.5-2.0'
151	2.0-4.0'
124	4.0-6.0'
192	6.0' OR GREATER

*NA represents samples not analyzed

Low pH Area

CES Area (High Arsenic Area)

GZ-133: 24.6, 46.4, 23.7, NA, NA
GZ-132: 24.1, 21.3, NA, NA, NA
GZ-127: 56.6, 24.1, 22.3, 34.1, NA
GZ-126: 22.2, 15.9, 14.3, NA, NA
GZ-131: 16.8, 18.5, 10, 19.3, NA
GZ-125: 15.4, NA, 15.2, 17.6, 22.8
GZ-130: 19.2, NA, 10, 12.6, NA
GZ-137: 50.5, NA, 16, 14.1, NA
GZ-140: 36.4, 131, NA, NA, NA
GZ-136: 29.5, 35, 13.9, 11.1, 13.3
GZ-129: 19.5, NA, 11.9, NA, NA
GZ-124: 26.9, NA, 13.3, NA, NA
GZ-122: 19.8, 46.6, 17.6, NA, NA
GZ-120: 39.3, NA, 18, NA, NA
GZ-118: 32.8, 34.5, NA, NA, NA
GZ-116: 57.5, 25, 22.5, 26.5, 31.7
GZ-113: 52.9, NA, 171, 26.8, NA
GZ-109: 84.5, 25, NA, NA, NA
GZ-135: 16.9, NA, 10.1, 16.2, NA
GZ-139: 34.3, NA, 18, NA, 14.8
GZ-119: 70.5, NA, 134, NA, NA
GZ-117: 86, NA, 307, 235, NA
GZ-115: 88.6, NA, 297, 192, NA
GZ-112: 82, NA, 231, NA, 120
GZ-108: 90.6, NA, 186, 183, 159
GZ-106: NA, NA, 206, 231, 101
GZ-103: NA, NA, 244, 52.3, 123
GZ-128: 71.1, NA, 97.5, 52.4, NA
GZ-123: 81.9, NA, 187, 107, NA
GZ-121: 79.4, NA, 194, 106, NA
GZ-138: 77.3, 78, 51.3, 57.3, 97.5
GZ-134: 71.7, 83, NA, 72.6, 52.3
GZ-107: 64.9, NA, 182, NA, NA
GZ-105: NA, NA, 173, 151, 135
GZ-102: NA, NA, 153, 122, 169
GZ-209: 74.6, NA, 140, NA, 19.1
GZ-114: 88, NA, 163, 18.1, NA
GZ-111: 62.4, NA, 118, NA, 46.7
GZ-207: 77.5, 104, NA, 104, 27.1
GZ-208: 68.7, NA, NA, 76.4, NA
GZ-206: 78.8, 108, NA, 40.2, NA
GZ-204: 70.2, NA, 109, NA, 36.8
GZ-205: 58, 76.3, 76.3, NA, 21.8
GZ-203: 64.7, 105, NA, 45.5, NA
GZ-201: 64.8, 103, NA, 90, NA
GZ-202: 80.7, NA, 59.5, NA, NA
GZ-210: 15.4, 17.7, 21.6, NA, NA
GZ-211: 19.9, 16.4, NA, 26, NA
GZ-212: 28.2, 22.4, NA, NA, NA
GZ-110: 14.6, NA, 23.9, NA, NA
GZ-213: 55.1, 22.4, NA, 24.8, NA
GZ-104: 354, NA, 120, 12.9, 20.9
GZ-101: 63.7, NA, 151, 124, 192
GZ-226: 58.2, 32.7, 24.7, NA, NA
GZ-219: 50.2, 33.2, NA, 18.1, NA
GZ-214: 56.8, NA, 26.2, 19.1, 18.6
GZ-215: 53.2, 22.6, NA, 15.3, NA
GZ-216: 65.8, NA, 28.9, 23.6, NA
GZ-217: 61.3, 38, NA, NA, 23.7
GZ-218: 61, 45, NA, 23.2, NA
GZ-225: 48.2, 32.8, NA, 33.7, 46.4
GZ-224: 54.2, 41.4, NA, NA, NA
GZ-220: 59.3, 45.2, 25.3, NA, NA
GZ-221: 63.4, 38.7, NA, 24.3, NA
GZ-222: 48.8, 34.9, 27.2, NA, NA
GZ-223: 49.7, 45.5, 34.4, NA, NA

Source:
1) The base map was developed from plans or electronic files provided by"Feldman Land Surveyors" entitled " Existing Conditions" Dated 02-20-2015, Original scale 1"=20', Drawing NO. 14517, CAD file, "14517-EX-DRAFT-03-20-15.DWG
2)The locations and elevations of the corings, sampling locations, selected site features and explorations were approximatly determined by GPS. This data should be considered accurate only to the degree implied by the method used.
3) The base data and map package were provided by GZA GeoEnivronmental, Inc.

0 100 200 Feet

amec foster wheeler

- 2013 Core Locations for Dredge Permits
- 2013 and 2015 Sediment Core Locations
- Approximate Parcel Boundary
- Bathymetric Contour (<0) NAVD88
- Topographic Contour (>0) NAVD88
- Mean High Water
- Mean Low Water
- CES Area (High Arsenic Area)
- Low pH Area
- Salt Marsh

Vanadium Concentrations in Sediment
Former Everett Staging Yard
1 Horizon Way, Everett, MA
RTN 3-13341

Drawn By: M. Martin	Checked By: C. Platt
PROJECT NO: 3651160042.003	Date :12/19/2016

FIGURE NO: **8**

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Approximate Disposal Site Boundary

Approximate Limits of Area Posing Significant Risk

Approximate Limits of Area Posing Significant Risk

and

Approximate Disposal Site Boundary

Low pH Area

CES Area (High Arsenic Area)

Concentrations (mg/kg) In first 6 inches

70	As
430	Pb
.98	Hg
65.4	V

*NA = Not Analyzed
Red Shading (75.7) indicates concentration exceeds 75% of local conditions

Source:
1) The base map was developed from plans or electronic files provided by"Feldman Land Surveyors" entitled " Existing Conditions" Dated 02-20-2015, Original scale 1"=20', Drawing NO. 14517, CAD file, "14517-EX-DRAFT-03-20-15.DWG
2)The locations and elevations of the corings, sampling locations, selected site features and explorations were approximatly determined by GPS. This data should be considered accurate only to the degree implied by the method used.
3) The base data and map package were provided by GZA GeoEnivronmental, Inc.

0 100 200 Feet

amec foster wheeler

- 2013 and 2015 Sediment Core Locations
- 2013 Core Locations for Dredge Permits
- Disposal Site Boundary
- Approximate Parcel Boundary
- Area Posing Significant Risk
- Bathymetric Contour (<0) NAVD88
- Topographic Contour (>0) NAVD88
- Mean High Water
- Mean Low Water
- CES Area (High Arsenic Area)
- Low pH Area
- Salt Marsh

Disposal Site Boundary and Area Posing Significant Risk
Former Everett Staging Yard
1 Horizon Way, Everett, MA
RTN 3-13341

Drawn By: M. Martin	Checked By: C. Platt
PROJECT NO: 3651160042.003	Date :12/30/2016

FIGURE NO:
9

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Figure 10

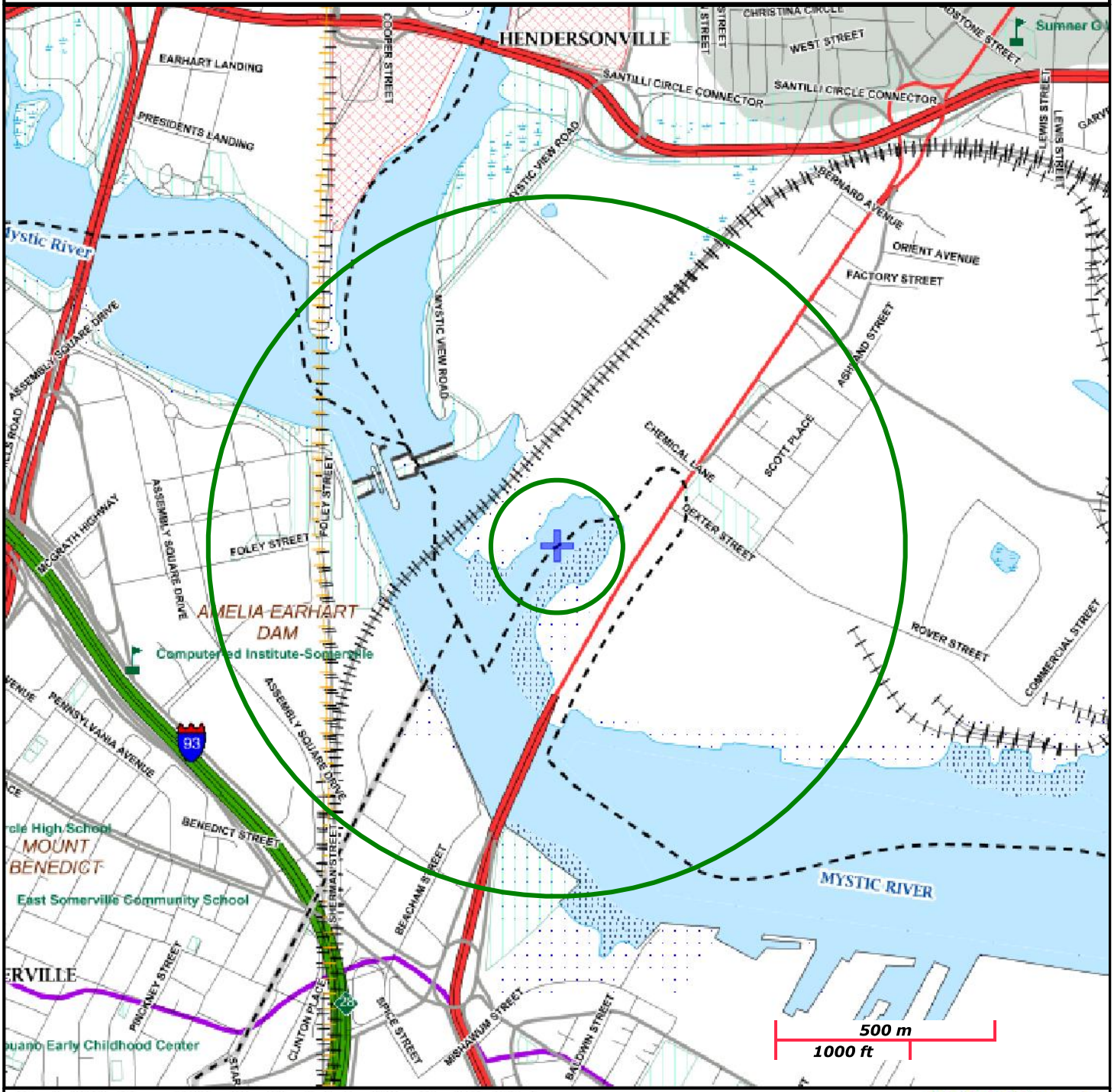
MassDEP - Bureau of Waste Site Cleanup

Phase 1 Site Assessment Map: 500 feet & 0.5 Mile Radii

Site Information:
SEDIMENTS ADJACENT TO THE FORMER EVERETT STAGING YARD
1 HORIZON WAY EVERETT, MA
3-000013341
NAD83 UTM Meters:
4695535mN , 329578mE (Zone: 19)
December 1, 2016

The information shown is the best available at the date of printing. However, it may be incomplete. The responsible party and LSP are ultimately responsible for ascertaining the true conditions surrounding the site. Metadata for data layers shown on this map can be found at: http://www.mass.gov/mgis/.

MassDEP
Commonwealth of Massachusetts
Department of Environmental Protection



Roads: Limited Access, Divided, Other Hwy, Major Road, Minor Road, Track, Trail
Boundaries: Town, County, DEP Region; Train; Powerline; Pipeline; Aqueduct
Basins: Major,PWS; Streams: Perennial, Intermittent, Man Made Shore, Dam
Aquifers: Medium Yield, High Yield, EPA Sole Source
Non Potential Drinking Water Source Area: Medium, High (Yield)
PWS Protection Areas: Zone II, IWPA, Zone A
Hydrography: Open Water, PWS Reservoir, Tidal Flat
Wetlands: Freshwater, Saltwater, Cranberry Bog
FEMA 100yr Floodplain; Protected Open Space; ACEC
Est. Rare Wetland Wildlife Hab; Vernal Pool: Cert., Potential
Solid Waste Landfill; PWS: Com.GW,SW, Emerg.,Non-Com.

APPENDICES

APPENDIX A

SURFACE WATER LABORATORY REPORTS

CERTIFICATE OF ANALYSIS

David E Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Avenue
Norwood, MA 02062

RE: Wynn Everett - MCP (01.0171521.1)
ESS Laboratory Work Order Number: 1505527

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director

REVIEWED
By ESS Laboratory at 4:36 pm, Jun 02, 2015

Analytical Summary
The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with NELAC Standards, A2LA and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett - MCP

ESS Laboratory Work Order: 1505527

SAMPLE RECEIPT

The following samples were received on May 21, 2015 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has performed and reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Data Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

For EPH soil samples, the aromatic range results have been corrected for identified cartridge contaminant in accordance with the CAM protocol.

Lab Number	Sample Name	Matrix	Analysis
1505527-01	SWS-3-05-21-15	Surface Water	6010C, 7010, 7196A, 7470A, 8270C, 8270D SIM, EPH8270, MADEP-EPH
1505527-02	SW-3-05-21-15	Surface Water	6010C, 7010, 7196A, 7470A, 8270C, 8270D SIM, EPH8270, MADEP-EPH
1505527-03	SWS-6-05-21-15	Surface Water	6010C, 7010, 7196A, 7470A, 8270C, 8270D SIM, EPH8270, MADEP-EPH
1505527-04	SW-6-05-21-15	Surface Water	6010C, 7010, 7196A, 7470A, 8270C, 8270D SIM, EPH8270, MADEP-EPH

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett - MCP

ESS Laboratory Work Order: 1505527

PROJECT NARRATIVE

8270C Semi-Volatile Organic Compounds

1505527-02	**Internal Standard(s) outside of criteria. Sample was reanalyzed to confirm (IC).**
	Chrysene-d12 (47% @ 50-200%), Perylene-d12 (46% @ 50-200%)
CYE0365-CCV1	**Calibration required quadratic regression (Q).**
	2,4-Dinitrophenol (96% @ 70-130%)
CYE0365-CCV1	**Continuing Calibration recovery is above upper control limit (C+).**
	N-Nitrosodimethylamine (131% @ 70-130%)
CYE0367-CCV1	**Continuing Calibration recovery is above upper control limit (C+).**
	2-Chloronaphthalene (155% @ 70-130%), bis(2-Chloroethyl)ether (133% @ 70-130%), N-Nitrosodimethylamine (139% @ 70-130%)

8270D(SIM) Semi-Volatile Organic Compounds

1505527-01	**Surrogate recovery(ies) above upper control limit (S+).**
	2,4,6-Tribromophenol (112% @ 15-110%)
1505527-02	**Surrogate recovery(ies) above upper control limit (S+).**
	2,4,6-Tribromophenol (121% @ 15-110%)
CE52636-BLK1	**Surrogate recovery(ies) above upper control limit (S+).**
	2,4,6-Tribromophenol (120% @ 15-110%)
CYE0340-CCV1	**Continuing Calibration recovery is above upper control limit (C+).**
	2,4,6-Tribromophenol (152% @ 70-130%)

Dissolved Metals

1505527-01	**Elevated Method Reporting Limits due to sample matrix (EL).**
	Thallium
1505527-02	**Elevated Method Reporting Limits due to sample matrix (EL).**
	Thallium
1505527-03	**Elevated Method Reporting Limits due to sample matrix (EL).**
	Thallium
1505527-04	**Elevated Method Reporting Limits due to sample matrix (EL).**
	Thallium
CE52211-BSD1	**Blank Spike recovery is below lower control limit (B-).**
	Arsenic (74% @ 80-120%), Barium (75% @ 80-120%), Beryllium (78% @ 80-120%), Cadmium (77% @ 80-120%), Chromium (76% @ 80-120%), Lead (74% @ 80-120%), Nickel (79% @ 80-120%), Silver (77% @ 80-120%), Vanadium (76% @ 80-120%)

No other observations noted.

End of Project Narrative.

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett - MCP

ESS Laboratory Work Order: 1505527

DATA USABILITY LINKS

Definitions of Quality Control Parameters

Semivolatile Organics Internal Standard Information

Semivolatile Organics Surrogate Information

Volatile Organics Internal Standard Information

Volatile Organics Surrogate Information

EPH and VPH Alkane Lists

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

1010A - Flashpoint
6010C - ICP
6020A - ICP MS
7010 - Graphite Furnace
7196A - Hexavalent Chromium
7470A - Aqueous Mercury
7471B - Solid Mercury
8011 - EDB/DBCP/TCP
8015D - GRO/DRO
8081B - Pesticides
8082A - PCB
8100M - TPH
8151A - Herbicides
8260B - VOA
8270D - SVOA
8270D SIM - SVOA Low Level
9014 - Cyanide
9038 - Sulfate
9040C - Aqueous pH
9045D - Solid pH (Corrosivity)
9050A - Specific Conductance
9056A - Anions (IC)
9060A - TOC
9095B - Paint Filter
MADEP 04-1.1 - EPH / VPH

Prep Methods

3005A - Aqueous ICP Digestion
3020A - Aqueous Graphite Furnace / ICP MS Digestion
3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
3060A - Solid Hexavalent Chromium Digestion
3510C - Separatory Funnel Extraction
3520C - Liquid / Liquid Extraction
3540C - Manual Soxhlet Extraction
3541 - Automated Soxhlet Extraction
3546 - Microwave Extraction
3580A - Waste Dilution
5030B - Aqueous Purge and Trap
5030C - Aqueous Purge and Trap
5035 - Solid Purge and Trap

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett - MCP

ESS Laboratory Work Order: 1505527

MassDEP Analytical Protocol Certification Form

MADEP RTN: _____

This form provides certification for the following data set: **1505527-01 through 1505527-04**

Matrices: (X) Ground Water/Surface Water ( ) Soil/Sediment ( ) Drinking Water ( ) Air ( ) Other:_____

CAM Protocol (check all that apply below):

( ) 8260 VOC CAM II A	(X) 7470/7471 Hg CAM III B	( ) MassDEP VPH CAM IV A	( ) 8081 Pesticides CAM V B	(X) 7196 Hex Cr CAM VI B	( ) MassDEP APH CAM IX A
(X) 8270 SVOC CAM II B	(X) 7010 Metals CAM III C	(X) MassDEP EPH CAM IV B	( ) 8151 Herbicides CAM V C	( ) 8330 Explosives CAM VIII A	( ) TO-15 VOC CAM IX B
(X) 6010 Metals CAM III A	( ) 6020 Metals CAM III D	( ) 8082 PCB CAM V A	( ) 6860 Perchlorate CAM VIII B	( ) 9014 Total Cyanide/PAC CAM VI A	

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	Yes (X) No ( )
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	Yes (X) No ( )
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	Yes (X) No ( )
D	Does the laboratory report comply with all the reporting requirements specified in the CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	Yes (X) No ( )
E	a. VPH, EPH, APH and TO-15 only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	Yes (X) No ( )
	b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	Yes ( ) No ( )
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	Yes (X) No ( )

Responses to Questions G, H and I below are required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocols(s)?	Yes ( ) No (X)*
	***Data User Note:* Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.**	
H	Were **all** QC performance standards specified in the CAM protocol(s) achieved?	Yes ( ) No (X)*
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	Yes (X) No ( )*

***All negative responses must be addressed in an attached laboratory narrative.**

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Laurel Stoddard

Date: June 02, 2015

Printed Name: Laurel Stoddard

Position: Laboratory Director

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett - MCP
Client Sample ID: SWS-3-05-21-15
Date Sampled: 05/21/15 09:20
Percent Solids: N/A

ESS Laboratory Work Order: 1505527
ESS Laboratory Sample ID: 1505527-01
Sample Matrix: Surface Water
Units: ug/L

Extraction Method: 3005A/200.7

Dissolved Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (5.0)		7010		2	KJK	05/31/15 13:50	50	25	CE52211
Arsenic	**348** (25.0)		6010C		1	JP	05/23/15 0:20	50	25	CE52211
Barium	ND (25.0)		6010C		1	KJK	05/23/15 21:14	50	25	CE52211
Beryllium	ND (0.5)		6010C		1	KJK	05/23/15 21:14	50	25	CE52211
Cadmium	**7.6** (2.5)		6010C		1	KJK	05/23/15 21:14	50	25	CE52211
Chromium	ND (10.0)		6010C		1	KJK	05/23/15 21:14	50	25	CE52211
Lead	ND (10.0)		6010C		1	KJK	05/23/15 0:20	50	25	CE52211
Mercury	ND (0.20)		7470A		1	BJV	05/26/15 13:53	20	40	CE52230
Nickel	ND (25.0)		6010C		1	KJK	05/23/15 21:14	50	25	CE52211
Selenium	ND (10.0)		7010		2	KJK	05/31/15 9:28	50	25	CE52211
Silver	ND (5.0)		6010C		1	KJK	05/23/15 21:14	50	25	CE52211
Thallium	**EL** ND (3.0)		7010		3	KJK	05/29/15 20:03	50	25	CE52211
Vanadium	ND (10.0)		6010C		1	KJK	05/23/15 21:14	50	25	CE52211
Zinc	ND (25.0)		6010C		1	KJK	05/23/15 21:14	50	25	CE52211

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett - MCP
Client Sample ID: SWS-3-05-21-15
Date Sampled: 05/21/15 09:20
Percent Solids: N/A
Initial Volume: 1070
Final Volume: 1
Extraction Method: 3520C

ESS Laboratory Work Order: 1505527
ESS Laboratory Sample ID: 1505527-01
Sample Matrix: Surface Water
Units: ug/L
Analyst: ML
Prepared: 5/26/15 19:05

8270C Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (9.3)		8270C		1	05/27/15 23:40	CYE0367	CE52612
1,2-Dichlorobenzene	ND (9.3)		8270C		1	05/27/15 23:40	CYE0367	CE52612
1,3-Dichlorobenzene	ND (9.3)		8270C		1	05/27/15 23:40	CYE0367	CE52612
1,4-Dichlorobenzene	ND (9.3)		8270C		1	05/27/15 23:40	CYE0367	CE52612
2,4,5-Trichlorophenol	ND (9.3)		8270C		1	05/27/15 23:40	CYE0367	CE52612
2,4,6-Trichlorophenol	ND (9.3)		8270C		1	05/27/15 23:40	CYE0367	CE52612
2,4-Dichlorophenol	ND (9.3)		8270C		1	05/27/15 23:40	CYE0367	CE52612
2,4-Dimethylphenol	ND (46.7)		8270C		1	05/27/15 23:40	CYE0367	CE52612
2,4-Dinitrophenol	ND (46.7)		8270C		1	05/27/15 23:40	CYE0367	CE52612
2,4-Dinitrotoluene	ND (9.3)		8270C		1	05/27/15 23:40	CYE0367	CE52612
2,6-Dinitrotoluene	ND (9.3)		8270C		1	05/27/15 23:40	CYE0367	CE52612
2-Chloronaphthalene	ND (9.3)		8270C		1	05/27/15 23:40	CYE0367	CE52612
2-Chlorophenol	ND (9.3)		8270C		1	05/27/15 23:40	CYE0367	CE52612
2-Methylphenol	ND (9.3)		8270C		1	05/27/15 23:40	CYE0367	CE52612
2-Nitrophenol	ND (9.3)		8270C		1	05/27/15 23:40	CYE0367	CE52612
3,3´-Dichlorobenzidine	ND (18.7)		8270C		1	05/27/15 23:40	CYE0367	CE52612
3+4-Methylphenol	ND (18.7)		8270C		1	05/27/15 23:40	CYE0367	CE52612
4-Bromophenyl-phenylether	ND (9.3)		8270C		1	05/27/15 23:40	CYE0367	CE52612
4-Chloroaniline	ND (18.7)		8270C		1	05/27/15 23:40	CYE0367	CE52612
4-Nitrophenol	ND (46.7)		8270C		1	05/27/15 23:40	CYE0367	CE52612
Acetophenone	ND (9.3)		8270C		1	05/27/15 23:40	CYE0367	CE52612
Aniline	ND (9.3)		8270C		1	05/27/15 23:40	CYE0367	CE52612
Azobenzene	ND (18.7)		8270C		1	05/27/15 23:40	CYE0367	CE52612
bis(2-Chloroethoxy)methane	ND (9.3)		8270C		1	05/27/15 23:40	CYE0367	CE52612
bis(2-Chloroethyl)ether	ND (9.3)		8270C		1	05/27/15 23:40	CYE0367	CE52612
bis(2-chloroisopropyl)Ether	ND (9.3)		8270C		1	05/27/15 23:40	CYE0367	CE52612
bis(2-Ethylhexyl)phthalate	ND (5.6)		8270C		1	05/27/15 23:40	CYE0367	CE52612
Butylbenzylphthalate	ND (9.3)		8270C		1	05/27/15 23:40	CYE0367	CE52612
Dibenzofuran	ND (9.3)		8270C		1	05/27/15 23:40	CYE0367	CE52612
Diethylphthalate	ND (9.3)		8270C		1	05/27/15 23:40	CYE0367	CE52612
Dimethylphthalate	ND (9.3)		8270C		1	05/27/15 23:40	CYE0367	CE52612
Di-n-butylphthalate	ND (9.3)		8270C		1	05/27/15 23:40	CYE0367	CE52612

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett - MCP
Client Sample ID: SWS-3-05-21-15
Date Sampled: 05/21/15 09:20
Percent Solids: N/A
Initial Volume: 1070
Final Volume: 1
Extraction Method: 3520C

ESS Laboratory Work Order: 1505527
ESS Laboratory Sample ID: 1505527-01
Sample Matrix: Surface Water
Units: ug/L
Analyst: ML
Prepared: 5/26/15 19:05

8270C Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Di-n-octylphthalate	ND (9.3)		8270C		1	05/27/15 23:40	CYE0367	CE52612
Hexachlorobutadiene	ND (9.3)		8270C		1	05/27/15 23:40	CYE0367	CE52612
Hexachloroethane	ND (4.7)		8270C		1	05/27/15 23:40	CYE0367	CE52612
Isophorone	ND (9.3)		8270C		1	05/27/15 23:40	CYE0367	CE52612
Nitrobenzene	ND (9.3)		8270C		1	05/27/15 23:40	CYE0367	CE52612
N-Nitrosodimethylamine	ND (9.3)		8270C		1	05/27/15 23:40	CYE0367	CE52612
Phenol	ND (9.3)		8270C		1	05/27/15 23:40	CYE0367	CE52612

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*68 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*74 %*		*15-110*
Surrogate: 2-Chlorophenol-d4	*70 %*		*15-110*
Surrogate: 2-Fluorobiphenyl	*67 %*		*30-130*
Surrogate: 2-Fluorophenol	*64 %*		*15-110*
Surrogate: Nitrobenzene-d5	*67 %*		*30-130*
Surrogate: Phenol-d6	*71 %*		*15-110*
Surrogate: p-Terphenyl-d14	*70 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett - MCP
Client Sample ID: SWS-3-05-21-15
Date Sampled: 05/21/15 09:20
Percent Solids: N/A
Initial Volume: 1070
Final Volume: 0.25
Extraction Method: 3510C

ESS Laboratory Work Order: 1505527
ESS Laboratory Sample ID: 1505527-01
Sample Matrix: Surface Water
Units: ug/L
Analyst: VSC
Prepared: 5/26/15 17:45

8270D(SIM) Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.19)		8270D SIM		1	05/27/15 16:31	CYE0340	CE52636
Acenaphthene	**0.21** (0.19)		8270D SIM		1	05/27/15 16:31	CYE0340	CE52636
Acenaphthylene	ND (0.19)		8270D SIM		1	05/27/15 16:31	CYE0340	CE52636
Anthracene	**0.20** (0.19)		8270D SIM		1	05/27/15 16:31	CYE0340	CE52636
Benzo(a)anthracene	**0.05** (0.05)		8270D SIM		1	05/27/15 16:31	CYE0340	CE52636
Benzo(a)pyrene	ND (0.05)		8270D SIM		1	05/27/15 16:31	CYE0340	CE52636
Benzo(b)fluoranthene	**0.06** (0.05)		8270D SIM		1	05/27/15 16:31	CYE0340	CE52636
Benzo(g,h,i)perylene	ND (0.19)		8270D SIM		1	05/27/15 16:31	CYE0340	CE52636
Benzo(k)fluoranthene	ND (0.05)		8270D SIM		1	05/27/15 16:31	CYE0340	CE52636
Chrysene	**0.06** (0.05)		8270D SIM		1	05/27/15 16:31	CYE0340	CE52636
Dibenzo(a,h)Anthracene	ND (0.05)		8270D SIM		1	05/27/15 16:31	CYE0340	CE52636
Fluoranthene	**0.44** (0.19)		8270D SIM		1	05/27/15 16:31	CYE0340	CE52636
Fluorene	ND (0.19)		8270D SIM		1	05/27/15 16:31	CYE0340	CE52636
Hexachlorobenzene	ND (0.19)		8270D SIM		1	05/27/15 16:31	CYE0340	CE52636
Indeno(1,2,3-cd)Pyrene	ND (0.05)		8270D SIM		1	05/27/15 16:31	CYE0340	CE52636
Naphthalene	**0.42** (0.19)		8270D SIM		1	05/27/15 16:31	CYE0340	CE52636
Pentachlorophenol	ND (0.84)		8270D SIM		1	05/27/15 16:31	CYE0340	CE52636
Phenanthrene	**0.27** (0.19)		8270D SIM		1	05/27/15 16:31	CYE0340	CE52636
Pyrene	**0.29** (0.19)		8270D SIM		1	05/27/15 16:31	CYE0340	CE52636

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*46 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*112 %*	*S+*	*15-110*
Surrogate: 2-Fluorobiphenyl	*60 %*		*30-130*
Surrogate: Nitrobenzene-d5	*71 %*		*30-130*
Surrogate: p-Terphenyl-d14	*77 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett - MCP
Client Sample ID: SWS-3-05-21-15
Date Sampled: 05/21/15 09:20
Percent Solids: N/A

ESS Laboratory Work Order: 1505527
ESS Laboratory Sample ID: 1505527-01
Sample Matrix: Surface Water

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Hexavalent Chromium	ND (10)		7196A		1	JLK	05/22/15 7:37	ug/L	CE52201

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett - MCP
Client Sample ID: SWS-3-05-21-15
Date Sampled: 05/21/15 09:20
Percent Solids: N/A
Initial Volume: 1070
Final Volume: 1
Extraction Method: 3510C

ESS Laboratory Work Order: 1505527
ESS Laboratory Sample ID: 1505527-01
Sample Matrix: Surface Water
Units: ug/L

Prepared: 5/22/15 12:48

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	ND (93)		MADEP-EPH		1	DPS	05/27/15 18:04	CYE0371	CE52232
C19-C36 Aliphatics1	ND (93)		MADEP-EPH		1	DPS	05/27/15 18:04	CYE0371	CE52232
C11-C22 Unadjusted Aromatics1	**122** (93.5)		EPH8270		1	JXS	05/26/15 20:04	CYE0328	CE52232
C11-C22 Aromatics1,2	**122** (93.5)		EPH8270			JXS	05/26/15 20:04		[CALC]
Preservative:	**pH <= 2**		MADEP-EPH			DPS			CE52232

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*67 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*85 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*96 %*		*40-140*
Surrogate: O-Terphenyl	*76 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett - MCP
Client Sample ID: SW-3-05-21-15
Date Sampled: 05/21/15 09:45
Percent Solids: N/A

ESS Laboratory Work Order: 1505527
ESS Laboratory Sample ID: 1505527-02
Sample Matrix: Surface Water
Units: ug/L

Extraction Method: 3005A/200.7

Dissolved Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (5.0)		7010		2	KJK	05/31/15 14:19	50	25	CE52211
Arsenic	**18.1** (2.5)		7010		1	KJK	05/24/15 3:40	50	25	CE52211
Barium	**25.1** (25.0)		6010C		1	KJK	05/23/15 21:32	50	25	CE52211
Beryllium	ND (0.5)		6010C		1	KJK	05/23/15 21:32	50	25	CE52211
Cadmium	ND (2.5)		6010C		1	KJK	05/23/15 21:32	50	25	CE52211
Chromium	ND (10.0)		6010C		1	KJK	05/23/15 21:32	50	25	CE52211
Lead	ND (10.0)		6010C		1	KJK	05/23/15 0:25	50	25	CE52211
Mercury	ND (0.20)		7470A		1	BJV	05/26/15 13:56	20	40	CE52230
Nickel	ND (25.0)		6010C		1	KJK	05/23/15 21:32	50	25	CE52211
Selenium	ND (10.0)		7010		2	KJK	05/31/15 9:33	50	25	CE52211
Silver	ND (5.0)		6010C		1	KJK	05/23/15 21:32	50	25	CE52211
Thallium	**EL** ND (3.0)		7010		3	KJK	05/29/15 20:08	50	25	CE52211
Vanadium	ND (10.0)		6010C		1	KJK	05/23/15 21:32	50	25	CE52211
Zinc	ND (25.0)		6010C		1	KJK	05/23/15 21:32	50	25	CE52211

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett - MCP
Client Sample ID: SW-3-05-21-15
Date Sampled: 05/21/15 09:45
Percent Solids: N/A
Initial Volume: 1070
Final Volume: 1
Extraction Method: 3520C

ESS Laboratory Work Order: 1505527
ESS Laboratory Sample ID: 1505527-02
Sample Matrix: Surface Water
Units: ug/L
Analyst: VSC
Prepared: 5/26/15 19:05

8270C Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (9.3)		8270C		1	05/28/15 15:52	CYE0377	CE52612
1,2-Dichlorobenzene	ND (9.3)		8270C		1	05/28/15 15:52	CYE0377	CE52612
1,3-Dichlorobenzene	ND (9.3)		8270C		1	05/28/15 15:52	CYE0377	CE52612
1,4-Dichlorobenzene	ND (9.3)		8270C		1	05/28/15 15:52	CYE0377	CE52612
2,4,5-Trichlorophenol	ND (9.3)		8270C		1	05/28/15 15:52	CYE0377	CE52612
2,4,6-Trichlorophenol	ND (9.3)		8270C		1	05/28/15 15:52	CYE0377	CE52612
2,4-Dichlorophenol	ND (9.3)		8270C		1	05/28/15 15:52	CYE0377	CE52612
2,4-Dimethylphenol	ND (46.7)		8270C		1	05/28/15 15:52	CYE0377	CE52612
2,4-Dinitrophenol	ND (46.7)		8270C		1	05/28/15 15:52	CYE0377	CE52612
2,4-Dinitrotoluene	ND (9.3)		8270C		1	05/28/15 15:52	CYE0377	CE52612
2,6-Dinitrotoluene	ND (9.3)		8270C		1	05/28/15 15:52	CYE0377	CE52612
2-Chloronaphthalene	ND (9.3)		8270C		1	05/28/15 15:52	CYE0377	CE52612
2-Chlorophenol	ND (9.3)		8270C		1	05/28/15 15:52	CYE0377	CE52612
2-Methylphenol	ND (9.3)		8270C		1	05/28/15 15:52	CYE0377	CE52612
2-Nitrophenol	ND (9.3)		8270C		1	05/28/15 15:52	CYE0377	CE52612
3,3´-Dichlorobenzidine	ND (18.7)		8270C		1	05/28/15 15:52	CYE0377	CE52612
3+4-Methylphenol	ND (18.7)		8270C		1	05/28/15 15:52	CYE0377	CE52612
4-Bromophenyl-phenylether	ND (9.3)		8270C		1	05/28/15 15:52	CYE0377	CE52612
4-Chloroaniline	ND (18.7)		8270C		1	05/28/15 15:52	CYE0377	CE52612
4-Nitrophenol	ND (46.7)		8270C		1	05/28/15 15:52	CYE0377	CE52612
Acetophenone	ND (9.3)		8270C		1	05/28/15 15:52	CYE0377	CE52612
Aniline	ND (9.3)		8270C		1	05/28/15 15:52	CYE0377	CE52612
Azobenzene	ND (18.7)		8270C		1	05/28/15 15:52	CYE0377	CE52612
bis(2-Chloroethoxy)methane	ND (9.3)		8270C		1	05/28/15 15:52	CYE0377	CE52612
bis(2-Chloroethyl)ether	ND (9.3)		8270C		1	05/28/15 15:52	CYE0377	CE52612
bis(2-chloroisopropyl)Ether	ND (9.3)		8270C		1	05/28/15 15:52	CYE0377	CE52612
bis(2-Ethylhexyl)phthalate	ND (5.6)		8270C		1	05/28/15 15:52	CYE0377	CE52612
Butylbenzylphthalate	ND (9.3)		8270C		1	05/28/15 15:52	CYE0377	CE52612
Dibenzofuran	ND (9.3)		8270C		1	05/28/15 15:52	CYE0377	CE52612
Diethylphthalate	ND (9.3)		8270C		1	05/28/15 15:52	CYE0377	CE52612
Dimethylphthalate	ND (9.3)		8270C		1	05/28/15 15:52	CYE0377	CE52612
Di-n-butylphthalate	ND (9.3)		8270C		1	05/28/15 15:52	CYE0377	CE52612

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett - MCP
Client Sample ID: SW-3-05-21-15
Date Sampled: 05/21/15 09:45
Percent Solids: N/A
Initial Volume: 1070
Final Volume: 1
Extraction Method: 3520C

ESS Laboratory Work Order: 1505527
ESS Laboratory Sample ID: 1505527-02
Sample Matrix: Surface Water
Units: ug/L
Analyst: VSC
Prepared: 5/26/15 19:05

8270C Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Di-n-octylphthalate	ND (9.3)		8270C		1	05/28/15 15:52	CYE0377	CE52612
Hexachlorobutadiene	ND (9.3)		8270C		1	05/28/15 15:52	CYE0377	CE52612
Hexachloroethane	ND (4.7)		8270C		1	05/28/15 15:52	CYE0377	CE52612
Isophorone	ND (9.3)		8270C		1	05/28/15 15:52	CYE0377	CE52612
Nitrobenzene	ND (9.3)		8270C		1	05/28/15 15:52	CYE0377	CE52612
N-Nitrosodimethylamine	ND (9.3)		8270C		1	05/28/15 15:52	CYE0377	CE52612
Phenol	ND (9.3)		8270C		1	05/28/15 15:52	CYE0377	CE52612

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*59 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*68 %*		*15-110*
Surrogate: 2-Chlorophenol-d4	*52 %*		*15-110*
Surrogate: 2-Fluorobiphenyl	*62 %*		*30-130*
Surrogate: 2-Fluorophenol	*39 %*		*15-110*
Surrogate: Nitrobenzene-d5	*60 %*		*30-130*
Surrogate: Phenol-d6	*54 %*		*15-110*
Surrogate: p-Terphenyl-d14	*79 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett - MCP
Client Sample ID: SW-3-05-21-15
Date Sampled: 05/21/15 09:45
Percent Solids: N/A
Initial Volume: 1070
Final Volume: 0.25
Extraction Method: 3510C

ESS Laboratory Work Order: 1505527
ESS Laboratory Sample ID: 1505527-02
Sample Matrix: Surface Water
Units: ug/L
Analyst: VSC
Prepared: 5/26/15 17:45

8270D(SIM) Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.19)		8270D SIM		1	05/27/15 17:21	CYE0340	CE52636
Acenaphthene	ND (0.19)		8270D SIM		1	05/27/15 17:21	CYE0340	CE52636
Acenaphthylene	ND (0.19)		8270D SIM		1	05/27/15 17:21	CYE0340	CE52636
Anthracene	ND (0.19)		8270D SIM		1	05/27/15 17:21	CYE0340	CE52636
Benzo(a)anthracene	ND (0.05)		8270D SIM		1	05/27/15 17:21	CYE0340	CE52636
Benzo(a)pyrene	ND (0.05)		8270D SIM		1	05/27/15 17:21	CYE0340	CE52636
Benzo(b)fluoranthene	ND (0.05)		8270D SIM		1	05/27/15 17:21	CYE0340	CE52636
Benzo(g,h,i)perylene	ND (0.19)		8270D SIM		1	05/27/15 17:21	CYE0340	CE52636
Benzo(k)fluoranthene	ND (0.05)		8270D SIM		1	05/27/15 17:21	CYE0340	CE52636
Chrysene	ND (0.05)		8270D SIM		1	05/27/15 17:21	CYE0340	CE52636
Dibenzo(a,h)Anthracene	ND (0.05)		8270D SIM		1	05/27/15 17:21	CYE0340	CE52636
Fluoranthene	ND (0.19)		8270D SIM		1	05/27/15 17:21	CYE0340	CE52636
Fluorene	ND (0.19)		8270D SIM		1	05/27/15 17:21	CYE0340	CE52636
Hexachlorobenzene	ND (0.19)		8270D SIM		1	05/27/15 17:21	CYE0340	CE52636
Indeno(1,2,3-cd)Pyrene	ND (0.05)		8270D SIM		1	05/27/15 17:21	CYE0340	CE52636
Naphthalene	ND (0.19)		8270D SIM		1	05/27/15 17:21	CYE0340	CE52636
Pentachlorophenol	ND (0.84)		8270D SIM		1	05/27/15 17:21	CYE0340	CE52636
Phenanthrene	ND (0.19)		8270D SIM		1	05/27/15 17:21	CYE0340	CE52636
Pyrene	ND (0.19)		8270D SIM		1	05/27/15 17:21	CYE0340	CE52636

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*54 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*121 %*	*S+*	*15-110*
Surrogate: 2-Fluorobiphenyl	*71 %*		*30-130*
Surrogate: Nitrobenzene-d5	*88 %*		*30-130*
Surrogate: p-Terphenyl-d14	*83 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett - MCP
Client Sample ID: SW-3-05-21-15
Date Sampled: 05/21/15 09:45
Percent Solids: N/A

ESS Laboratory Work Order: 1505527
ESS Laboratory Sample ID: 1505527-02
Sample Matrix: Surface Water

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Hexavalent Chromium	ND (10)		7196A		1	JLK	05/22/15 7:37	ug/L	CE52201

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett - MCP
Client Sample ID: SW-3-05-21-15
Date Sampled: 05/21/15 09:45
Percent Solids: N/A
Initial Volume: 1070
Final Volume: 1
Extraction Method: 3510C

ESS Laboratory Work Order: 1505527
ESS Laboratory Sample ID: 1505527-02
Sample Matrix: Surface Water
Units: ug/L

Prepared: 5/22/15 12:48

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	ND (93)		MADEP-EPH		1	DPS	05/27/15 18:54	CYE0371	CE52232
C19-C36 Aliphatics1	ND (93)		MADEP-EPH		1	DPS	05/27/15 18:54	CYE0371	CE52232
C11-C22 Unadjusted Aromatics1	ND (93.5)		EPH8270		1	JXS	05/26/15 20:41	CYE0328	CE52232
C11-C22 Aromatics1,2	ND (93.5)		EPH8270			JXS	05/26/15 20:41		[CALC]
Preservative:	**pH <= 2**		MADEP-EPH			DPS			CE52232

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*66 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*90 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*96 %*		*40-140*
Surrogate: O-Terphenyl	*79 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett - MCP
Client Sample ID: SWS-6-05-21-15
Date Sampled: 05/21/15 10:38
Percent Solids: N/A

ESS Laboratory Work Order: 1505527
ESS Laboratory Sample ID: 1505527-03
Sample Matrix: Surface Water
Units: ug/L

Extraction Method: 3005A/200.7

Dissolved Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (5.0)		7010		2	KJK	05/31/15 14:25	50	25	CE52211
Arsenic	**6.2** (2.5)		7010		1	KJK	05/24/15 3:56	50	25	CE52211
Barium	ND (25.0)		6010C		1	KJK	05/23/15 21:37	50	25	CE52211
Beryllium	ND (0.5)		6010C		1	KJK	05/23/15 21:37	50	25	CE52211
Cadmium	ND (2.5)		6010C		1	KJK	05/23/15 21:37	50	25	CE52211
Chromium	ND (10.0)		6010C		1	KJK	05/23/15 21:37	50	25	CE52211
Lead	ND (10.0)		6010C		1	KJK	05/23/15 0:31	50	25	CE52211
Mercury	ND (0.20)		7470A		1	BJV	05/26/15 13:58	20	40	CE52230
Nickel	ND (25.0)		6010C		1	KJK	05/23/15 21:37	50	25	CE52211
Selenium	ND (10.0)		7010		2	KJK	05/31/15 9:39	50	25	CE52211
Silver	ND (5.0)		6010C		1	KJK	05/23/15 21:37	50	25	CE52211
Thallium	**EL** ND (4.0)		7010		4	KJK	05/29/15 20:48	50	25	CE52211
Vanadium	ND (10.0)		6010C		1	KJK	05/23/15 21:37	50	25	CE52211
Zinc	**30.9** (25.0)		6010C		1	KJK	05/23/15 21:37	50	25	CE52211

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett - MCP
Client Sample ID: SWS-6-05-21-15
Date Sampled: 05/21/15 10:38
Percent Solids: N/A
Initial Volume: 1070
Final Volume: 1
Extraction Method: 3520C

ESS Laboratory Work Order: 1505527
ESS Laboratory Sample ID: 1505527-03
Sample Matrix: Surface Water
Units: ug/L
Analyst: ML
Prepared: 5/26/15 19:05

8270C Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (9.3)		8270C		1	05/28/15 0:51	CYE0367	CE52612
1,2-Dichlorobenzene	ND (9.3)		8270C		1	05/28/15 0:51	CYE0367	CE52612
1,3-Dichlorobenzene	ND (9.3)		8270C		1	05/28/15 0:51	CYE0367	CE52612
1,4-Dichlorobenzene	ND (9.3)		8270C		1	05/28/15 0:51	CYE0367	CE52612
2,4,5-Trichlorophenol	ND (9.3)		8270C		1	05/28/15 0:51	CYE0367	CE52612
2,4,6-Trichlorophenol	ND (9.3)		8270C		1	05/28/15 0:51	CYE0367	CE52612
2,4-Dichlorophenol	ND (9.3)		8270C		1	05/28/15 0:51	CYE0367	CE52612
2,4-Dimethylphenol	ND (46.7)		8270C		1	05/28/15 0:51	CYE0367	CE52612
2,4-Dinitrophenol	ND (46.7)		8270C		1	05/28/15 0:51	CYE0367	CE52612
2,4-Dinitrotoluene	ND (9.3)		8270C		1	05/28/15 0:51	CYE0367	CE52612
2,6-Dinitrotoluene	ND (9.3)		8270C		1	05/28/15 0:51	CYE0367	CE52612
2-Chloronaphthalene	ND (9.3)		8270C		1	05/28/15 0:51	CYE0367	CE52612
2-Chlorophenol	ND (9.3)		8270C		1	05/28/15 0:51	CYE0367	CE52612
2-Methylphenol	ND (9.3)		8270C		1	05/28/15 0:51	CYE0367	CE52612
2-Nitrophenol	ND (9.3)		8270C		1	05/28/15 0:51	CYE0367	CE52612
3,3´-Dichlorobenzidine	ND (18.7)		8270C		1	05/28/15 0:51	CYE0367	CE52612
3+4-Methylphenol	ND (18.7)		8270C		1	05/28/15 0:51	CYE0367	CE52612
4-Bromophenyl-phenylether	ND (9.3)		8270C		1	05/28/15 0:51	CYE0367	CE52612
4-Chloroaniline	ND (18.7)		8270C		1	05/28/15 0:51	CYE0367	CE52612
4-Nitrophenol	ND (46.7)		8270C		1	05/28/15 0:51	CYE0367	CE52612
Acetophenone	ND (9.3)		8270C		1	05/28/15 0:51	CYE0367	CE52612
Aniline	ND (9.3)		8270C		1	05/28/15 0:51	CYE0367	CE52612
Azobenzene	ND (18.7)		8270C		1	05/28/15 0:51	CYE0367	CE52612
bis(2-Chloroethoxy)methane	ND (9.3)		8270C		1	05/28/15 0:51	CYE0367	CE52612
bis(2-Chloroethyl)ether	ND (9.3)		8270C		1	05/28/15 0:51	CYE0367	CE52612
bis(2-chloroisopropyl)Ether	ND (9.3)		8270C		1	05/28/15 0:51	CYE0367	CE52612
bis(2-Ethylhexyl)phthalate	ND (5.6)		8270C		1	05/28/15 0:51	CYE0367	CE52612
Butylbenzylphthalate	ND (9.3)		8270C		1	05/28/15 0:51	CYE0367	CE52612
Dibenzofuran	ND (9.3)		8270C		1	05/28/15 0:51	CYE0367	CE52612
Diethylphthalate	ND (9.3)		8270C		1	05/28/15 0:51	CYE0367	CE52612
Dimethylphthalate	ND (9.3)		8270C		1	05/28/15 0:51	CYE0367	CE52612
Di-n-butylphthalate	ND (9.3)		8270C		1	05/28/15 0:51	CYE0367	CE52612

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett - MCP
Client Sample ID: SWS-6-05-21-15
Date Sampled: 05/21/15 10:38
Percent Solids: N/A
Initial Volume: 1070
Final Volume: 1
Extraction Method: 3520C

ESS Laboratory Work Order: 1505527
ESS Laboratory Sample ID: 1505527-03
Sample Matrix: Surface Water
Units: ug/L
Analyst: ML
Prepared: 5/26/15 19:05

8270C Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Di-n-octylphthalate	ND (9.3)		8270C		1	05/28/15 0:51	CYE0367	CE52612
Hexachlorobutadiene	ND (9.3)		8270C		1	05/28/15 0:51	CYE0367	CE52612
Hexachloroethane	ND (4.7)		8270C		1	05/28/15 0:51	CYE0367	CE52612
Isophorone	ND (9.3)		8270C		1	05/28/15 0:51	CYE0367	CE52612
Nitrobenzene	ND (9.3)		8270C		1	05/28/15 0:51	CYE0367	CE52612
N-Nitrosodimethylamine	ND (9.3)		8270C		1	05/28/15 0:51	CYE0367	CE52612
Phenol	ND (9.3)		8270C		1	05/28/15 0:51	CYE0367	CE52612

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*61 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*73 %*		*15-110*
Surrogate: 2-Chlorophenol-d4	*66 %*		*15-110*
Surrogate: 2-Fluorobiphenyl	*63 %*		*30-130*
Surrogate: 2-Fluorophenol	*60 %*		*15-110*
Surrogate: Nitrobenzene-d5	*65 %*		*30-130*
Surrogate: Phenol-d6	*65 %*		*15-110*
Surrogate: p-Terphenyl-d14	*52 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett - MCP
Client Sample ID: SWS-6-05-21-15
Date Sampled: 05/21/15 10:38
Percent Solids: N/A
Initial Volume: 1070
Final Volume: 0.25
Extraction Method: 3510C

ESS Laboratory Work Order: 1505527
ESS Laboratory Sample ID: 1505527-03
Sample Matrix: Surface Water
Units: ug/L
Analyst: VSC
Prepared: 5/26/15 17:45

8270D(SIM) Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.19)		8270D SIM		1	05/27/15 18:10	CYE0340	CE52636
Acenaphthene	ND (0.19)		8270D SIM		1	05/27/15 18:10	CYE0340	CE52636
Acenaphthylene	ND (0.19)		8270D SIM		1	05/27/15 18:10	CYE0340	CE52636
Anthracene	ND (0.19)		8270D SIM		1	05/27/15 18:10	CYE0340	CE52636
Benzo(a)anthracene	ND (0.05)		8270D SIM		1	05/27/15 18:10	CYE0340	CE52636
Benzo(a)pyrene	ND (0.05)		8270D SIM		1	05/27/15 18:10	CYE0340	CE52636
Benzo(b)fluoranthene	ND (0.05)		8270D SIM		1	05/27/15 18:10	CYE0340	CE52636
Benzo(g,h,i)perylene	ND (0.19)		8270D SIM		1	05/27/15 18:10	CYE0340	CE52636
Benzo(k)fluoranthene	ND (0.05)		8270D SIM		1	05/27/15 18:10	CYE0340	CE52636
Chrysene	ND (0.05)		8270D SIM		1	05/27/15 18:10	CYE0340	CE52636
Dibenzo(a,h)Anthracene	ND (0.05)		8270D SIM		1	05/27/15 18:10	CYE0340	CE52636
Fluoranthene	ND (0.19)		8270D SIM		1	05/27/15 18:10	CYE0340	CE52636
Fluorene	ND (0.19)		8270D SIM		1	05/27/15 18:10	CYE0340	CE52636
Hexachlorobenzene	ND (0.19)		8270D SIM		1	05/27/15 18:10	CYE0340	CE52636
Indeno(1,2,3-cd)Pyrene	ND (0.05)		8270D SIM		1	05/27/15 18:10	CYE0340	CE52636
Naphthalene	ND (0.19)		8270D SIM		1	05/27/15 18:10	CYE0340	CE52636
Pentachlorophenol	ND (0.84)		8270D SIM		1	05/27/15 18:10	CYE0340	CE52636
Phenanthrene	ND (0.19)		8270D SIM		1	05/27/15 18:10	CYE0340	CE52636
Pyrene	ND (0.19)		8270D SIM		1	05/27/15 18:10	CYE0340	CE52636

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*40 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*96 %*		*15-110*
Surrogate: 2-Fluorobiphenyl	*54 %*		*30-130*
Surrogate: Nitrobenzene-d5	*68 %*		*30-130*
Surrogate: p-Terphenyl-d14	*68 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett - MCP
Client Sample ID: SWS-6-05-21-15
Date Sampled: 05/21/15 10:38
Percent Solids: N/A

ESS Laboratory Work Order: 1505527
ESS Laboratory Sample ID: 1505527-03
Sample Matrix: Surface Water

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Hexavalent Chromium	ND (10)		7196A		1	JLK	05/22/15 7:37	ug/L	CE52201

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett - MCP
Client Sample ID: SWS-6-05-21-15
Date Sampled: 05/21/15 10:38
Percent Solids: N/A
Initial Volume: 1070
Final Volume: 1
Extraction Method: 3510C

ESS Laboratory Work Order: 1505527
ESS Laboratory Sample ID: 1505527-03
Sample Matrix: Surface Water
Units: ug/L

Prepared: 5/22/15 12:48

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	ND (93)		MADEP-EPH		1	DPS	05/27/15 19:45	CYE0371	CE52232
C19-C36 Aliphatics1	ND (93)		MADEP-EPH		1	DPS	05/27/15 19:45	CYE0371	CE52232
C11-C22 Unadjusted Aromatics1	ND (93.5)		EPH8270		1	JXS	05/26/15 21:17	CYE0328	CE52232
C11-C22 Aromatics1,2	ND (93.5)		EPH8270			JXS	05/26/15 21:17		[CALC]
Preservative:	**pH <= 2**		MADEP-EPH			DPS			CE52232

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*62 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*84 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*93 %*		*40-140*
Surrogate: O-Terphenyl	*69 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett - MCP
Client Sample ID: SW-6-05-21-15
Date Sampled: 05/21/15 11:00
Percent Solids: N/A

ESS Laboratory Work Order: 1505527
ESS Laboratory Sample ID: 1505527-04
Sample Matrix: Surface Water
Units: ug/L

Extraction Method: 3005A/200.7

Dissolved Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (5.0)		7010		2	KJK	05/31/15 14:30	50	25	CE52211
Arsenic	ND (2.5)		7010		1	KJK	05/24/15 4:08	50	25	CE52211
Barium	**27.3** (25.0)		6010C		1	KJK	05/23/15 21:43	50	25	CE52211
Beryllium	ND (0.5)		6010C		1	KJK	05/23/15 21:43	50	25	CE52211
Cadmium	ND (2.5)		6010C		1	KJK	05/23/15 21:43	50	25	CE52211
Chromium	ND (10.0)		6010C		1	KJK	05/23/15 21:43	50	25	CE52211
Lead	ND (10.0)		6010C		1	KJK	05/23/15 0:36	50	25	CE52211
Mercury	ND (0.20)		7470A		1	BJV	05/26/15 14:01	20	40	CE52230
Nickel	ND (25.0)		6010C		1	KJK	05/23/15 21:43	50	25	CE52211
Selenium	ND (10.0)		7010		2	KJK	05/31/15 9:44	50	25	CE52211
Silver	ND (5.0)		6010C		1	KJK	05/23/15 21:43	50	25	CE52211
Thallium	**EL** ND (3.0)		7010		3	KJK	05/29/15 20:31	50	25	CE52211
Vanadium	ND (10.0)		6010C		1	KJK	05/23/15 21:43	50	25	CE52211
Zinc	**26.6** (25.0)		6010C		1	KJK	05/23/15 21:43	50	25	CE52211

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett - MCP
Client Sample ID: SW-6-05-21-15
Date Sampled: 05/21/15 11:00
Percent Solids: N/A
Initial Volume: 1070
Final Volume: 1
Extraction Method: 3520C

ESS Laboratory Work Order: 1505527
ESS Laboratory Sample ID: 1505527-04
Sample Matrix: Surface Water
Units: ug/L
Analyst: ML
Prepared: 5/26/15 19:05

8270C Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (9.3)		8270C		1	05/28/15 1:27	CYE0367	CE52612
1,2-Dichlorobenzene	ND (9.3)		8270C		1	05/28/15 1:27	CYE0367	CE52612
1,3-Dichlorobenzene	ND (9.3)		8270C		1	05/28/15 1:27	CYE0367	CE52612
1,4-Dichlorobenzene	ND (9.3)		8270C		1	05/28/15 1:27	CYE0367	CE52612
2,4,5-Trichlorophenol	ND (9.3)		8270C		1	05/28/15 1:27	CYE0367	CE52612
2,4,6-Trichlorophenol	ND (9.3)		8270C		1	05/28/15 1:27	CYE0367	CE52612
2,4-Dichlorophenol	ND (9.3)		8270C		1	05/28/15 1:27	CYE0367	CE52612
2,4-Dimethylphenol	ND (46.7)		8270C		1	05/28/15 1:27	CYE0367	CE52612
2,4-Dinitrophenol	ND (46.7)		8270C		1	05/28/15 1:27	CYE0367	CE52612
2,4-Dinitrotoluene	ND (9.3)		8270C		1	05/28/15 1:27	CYE0367	CE52612
2,6-Dinitrotoluene	ND (9.3)		8270C		1	05/28/15 1:27	CYE0367	CE52612
2-Chloronaphthalene	ND (9.3)		8270C		1	05/28/15 1:27	CYE0367	CE52612
2-Chlorophenol	ND (9.3)		8270C		1	05/28/15 1:27	CYE0367	CE52612
2-Methylphenol	ND (9.3)		8270C		1	05/28/15 1:27	CYE0367	CE52612
2-Nitrophenol	ND (9.3)		8270C		1	05/28/15 1:27	CYE0367	CE52612
3,3´-Dichlorobenzidine	ND (18.7)		8270C		1	05/28/15 1:27	CYE0367	CE52612
3+4-Methylphenol	ND (18.7)		8270C		1	05/28/15 1:27	CYE0367	CE52612
4-Bromophenyl-phenylether	ND (9.3)		8270C		1	05/28/15 1:27	CYE0367	CE52612
4-Chloroaniline	ND (18.7)		8270C		1	05/28/15 1:27	CYE0367	CE52612
4-Nitrophenol	ND (46.7)		8270C		1	05/28/15 1:27	CYE0367	CE52612
Acetophenone	ND (9.3)		8270C		1	05/28/15 1:27	CYE0367	CE52612
Aniline	ND (9.3)		8270C		1	05/28/15 1:27	CYE0367	CE52612
Azobenzene	ND (18.7)		8270C		1	05/28/15 1:27	CYE0367	CE52612
bis(2-Chloroethoxy)methane	ND (9.3)		8270C		1	05/28/15 1:27	CYE0367	CE52612
bis(2-Chloroethyl)ether	ND (9.3)		8270C		1	05/28/15 1:27	CYE0367	CE52612
bis(2-chloroisopropyl)Ether	ND (9.3)		8270C		1	05/28/15 1:27	CYE0367	CE52612
bis(2-Ethylhexyl)phthalate	**6.0** (5.6)		8270C		1	05/28/15 1:27	CYE0367	CE52612
Butylbenzylphthalate	ND (9.3)		8270C		1	05/28/15 1:27	CYE0367	CE52612
Dibenzofuran	ND (9.3)		8270C		1	05/28/15 1:27	CYE0367	CE52612
Diethylphthalate	ND (9.3)		8270C		1	05/28/15 1:27	CYE0367	CE52612
Dimethylphthalate	ND (9.3)		8270C		1	05/28/15 1:27	CYE0367	CE52612
Di-n-butylphthalate	ND (9.3)		8270C		1	05/28/15 1:27	CYE0367	CE52612

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett - MCP
Client Sample ID: SW-6-05-21-15
Date Sampled: 05/21/15 11:00
Percent Solids: N/A
Initial Volume: 1070
Final Volume: 1
Extraction Method: 3520C

ESS Laboratory Work Order: 1505527
ESS Laboratory Sample ID: 1505527-04
Sample Matrix: Surface Water
Units: ug/L
Analyst: ML
Prepared: 5/26/15 19:05

8270C Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Di-n-octylphthalate	ND (9.3)		8270C		1	05/28/15 1:27	CYE0367	CE52612
Hexachlorobutadiene	ND (9.3)		8270C		1	05/28/15 1:27	CYE0367	CE52612
Hexachloroethane	ND (4.7)		8270C		1	05/28/15 1:27	CYE0367	CE52612
Isophorone	ND (9.3)		8270C		1	05/28/15 1:27	CYE0367	CE52612
Nitrobenzene	ND (9.3)		8270C		1	05/28/15 1:27	CYE0367	CE52612
N-Nitrosodimethylamine	ND (9.3)		8270C		1	05/28/15 1:27	CYE0367	CE52612
Phenol	ND (9.3)		8270C		1	05/28/15 1:27	CYE0367	CE52612

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*51 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*65 %*		*15-110*
Surrogate: 2-Chlorophenol-d4	*53 %*		*15-110*
Surrogate: 2-Fluorobiphenyl	*51 %*		*30-130*
Surrogate: 2-Fluorophenol	*50 %*		*15-110*
Surrogate: Nitrobenzene-d5	*49 %*		*30-130*
Surrogate: Phenol-d6	*53 %*		*15-110*
Surrogate: p-Terphenyl-d14	*51 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett - MCP
Client Sample ID: SW-6-05-21-15
Date Sampled: 05/21/15 11:00
Percent Solids: N/A
Initial Volume: 1070
Final Volume: 0.25
Extraction Method: 3510C

ESS Laboratory Work Order: 1505527
ESS Laboratory Sample ID: 1505527-04
Sample Matrix: Surface Water
Units: ug/L
Analyst: VSC
Prepared: 5/26/15 17:45

8270D(SIM) Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.19)		8270D SIM		1	05/27/15 19:01	CYE0340	CE52636
Acenaphthene	ND (0.19)		8270D SIM		1	05/27/15 19:01	CYE0340	CE52636
Acenaphthylene	ND (0.19)		8270D SIM		1	05/27/15 19:01	CYE0340	CE52636
Anthracene	ND (0.19)		8270D SIM		1	05/27/15 19:01	CYE0340	CE52636
Benzo(a)anthracene	**0.14** (0.05)		8270D SIM		1	05/27/15 19:01	CYE0340	CE52636
Benzo(a)pyrene	**0.18** (0.05)		8270D SIM		1	05/27/15 19:01	CYE0340	CE52636
Benzo(b)fluoranthene	**0.28** (0.05)		8270D SIM		1	05/27/15 19:01	CYE0340	CE52636
Benzo(g,h,i)perylene	ND (0.19)		8270D SIM		1	05/27/15 19:01	CYE0340	CE52636
Benzo(k)fluoranthene	**0.10** (0.05)		8270D SIM		1	05/27/15 19:01	CYE0340	CE52636
Chrysene	**0.20** (0.05)		8270D SIM		1	05/27/15 19:01	CYE0340	CE52636
Dibenzo(a,h)Anthracene	ND (0.05)		8270D SIM		1	05/27/15 19:01	CYE0340	CE52636
Fluoranthene	**0.33** (0.19)		8270D SIM		1	05/27/15 19:01	CYE0340	CE52636
Fluorene	ND (0.19)		8270D SIM		1	05/27/15 19:01	CYE0340	CE52636
Hexachlorobenzene	ND (0.19)		8270D SIM		1	05/27/15 19:01	CYE0340	CE52636
Indeno(1,2,3-cd)Pyrene	**0.17** (0.05)		8270D SIM		1	05/27/15 19:01	CYE0340	CE52636
Naphthalene	ND (0.19)		8270D SIM		1	05/27/15 19:01	CYE0340	CE52636
Pentachlorophenol	ND (0.84)		8270D SIM		1	05/27/15 19:01	CYE0340	CE52636
Phenanthrene	ND (0.19)		8270D SIM		1	05/27/15 19:01	CYE0340	CE52636
Pyrene	**0.28** (0.19)		8270D SIM		1	05/27/15 19:01	CYE0340	CE52636

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*44 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*103 %*		*15-110*
Surrogate: 2-Fluorobiphenyl	*58 %*		*30-130*
Surrogate: Nitrobenzene-d5	*70 %*		*30-130*
Surrogate: p-Terphenyl-d14	*73 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett - MCP
Client Sample ID: SW-6-05-21-15
Date Sampled: 05/21/15 11:00
Percent Solids: N/A

ESS Laboratory Work Order: 1505527
ESS Laboratory Sample ID: 1505527-04
Sample Matrix: Surface Water

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Hexavalent Chromium	ND (10)		7196A		1	JLK	05/22/15 7:37	ug/L	CE52201

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett - MCP
Client Sample ID: SW-6-05-21-15
Date Sampled: 05/21/15 11:00
Percent Solids: N/A
Initial Volume: 1050
Final Volume: 1
Extraction Method: 3510C

ESS Laboratory Work Order: 1505527
ESS Laboratory Sample ID: 1505527-04
Sample Matrix: Surface Water
Units: ug/L

Prepared: 5/22/15 12:48

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	ND (95)		MADEP-EPH		1	DPS	05/27/15 20:35	CYE0371	CE52232
C19-C36 Aliphatics1	**134** (95)		MADEP-EPH		1	DPS	05/27/15 20:35	CYE0371	CE52232
C11-C22 Unadjusted Aromatics1	ND (95.2)		EPH8270		1	JXS	05/26/15 21:54	CYE0328	CE52232
C11-C22 Aromatics1,2	ND (95.2)		EPH8270			JXS	05/26/15 21:54		[CALC]
Preservative:	**pH <= 2**		MADEP-EPH			DPS			CE52232

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*62 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*73 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*93 %*		*40-140*
Surrogate: O-Terphenyl	*64 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett - MCP

ESS Laboratory Work Order: 1505527

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Dissolved Metals										
Batch CE52211 - 3005A/200.7										
Blank										
Antimony	ND	2.5	ug/L							
Arsenic	ND	25.0	ug/L							
Arsenic	ND	2.5	ug/L							
Barium	ND	25.0	ug/L							
Beryllium	ND	0.5	ug/L							
Cadmium	ND	2.5	ug/L							
Chromium	ND	10.0	ug/L							
Lead	ND	10.0	ug/L							
Nickel	ND	25.0	ug/L							
Selenium	ND	5.0	ug/L							
Silver	ND	5.0	ug/L							
Thallium	ND	1.0	ug/L							
Vanadium	ND	10.0	ug/L							
Zinc	ND	25.0	ug/L							
LCS										
Antimony	291	50.0	ug/L	250.0		116	80-120			
Arsenic	243	25.0	ug/L	250.0		97	80-120			
Arsenic	220	50.0	ug/L	250.0		88	80-120			
Barium	227	25.0	ug/L	250.0		91	80-120			
Beryllium	23.4	0.5	ug/L	25.00		94	80-120			
Cadmium	117	2.5	ug/L	125.0		93	80-120			
Chromium	230	10.0	ug/L	250.0		92	80-120			
Lead	226	10.0	ug/L	250.0		90	80-120			
Nickel	236	25.0	ug/L	250.0		94	80-120			
Selenium	583	100	ug/L	500.0		117	80-120			
Silver	117	5.0	ug/L	125.0		94	80-120			
Thallium	226	20.0	ug/L	250.0		90	80-120			
Vanadium	230	10.0	ug/L	250.0		92	80-120			
Zinc	240	25.0	ug/L	250.0		96	80-120			
LCS Dup										
Antimony	242	50.0	ug/L	250.0		97	80-120	18	20	
Arsenic	200	25.0	ug/L	250.0		80	80-120	20	20	
Arsenic	184	50.0	ug/L	250.0		74	80-120	18	20	B-
Barium	188	25.0	ug/L	250.0		75	80-120	19	20	B-
Beryllium	19.5	0.5	ug/L	25.00		78	80-120	18	20	B-
Cadmium	96.6	2.5	ug/L	125.0		77	80-120	19	20	B-
Chromium	191	10.0	ug/L	250.0		76	80-120	19	20	B-
Lead	184	10.0	ug/L	250.0		74	80-120	20	20	B-
Nickel	196	25.0	ug/L	250.0		79	80-120	18	20	B-
Selenium	491	100	ug/L	500.0		98	80-120	17	20	
Silver	96.5	5.0	ug/L	125.0		77	80-120	19	20	B-
Thallium	205	20.0	ug/L	250.0		82	80-120	9	20	
Vanadium	190	10.0	ug/L	250.0		76	80-120	19	20	B-
Zinc	200	25.0	ug/L	250.0		80	80-120	18	20	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
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ESS Laboratory Work Order: 1505527

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Dissolved Metals										
Batch CE52230 - 245.1/7470A										
Blank										
Mercury	ND	0.20	ug/L							
LCS										
Mercury	6.03	0.20	ug/L	6.000		101	80-120			
LCS Dup										
Mercury	6.14	0.20	ug/L	6.000		102	80-120	2	20	
8270C Semi-Volatile Organic Compounds										
Batch CE52612 - 3520C										
Blank										
1,2,4-Trichlorobenzene	ND	10.0	ug/L							
1,2-Dichlorobenzene	ND	10.0	ug/L							
1,3-Dichlorobenzene	ND	10.0	ug/L							
1,4-Dichlorobenzene	ND	10.0	ug/L							
2,4,5-Trichlorophenol	ND	10.0	ug/L							
2,4,6-Trichlorophenol	ND	10.0	ug/L							
2,4-Dichlorophenol	ND	10.0	ug/L							
2,4-Dimethylphenol	ND	50.0	ug/L							
2,4-Dinitrophenol	ND	50.0	ug/L							
2,4-Dinitrotoluene	ND	10.0	ug/L							
2,6-Dinitrotoluene	ND	10.0	ug/L							
2-Chloronaphthalene	ND	10.0	ug/L							
2-Chlorophenol	ND	10.0	ug/L							
2-Methylphenol	ND	10.0	ug/L							
2-Nitrophenol	ND	10.0	ug/L							
3,3´-Dichlorobenzidine	ND	20.0	ug/L							
3+4-Methylphenol	ND	20.0	ug/L							
4-Bromophenyl-phenylether	ND	10.0	ug/L							
4-Chloroaniline	ND	20.0	ug/L							
4-Nitrophenol	ND	50.0	ug/L							
Acetophenone	ND	10.0	ug/L							
Aniline	ND	10.0	ug/L							
Azobenzene	ND	20.0	ug/L							
bis(2-Chloroethoxy)methane	ND	10.0	ug/L							
bis(2-Chloroethyl)ether	ND	10.0	ug/L							
bis(2-chloroisopropyl)Ether	ND	10.0	ug/L							
bis(2-Ethylhexyl)phthalate	ND	6.0	ug/L							
Butylbenzylphthalate	ND	10.0	ug/L							
Dibenzofuran	ND	10.0	ug/L							
Diethylphthalate	ND	10.0	ug/L							
Dimethylphthalate	ND	10.0	ug/L							
Di-n-butylphthalate	ND	10.0	ug/L							
Di-n-octylphthalate	ND	10.0	ug/L							
Hexachlorobutadiene	ND	10.0	ug/L							

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett - MCP

ESS Laboratory Work Order: 1505527

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270C Semi-Volatile Organic Compounds										
Batch CE52612 - 3520C										
Hexachloroethane	ND	5.0	ug/L							
Isophorone	ND	10.0	ug/L							
Nitrobenzene	ND	10.0	ug/L							
N-Nitrosodimethylamine	ND	10.0	ug/L							
Phenol	ND	10.0	ug/L							
Surrogate: 1,2-Dichlorobenzene-d4	*60.5*		ug/L	*100.0*		*60*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*99.8*		ug/L	*150.0*		*67*	*15-110*			
Surrogate: 2-Chlorophenol-d4	*96.9*		ug/L	*150.0*		*65*	*15-110*			
Surrogate: 2-Fluorobiphenyl	*60.9*		ug/L	*100.0*		*61*	*30-130*			
Surrogate: 2-Fluorophenol	*85.5*		ug/L	*150.0*		*57*	*15-110*			
Surrogate: Nitrobenzene-d5	*64.1*		ug/L	*100.0*		*64*	*30-130*			
Surrogate: Phenol-d6	*96.1*		ug/L	*150.0*		*64*	*15-110*			
Surrogate: p-Terphenyl-d14	*69.1*		ug/L	*100.0*		*69*	*30-130*			
LCS										
1,2,4-Trichlorobenzene	56.1	10.0	ug/L	100.0		56	40-140			
1,2-Dichlorobenzene	44.5	10.0	ug/L	100.0		44	40-140			
1,3-Dichlorobenzene	43.1	10.0	ug/L	100.0		43	40-140			
1,4-Dichlorobenzene	42.8	10.0	ug/L	100.0		43	40-140			
2,4,5-Trichlorophenol	69.3	10.0	ug/L	100.0		69	30-130			
2,4,6-Trichlorophenol	64.4	10.0	ug/L	100.0		64	30-130			
2,4-Dichlorophenol	61.3	10.0	ug/L	100.0		61	30-130			
2,4-Dimethylphenol	63.6	50.0	ug/L	100.0		64	30-130			
2,4-Dinitrophenol	42.1	50.0	ug/L	100.0		42	30-130			
2,4-Dinitrotoluene	68.3	10.0	ug/L	100.0		68	40-140			
2,6-Dinitrotoluene	65.3	10.0	ug/L	100.0		65	40-140			
2-Chloronaphthalene	89.0	10.0	ug/L	100.0		89	40-140			
2-Chlorophenol	56.0	10.0	ug/L	100.0		56	30-130			
2-Methylphenol	58.3	10.0	ug/L	100.0		58	30-130			
2-Nitrophenol	57.6	10.0	ug/L	100.0		58	30-130			
3,3´-Dichlorobenzidine	56.3	20.0	ug/L	100.0		56	40-140			
3+4-Methylphenol	125	20.0	ug/L	200.0		63	30-130			
4-Bromophenyl-phenylether	63.3	10.0	ug/L	100.0		63	40-140			
4-Chloroaniline	51.6	20.0	ug/L	100.0		52	40-140			
4-Nitrophenol	48.6	50.0	ug/L	100.0		49	30-130			
Acetophenone	59.4	10.0	ug/L	100.0		59	40-140			
Aniline	47.4	10.0	ug/L	100.0		47	40-140			
Azobenzene	58.0	20.0	ug/L	100.0		58	40-140			
bis(2-Chloroethoxy)methane	57.0	10.0	ug/L	100.0		57	40-140			
bis(2-Chloroethyl)ether	74.8	10.0	ug/L	100.0		75	40-140			
bis(2-chloroisopropyl)Ether	57.0	10.0	ug/L	100.0		57	40-140			
bis(2-Ethylhexyl)phthalate	66.1	6.0	ug/L	100.0		66	40-140			
Butylbenzylphthalate	64.1	10.0	ug/L	100.0		64	40-140			
Dibenzofuran	63.9	10.0	ug/L	100.0		64	40-140			
Diethylphthalate	69.0	10.0	ug/L	100.0		69	40-140			
Dimethylphthalate	65.3	10.0	ug/L	100.0		65	40-140			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett - MCP

ESS Laboratory Work Order: 1505527

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270C Semi-Volatile Organic Compounds										
Batch CE52612 - 3520C										
Di-n-butylphthalate	69.8	10.0	ug/L	100.0		70	40-140			
Di-n-octylphthalate	70.3	10.0	ug/L	100.0		70	40-140			
Hexachlorobutadiene	55.3	10.0	ug/L	100.0		55	40-140			
Hexachloroethane	43.5	5.0	ug/L	100.0		44	40-140			
Isophorone	54.7	10.0	ug/L	100.0		55	40-140			
Nitrobenzene	60.3	10.0	ug/L	100.0		60	40-140			
N-Nitrosodimethylamine	82.1	10.0	ug/L	100.0		82	40-140			
Phenol	55.2	10.0	ug/L	100.0		55	30-130			
Surrogate: 1,2-Dichlorobenzene-d4	*63.8*		ug/L	*100.0*		*64*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*114*		ug/L	*150.0*		*76*	*15-110*			
Surrogate: 2-Chlorophenol-d4	*96.8*		ug/L	*150.0*		*64*	*15-110*			
Surrogate: 2-Fluorobiphenyl	*70.2*		ug/L	*100.0*		*70*	*30-130*			
Surrogate: 2-Fluorophenol	*83.5*		ug/L	*150.0*		*56*	*15-110*			
Surrogate: Nitrobenzene-d5	*66.6*		ug/L	*100.0*		*67*	*30-130*			
Surrogate: Phenol-d6	*97.9*		ug/L	*150.0*		*65*	*15-110*			
Surrogate: p-Terphenyl-d14	*71.3*		ug/L	*100.0*		*71*	*30-130*			
LCS Dup										
1,2,4-Trichlorobenzene	59.0	10.0	ug/L	100.0		59	40-140	5	20	
1,2-Dichlorobenzene	47.5	10.0	ug/L	100.0		47	40-140	7	20	
1,3-Dichlorobenzene	45.9	10.0	ug/L	100.0		46	40-140	6	20	
1,4-Dichlorobenzene	45.2	10.0	ug/L	100.0		45	40-140	6	20	
2,4,5-Trichlorophenol	73.5	10.0	ug/L	100.0		74	30-130	6	20	
2,4,6-Trichlorophenol	68.4	10.0	ug/L	100.0		68	30-130	6	20	
2,4-Dichlorophenol	66.9	10.0	ug/L	100.0		67	30-130	9	20	
2,4-Dimethylphenol	66.6	50.0	ug/L	100.0		67	30-130	5	20	
2,4-Dinitrophenol	45.8	50.0	ug/L	100.0		46	30-130	8	20	
2,4-Dinitrotoluene	72.0	10.0	ug/L	100.0		72	40-140	5	20	
2,6-Dinitrotoluene	71.8	10.0	ug/L	100.0		72	40-140	9	20	
2-Chloronaphthalene	93.2	10.0	ug/L	100.0		93	40-140	5	20	
2-Chlorophenol	61.3	10.0	ug/L	100.0		61	30-130	9	20	
2-Methylphenol	62.5	10.0	ug/L	100.0		62	30-130	7	20	
2-Nitrophenol	61.0	10.0	ug/L	100.0		61	30-130	6	20	
3,3´-Dichlorobenzidine	59.3	20.0	ug/L	100.0		59	40-140	5	20	
3+4-Methylphenol	133	20.0	ug/L	200.0		66	30-130	6	20	
4-Bromophenyl-phenylether	66.8	10.0	ug/L	100.0		67	40-140	5	20	
4-Chloroaniline	51.0	20.0	ug/L	100.0		51	40-140	1	20	
4-Nitrophenol	51.1	50.0	ug/L	100.0		51	30-130	5	20	
Acetophenone	63.1	10.0	ug/L	100.0		63	40-140	6	20	
Aniline	50.2	10.0	ug/L	100.0		50	40-140	6	20	
Azobenzene	61.1	20.0	ug/L	100.0		61	40-140	5	20	
bis(2-Chloroethoxy)methane	59.1	10.0	ug/L	100.0		59	40-140	4	20	
bis(2-Chloroethyl)ether	80.6	10.0	ug/L	100.0		81	40-140	8	20	
bis(2-chloroisopropyl)Ether	58.9	10.0	ug/L	100.0		59	40-140	3	20	
bis(2-Ethylhexyl)phthalate	71.1	6.0	ug/L	100.0		71	40-140	7	20	
Butylbenzylphthalate	66.9	10.0	ug/L	100.0		67	40-140	4	20	

CERTIFICATE OF ANALYSIS

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270C Semi-Volatile Organic Compounds										
Batch CE52612 - 3520C										
Dibenzofuran	66.2	10.0	ug/L	100.0		66	40-140	4	20	
Diethylphthalate	74.2	10.0	ug/L	100.0		74	40-140	7	20	
Dimethylphthalate	70.5	10.0	ug/L	100.0		70	40-140	8	20	
Di-n-butylphthalate	73.9	10.0	ug/L	100.0		74	40-140	6	20	
Di-n-octylphthalate	75.2	10.0	ug/L	100.0		75	40-140	7	20	
Hexachlorobutadiene	59.0	10.0	ug/L	100.0		59	40-140	7	20	
Hexachloroethane	46.4	5.0	ug/L	100.0		46	40-140	6	20	
Isophorone	59.1	10.0	ug/L	100.0		59	40-140	8	20	
Nitrobenzene	63.7	10.0	ug/L	100.0		64	40-140	5	20	
N-Nitrosodimethylamine	84.9	10.0	ug/L	100.0		85	40-140	3	20	
Phenol	60.3	10.0	ug/L	100.0		60	30-130	9	20	
Surrogate: 1,2-Dichlorobenzene-d4	*62.1*		ug/L	*100.0*		*62*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*115*		ug/L	*150.0*		*77*	*15-110*			
Surrogate: 2-Chlorophenol-d4	*98.3*		ug/L	*150.0*		*66*	*15-110*			
Surrogate: 2-Fluorobiphenyl	*68.0*		ug/L	*100.0*		*68*	*30-130*			
Surrogate: 2-Fluorophenol	*87.6*		ug/L	*150.0*		*58*	*15-110*			
Surrogate: Nitrobenzene-d5	*65.1*		ug/L	*100.0*		*65*	*30-130*			
Surrogate: Phenol-d6	*97.2*		ug/L	*150.0*		*65*	*15-110*			
Surrogate: p-Terphenyl-d14	*69.8*		ug/L	*100.0*		*70*	*30-130*			
8270D(SIM) Semi-Volatile Organic Compounds										
Batch CE52636 - 3510C										
Blank										
2-Methylnaphthalene	ND	0.20	ug/L							
Acenaphthene	ND	0.20	ug/L							
Acenaphthylene	ND	0.20	ug/L							
Anthracene	ND	0.20	ug/L							
Benzo(a)anthracene	ND	0.05	ug/L							
Benzo(a)pyrene	ND	0.05	ug/L							
Benzo(b)fluoranthene	ND	0.05	ug/L							
Benzo(g,h,i)perylene	ND	0.20	ug/L							
Benzo(k)fluoranthene	ND	0.05	ug/L							
Chrysene	ND	0.05	ug/L							
Dibenzo(a,h)Anthracene	ND	0.05	ug/L							
Fluoranthene	ND	0.20	ug/L							
Fluorene	ND	0.20	ug/L							
Hexachlorobenzene	ND	0.20	ug/L							
Indeno(1,2,3-cd)Pyrene	ND	0.05	ug/L							
Naphthalene	ND	0.20	ug/L							
Pentachlorophenol	ND	0.90	ug/L							
Phenanthrene	ND	0.20	ug/L							
Pyrene	ND	0.20	ug/L							
Surrogate: 1,2-Dichlorobenzene-d4	*1.27*		ug/L	*2.500*		*51*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*4.49*		ug/L	*3.750*		*120*	*15-110*			*S+*
Surrogate: 2-Fluorobiphenyl	*1.58*		ug/L	*2.500*		*63*	*30-130*			

CERTIFICATE OF ANALYSIS

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ESS Laboratory Work Order: 1505527

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D(SIM) Semi-Volatile Organic Compounds										
Batch CE52636 - 3510C										
Surrogate: Nitrobenzene-d5	*2.05*		ug/L	*2.500*		*82*	*30-130*			
Surrogate: p-Terphenyl-d14	*1.93*		ug/L	*2.500*		*77*	*30-130*			
LCS										
2-Methylnaphthalene	1.84	0.20	ug/L	4.000		46	40-140			
Acenaphthene	2.38	0.20	ug/L	4.000		59	40-140			
Acenaphthylene	2.31	0.20	ug/L	4.000		58	40-140			
Anthracene	2.88	0.20	ug/L	4.000		72	40-140			
Benzo(a)anthracene	3.06	0.05	ug/L	4.000		77	40-140			
Benzo(a)pyrene	3.21	0.05	ug/L	4.000		80	40-140			
Benzo(b)fluoranthene	3.21	0.05	ug/L	4.000		80	40-140			
Benzo(g,h,i)perylene	3.19	0.20	ug/L	4.000		80	40-140			
Benzo(k)fluoranthene	3.40	0.05	ug/L	4.000		85	40-140			
Chrysene	3.14	0.05	ug/L	4.000		78	40-140			
Dibenzo(a,h)Anthracene	3.17	0.05	ug/L	4.000		79	40-140			
Fluoranthene	3.10	0.20	ug/L	4.000		77	40-140			
Fluorene	2.53	0.20	ug/L	4.000		63	40-140			
Hexachlorobenzene	3.21	0.20	ug/L	4.000		80	40-140			
Indeno(1,2,3-cd)Pyrene	3.20	0.05	ug/L	4.000		80	40-140			
Naphthalene	2.02	0.20	ug/L	4.000		51	40-140			
Pentachlorophenol	1.83	0.90	ug/L	4.000		46	30-130			
Phenanthrene	2.78	0.20	ug/L	4.000		69	40-140			
Pyrene	3.10	0.20	ug/L	4.000		77	40-140			
Surrogate: 1,2-Dichlorobenzene-d4	*0.991*		ug/L	*2.500*		*40*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*4.10*		ug/L	*3.750*		*109*	*15-110*			
Surrogate: 2-Fluorobiphenyl	*1.33*		ug/L	*2.500*		*53*	*30-130*			
Surrogate: Nitrobenzene-d5	*1.56*		ug/L	*2.500*		*62*	*30-130*			
Surrogate: p-Terphenyl-d14	*1.72*		ug/L	*2.500*		*69*	*30-130*			
LCS Dup										
2-Methylnaphthalene	1.75	0.20	ug/L	4.000		44	40-140	5	20	
Acenaphthene	2.20	0.20	ug/L	4.000		55	40-140	8	20	
Acenaphthylene	2.16	0.20	ug/L	4.000		54	40-140	6	20	
Anthracene	2.84	0.20	ug/L	4.000		71	40-140	1	20	
Benzo(a)anthracene	3.22	0.05	ug/L	4.000		81	40-140	5	20	
Benzo(a)pyrene	3.46	0.05	ug/L	4.000		86	40-140	8	20	
Benzo(b)fluoranthene	3.42	0.05	ug/L	4.000		86	40-140	7	20	
Benzo(g,h,i)perylene	3.43	0.20	ug/L	4.000		86	40-140	7	20	
Benzo(k)fluoranthene	3.62	0.05	ug/L	4.000		91	40-140	6	20	
Chrysene	3.30	0.05	ug/L	4.000		83	40-140	5	20	
Dibenzo(a,h)Anthracene	3.42	0.05	ug/L	4.000		85	40-140	8	20	
Fluoranthene	3.39	0.20	ug/L	4.000		85	40-140	9	20	
Fluorene	2.33	0.20	ug/L	4.000		58	40-140	8	20	
Hexachlorobenzene	3.13	0.20	ug/L	4.000		78	40-140	2	20	
Indeno(1,2,3-cd)Pyrene	3.42	0.05	ug/L	4.000		85	40-140	6	20	
Naphthalene	1.94	0.20	ug/L	4.000		48	40-140	4	20	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett - MCP

ESS Laboratory Work Order: 1505527

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D(SIM) Semi-Volatile Organic Compounds										
Batch CE52636 - 3510C										
Pentachlorophenol	2.08	0.90	ug/L	4.000		52	30-130	13	20	
Phenanthrene	2.72	0.20	ug/L	4.000		68	40-140	2	20	
Pyrene	3.18	0.20	ug/L	4.000		80	40-140	3	20	
Surrogate: 1,2-Dichlorobenzene-d4	*0.995*		ug/L	*2.500*		*40*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*4.14*		ug/L	*3.750*		*110*	*15-110*			
Surrogate: 2-Fluorobiphenyl	*1.30*		ug/L	*2.500*		*52*	*30-130*			
Surrogate: Nitrobenzene-d5	*1.53*		ug/L	*2.500*		*61*	*30-130*			
Surrogate: p-Terphenyl-d14	*1.81*		ug/L	*2.500*		*72*	*30-130*			
Classical Chemistry										
Batch CE52201 - General Preparation										
Blank										
Hexavalent Chromium	ND	10	ug/L							
LCS										
Hexavalent Chromium	0.5		mg/L	0.4998		98	90-110			
LCS Dup										
Hexavalent Chromium	0.5		mg/L	0.4998		98	90-110	0.3	20	
MADEP-EPH Extractable Petroleum Hydrocarbons										
Batch CE52232 - 3510C										
Blank										
C19-C36 Aliphatics1	ND	100	ug/L							
C9-C18 Aliphatics1	ND	100	ug/L							
Decane (C10)	ND	5	ug/L							
Docosane (C22)	ND	5	ug/L							
Dodecane (C12)	ND	5	ug/L							
Eicosane (C20)	ND	5	ug/L							
Hexacosane (C26)	ND	5	ug/L							
Hexadecane (C16)	ND	5	ug/L							
Hexatriacontane (C36)	ND	5	ug/L							
Nonadecane (C19)	ND	5	ug/L							
Nonane (C9)	ND	5	ug/L							
Octacosane (C28)	ND	5	ug/L							
Octadecane (C18)	ND	5	ug/L							
Tetracosane (C24)	ND	5	ug/L							
Tetradecane (C14)	ND	5	ug/L							
Triacontane (C30)	ND	5	ug/L							
Surrogate: 1-Chlorooctadecane	*34.9*		ug/L	*50.00*		*70*	*40-140*			
Blank										
2-Methylnaphthalene	ND	5.0	ug/L							
Acenaphthene	ND	5.0	ug/L							
Acenaphthylene	ND	5.0	ug/L							
Anthracene	ND	5.0	ug/L							

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett - MCP

ESS Laboratory Work Order: 1505527

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
MADEP-EPH Extractable Petroleum Hydrocarbons										
Batch CE52232 - 3510C										
Benzo(a)anthracene	ND	5.0	ug/L							
Benzo(a)pyrene	ND	10.0	ug/L							
Benzo(b)fluoranthene	ND	5.0	ug/L							
Benzo(g,h,i)perylene	ND	10.0	ug/L							
Benzo(k)fluoranthene	ND	10.0	ug/L							
C11-C22 Unadjusted Aromatics1	ND	100	ug/L							
Chrysene	ND	10.0	ug/L							
Dibenzo(a,h)Anthracene	ND	5.0	ug/L							
Fluoranthene	ND	10.0	ug/L							
Fluorene	ND	5.0	ug/L							
Indeno(1,2,3-cd)Pyrene	ND	5.0	ug/L							
Naphthalene	ND	10.0	ug/L							
Phenanthrene	ND	5.0	ug/L							
Pyrene	ND	5.0	ug/L							
Surrogate: 2-Bromonaphthalene	*51.0*		ug/L	*50.00*		*102*	*40-140*			
Surrogate: 2-Fluorobiphenyl	*54.0*		ug/L	*50.00*		*108*	*40-140*			
Surrogate: O-Terphenyl	*44.0*		ug/L	*50.00*		*88*	*40-140*			
LCS										
C19-C36 Aliphatics1	391	100	ug/L	400.0		98	40-140			
C9-C18 Aliphatics1	228	100	ug/L	300.0		76	40-140			
Decane (C10)	28	5	ug/L	50.00		57	40-140			
Docosane (C22)	48	5	ug/L	50.00		95	40-140			
Dodecane (C12)	32	5	ug/L	50.00		65	40-140			
Eicosane (C20)	48	5	ug/L	50.00		96	40-140			
Hexacosane (C26)	49	5	ug/L	50.00		97	40-140			
Hexadecane (C16)	46	5	ug/L	50.00		92	40-140			
Hexatriacontane (C36)	49	5	ug/L	50.00		97	40-140			
Nonadecane (C19)	48	5	ug/L	50.00		97	40-140			
Nonane (C9)	21	5	ug/L	50.00		42	30-140			
Octacosane (C28)	48	5	ug/L	50.00		96	40-140			
Octadecane (C18)	47	5	ug/L	50.00		95	40-140			
Tetracosane (C24)	46	5	ug/L	50.00		91	40-140			
Tetradecane (C14)	42	5	ug/L	50.00		84	40-140			
Triacontane (C30)	49	5	ug/L	50.00		99	40-140			
Surrogate: 1-Chlorooctadecane	*39.1*		ug/L	*50.00*		*78*	*40-140*			
LCS										
2-Methylnaphthalene	47.0	5.0	ug/L	50.00		94	40-140			
Acenaphthene	48.5	5.0	ug/L	50.00		97	40-140			
Acenaphthylene	50.8	5.0	ug/L	50.00		102	40-140			
Anthracene	52.0	5.0	ug/L	50.00		104	40-140			
Benzo(a)anthracene	51.6	5.0	ug/L	50.00		103	40-140			
Benzo(a)pyrene	57.8	10.0	ug/L	50.00		116	40-140			
Benzo(b)fluoranthene	49.3	5.0	ug/L	50.00		99	40-140			
Benzo(g,h,i)perylene	54.7	10.0	ug/L	50.00		109	40-140			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett - MCP

ESS Laboratory Work Order: 1505527

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
MADEP-EPH Extractable Petroleum Hydrocarbons										
Batch CE52232 - 3510C										
Benzo(k)fluoranthene	50.1	10.0	ug/L	50.00		100	40-140			
C11-C22 Unadjusted Aromatics1	891	100	ug/L	850.0		105	40-140			
Chrysene	53.2	10.0	ug/L	50.00		106	40-140			
Dibenzo(a,h)Anthracene	56.1	5.0	ug/L	50.00		112	40-140			
Fluoranthene	50.5	10.0	ug/L	50.00		101	40-140			
Fluorene	51.6	5.0	ug/L	50.00		103	40-140			
Indeno(1,2,3-cd)Pyrene	55.0	5.0	ug/L	50.00		110	40-140			
Naphthalene	44.6	10.0	ug/L	50.00		89	40-140			
Phenanthrene	52.0	5.0	ug/L	50.00		104	40-140			
Pyrene	50.8	5.0	ug/L	50.00		102	40-140			
Surrogate: 2-Bromonaphthalene	*51.7*		ug/L	*50.00*		*103*	*40-140*			
Surrogate: 2-Fluorobiphenyl	*55.2*		ug/L	*50.00*		*110*	*40-140*			
Surrogate: O-Terphenyl	*47.4*		ug/L	*50.00*		*95*	*40-140*			
LCS										
2-Methylnaphthalene Breakthrough	0.0		%				0-5			
Naphthalene Breakthrough	0.0		%				0-5			
LCS Dup										
C19-C36 Aliphatics1	384	100	ug/L	400.0		96	40-140	2	25	
C9-C18 Aliphatics1	223	100	ug/L	300.0		74	40-140	2	25	
Decane (C10)	27	5	ug/L	50.00		55	40-140	3	25	
Docosane (C22)	47	5	ug/L	50.00		93	40-140	2	25	
Dodecane (C12)	31	5	ug/L	50.00		63	40-140	3	25	
Eicosane (C20)	47	5	ug/L	50.00		94	40-140	2	25	
Hexacosane (C26)	48	5	ug/L	50.00		95	40-140	2	25	
Hexadecane (C16)	45	5	ug/L	50.00		91	40-140	1	25	
Hexatriacontane (C36)	48	5	ug/L	50.00		95	40-140	2	25	
Nonadecane (C19)	47	5	ug/L	50.00		95	40-140	2	25	
Nonane (C9)	21	5	ug/L	50.00		41	30-140	3	25	
Octacosane (C28)	47	5	ug/L	50.00		94	40-140	2	25	
Octadecane (C18)	47	5	ug/L	50.00		93	40-140	2	25	
Tetracosane (C24)	45	5	ug/L	50.00		90	40-140	2	25	
Tetradecane (C14)	41	5	ug/L	50.00		82	40-140	2	25	
Triacontane (C30)	48	5	ug/L	50.00		97	40-140	2	25	
Surrogate: 1-Chlorooctadecane	*36.7*		ug/L	*50.00*		*73*	*40-140*			
LCS Dup										
2-Methylnaphthalene	42.0	5.0	ug/L	50.00		84	40-140	11	20	
Acenaphthene	44.6	5.0	ug/L	50.00		89	40-140	8	20	
Acenaphthylene	45.9	5.0	ug/L	50.00		92	40-140	10	20	
Anthracene	49.9	5.0	ug/L	50.00		100	40-140	4	20	
Benzo(a)anthracene	50.7	5.0	ug/L	50.00		101	40-140	2	20	
Benzo(a)pyrene	56.0	10.0	ug/L	50.00		112	40-140	3	20	
Benzo(b)fluoranthene	49.1	5.0	ug/L	50.00		98	40-140	0.5	20	
Benzo(g,h,i)perylene	53.4	10.0	ug/L	50.00		107	40-140	2	20	
Benzo(k)fluoranthene	50.5	10.0	ug/L	50.00		101	40-140	0.8	20	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett - MCP

ESS Laboratory Work Order: 1505527

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
MADEP-EPH Extractable Petroleum Hydrocarbons										
Batch CE52232 - 3510C										
C11-C22 Unadjusted Aromatics1	828	100	ug/L	850.0		97	40-140	7	25	
Chrysene	50.5	10.0	ug/L	50.00		101	40-140	5	20	
Dibenzo(a,h)Anthracene	53.9	5.0	ug/L	50.00		108	40-140	4	20	
Fluoranthene	48.6	10.0	ug/L	50.00		97	40-140	4	20	
Fluorene	46.9	5.0	ug/L	50.00		94	40-140	10	20	
Indeno(1,2,3-cd)Pyrene	54.2	5.0	ug/L	50.00		108	40-140	1	20	
Naphthalene	41.3	10.0	ug/L	50.00		83	40-140	8	20	
Phenanthrene	48.8	5.0	ug/L	50.00		98	40-140	6	20	
Pyrene	49.3	5.0	ug/L	50.00		99	40-140	3	20	
Surrogate: 2-Bromonaphthalene	*48.8*		ug/L	*50.00*		*98*	*40-140*			
Surrogate: 2-Fluorobiphenyl	*51.4*		ug/L	*50.00*		*103*	*40-140*			
Surrogate: O-Terphenyl	*42.2*		ug/L	*50.00*		*84*	*40-140*			
LCS Dup										
2-Methylnaphthalene Breakthrough	0.0		%				0-5		200	
Naphthalene Breakthrough	0.0		%				0-5		200	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
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ESS Laboratory Work Order: 1505527

Notes and Definitions

Z-06	pH <= 2
U	Analyte included in the analysis, but not detected
S+	Surrogate recovery(ies) above upper control limit (S+).
Q	Calibration required quadratic regression (Q).
IC	Internal Standard(s) outside of criteria. Sample was reanalyzed to confirm (IC).
EL	Elevated Method Reporting Limits due to sample matrix (EL).
D	Diluted.
C+	Continuing Calibration recovery is above upper control limit (C+).
B-	Blank Spike recovery is below lower control limit (B-).
ND	Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
I/V	Initial Volume
F/V	Final Volume
§	Subcontracted analysis; see attached report
1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of target analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.
Avg	Results reported as a mathematical average.
NR	No Recovery
[CALC]	Calculated Analyte
SUB	Subcontracted analysis; see attached report

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett - MCP

ESS Laboratory Work Order: 1505527

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Department of Defense (DoD) Environmental Laboratory Accreditation Program (ELAP)
A2LA Accredited: Testing Cert# 2864.01
http://www.a2la.org/scopepdf/2864-01.pdf

Rhode Island Potable and Non Potable Water: LAI00179
http://www.health.ri.gov/find/labs/analytical/ESS.pdf

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750
http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutofStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI0002
http://www.maine.gov/dhhs/mecdc/environmental-health/water/dwp-services/labcert/documents/AllLabs.xls

Massachusetts Potable and Non Potable Water: M-RI002
http://public.dep.state.ma.us/Labcert/Labcert.aspx

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424
http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313
http://www.wadsworth.org/labcert/elap/comm.html

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006
http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752
http://www.depweb.state.pa.us/portal/server.pt/community/labs/13780/laboratory_accreditation_program/590095

CHEMISTRY

A2LA Accredited: Testing Cert # 2864.01
Lead in Paint, Phthalates, Lead in Children's Metals Products (Including Jewelry)
http://www.A2LA.org/dirsearchnew/newsearch.cfm

CPSC ID# 1141
Lead Paint, Lead in Children's Metals Jewelry
http://www.cpsc.gov/cgi-bin/labapplist.aspx

Sample and Cooler Receipt Checklist

Client: GZA GeoEnvironmental, Inc.
Client Project ID: _____
Shipped/Delivered Via: ESS Courier

ESS Project ID: 15050527
Date Project Due: ~~5/28/15~~ 5/29/15 w 5/21/15
Days For Project: 5 Day

Items to be checked upon receipt:

1. Air Bill Manifest Present?	* No	10. Are the samples properly preserved:	Yes
Air No.:	w 5/21/15	11. Proper sample containers used?	Yes
2. Were Custody Seals Present? YES	No	12. Any air bubbles in the VOA vials?	N/A
3. Were Custody Seals Intact? YES	N/A	13. Holding times exceeded?	No
4. Is Radiation count < 100 CPM?	Yes	14. Sufficient sample volumes?	Yes
5. Is a cooler present?	Yes	15. Any Subcontracting needed?	No
Cooler Temp: **3.5**		16. Are ESS labels on correct containers?	**Yes|No**
Iced With: **Ice**		17. Were samples received intact?	**Yes|No**
6. Was COC included with samples?	Yes	ESS Sample IDs:	
7. Was COC signed and dated by client?	Yes	Sub Lab:	
8. Does the COC match the sample	Yes	Analysis:	
9. Is COC complete and correct?	Yes	TAT:	

18. Was there need to call project manager to discuss status? If yes, please explain.
2 plastics NO 10 for SWS-6-05-21-15 w 5/21/15

Who was called?:_____ By whom? _____

Sample Number	Properly Preserved	Container Type	# of Containers	Preservative
1	Yes	1 L Glass	2	HCL
1	Yes	1 L Glass	4	NP
1	Yes	250 ml Plastic	1	HNO3
1	Yes	500 ml Plastic	1	NP
2	Yes	1 L Glass	2	HCL
2	Yes	1 L Glass	4	NP
2	Yes	250 ml Plastic	1	HNO3
2	Yes	500 ml Plastic	1	NP
3	Yes	1 L Glass	2	HCL
3	Yes	1 L Glass	4	NP
3	Yes	250 ml Plastic	1	HNO3
3	Yes	500 ml Plastic	1	NP
4	Yes	1 L Glass	2	HCL
4	Yes	1 L Glass	4	NP
4	Yes	250 ml Plastic	1	HNO3
4	Yes	500 ml Plastic	1	NP

Completed By: _____ Date/Time: 5/21/15 1728
Reviewed By: _____ Date/Time: 5/21/15 1740

CUSTODY SEAL

Date: 5-21-15

Signature: _____

ENVIRONMENTAL SAMPLING SUPPLY
www.essvial.com 800-233-8425

ESS Laboratory

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

Page 1 of 1

Turn Time: X Standard Other ____
If faster than 5 days, prior approval by laboratory is required # ____

State where samples were collected from:
MA RI CT NH NJ NY ME Other ____

Is this project for any of the following:
MA-MCP Navy USACE Other ____

Reporting Limits

ESS LAB PROJECT ID: 1505527

Electronic Deliverable Yes ___ No ___
Format: Excel ___ Access ___ PDF ___ Other ____

Co. Name	Project #	Project Name (20 Char. or less)
~~David E. Leone~~ GZA GeoEnvironmental	171521.13	Wynn Everett

Contact Person	Address
David E. Leone	249 Vanderbilt Ave

City	State	Zip	PO#
Norwood	MA	02062	

Telephone #	Fax #	Email Address
(781) 278-5766		davide.leone@gza.com

ESS LAB Sample #	Date	Collection Time	COMP	GRAB	MATRIX	Sample Identification (20 Char. or less)	Pres Code	Number of Conrainers	Type of Containers	8260 VOA / 624 / 524.2	8021 MTBE/BTEX / 8015 GRO / VPH w/targets	8100 TPH / 8015 DRO	EPH w/o PAHs	EPH w/PAHs / 4 Diesel	8081 Pesticides / 8082 PCB / 608 Pesticides / 608 PCB	8270 SVOA / 625 / PAH 8270	RCRA5 / RCRA8 / PP13 / TAL23	TCLP-RCRA8 / NBC7	MCP-METALS (13) w/Hg	MCP-METALS (14)	Hexavalent Cr				Notes
1	05-21-15	0920		X	SW	SWS-3-05-21-15	1,2,4	8	P,G				X			X			X		X				1,2
2	05-21-15	0945		X	SW	SW-3-05-21-15	1,2,4	8	P,G				X			X			X		X				1,2
3	05-21-15	10:38		X	SW	SWS-6-05-21-15	1,2,4	8	P,G				X			X			X		X				1,2
4	05-21-15	11:00		X	SW	SW-6-05-21-15	1,2,4	8	P,G				X			X			X		X				1,2

Container Type: P-Poly G-Glass S-Sterile V-VOA
Matrix: S-Soil SD-Solid D-Sludge WW-Waste Water GW-Ground Water SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filters

Cooler Present ___Yes ___No Internal Use Only
Seals Intact ___Yes ___No NA: ___ [ ] Pickup
Cooler Temp: 2.3, 2.3, 2.3 ice 5/21/15 mm [ ] Technicians ____

Preservation Code 1- NP, 2- HCl, 3- H_2SO_4, 4- HNO_3, 5- NaOH, 6- MeOH, 7- Asorbic Acid, 8- ZnAct, 9- ____

Sampled by: Alice Blayney *EPH ranges only per client request cmt 5/26/15

Comments: Email Results to: Timothy.Briggs@gza.com along w/ David E. Leone
Notes: 1. Run PAH SIM 2. MCP-14 Dissolved metals were field filtered

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
	05-21-15 12:45		5/21/15 1300		5/21/15 1705		5/21/15 1720
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time

*By circling MA-MCP, client acknowledges samples were collected in accordance with MADEP CAM VII A

Please fax all changes to Chain of Custody in writing.

1 (White) Lab Copy 2 (Yellow) Client Receipt

10/26/04 A

ESS Laboratory

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

Page 1 of 1

Turn Time: X Standard Other ____
If faster than 5 days, prior approval by laboratory is required # ____

State where samples were collected from:
MA RI CT NH NJ NY ME Other ____

Is this project for any of the following:
MA-MCP Navy USACE Other ____

Reporting Limits

ESS LAB PROJECT ID: 1505527

Electronic Deliverable Yes ___ No ___
Format: Excel ___ Access ___ PDF ___ Other ____

Co. Name	Project #	Project Name (20 Char. or less)
GZA GeoEnvironmental	171521.13	Wynn Everett
~~David E. Leone~~		

Contact Person	Address
David E. Leone	249 Vanderbilt Ave

City	State	Zip	PO#
Norwood	MA	02062	

Telephone #	Fax #	Email Address
(781) 278-5766		davide.leone@gza.com

ESS LAB Sample #	Date	Collection Time	COMP	GRAB	MATRIX	Sample Identification (20 Char. or less)	Pres Code	Number of Containers	Type of Containers	8260 624 524.2 VOA	8021 8015 VPH MTBE/BTEX GRO w/targets	8100 8015 TPH DRO	EPH w/o PAHs	EPH w/PAHs 4 Diesel	8081 Pesticides 8082 PCB 608 Pesticides 608 PCB	8270 625 PAH 8270 SVOA	RCRA5 RCRA8 PP13 TAL23	TCLP-RCRA8 NBC7	MCP-METALS (13) w/Hg	MCP-METALS (14)	Hexavalent Cr				Notes
1	05-21-15	0920		X	SW	SWS-3-05-21-15	1,2,4	8	P,G				X			X			X		X				1,2
2	05-21-15	0945		X	SW	SW-3-05-21-15	1,2,4	8	P,G				X			X			X		X				1,2
3	05-21-15	10:38		X	SW	SWS-6-05-21-15	1,2,4	8	P,G				X			X			X		X				1,2
4	05-21-15	11:00		X	SW	SW-6-05-21-15	1,2,4	8	P,G				X			X			X		X				1,2

Container Type: P-Poly G-Glass S-Sterile V-VOA
Matrix: S-Soil SD-Solid D-Sludge WW-Waste Water GW-Ground Water SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filters

Cooler Present ___Yes ___No
Seals Intact ___Yes ___No NA: ___
Cooler Temp: ~~2.3,2.3,3.5~~ ice 5/21/15 mm

Internal Use Only
[~~ ~~] Pickup
[ ] Technicians ____

Preservation Code 1- NP, 2- HCl, 3- H_2SO_4, 4- HNO_3, 5- NaOH, 6- MeOH, 7- Asorbic Acid, 8- ZnAct, 9- ____

Sampled by: Alice Blayney

Comments: Email Results to: Timothy.Briggs@gza.com along w/ David E. Leone
Notes: 1. Run PAH SIM 2. MCP-14 Dissolved metals were field filtered

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
	05-21-15 12:45		5/21/15 1300		5/21/15 1705		5/21/15 1720
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time

*By circling MA-MCP, client acknowledges samples were collected in accordance with MADEP CAM VII A

Please fax all changes to Chain of Custody in writing.

1 (White) Lab Copy 2 (Yellow) Client Receipt

10/26/04 A

CERTIFICATE OF ANALYSIS

David E Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Avenue
Norwood, MA 02062

RE: Wynn Everett - MCP (01.0171521.13)
ESS Laboratory Work Order Number: 1505568

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director

REVIEWED
By ESS Laboratory at 5:06 pm, Jun 04, 2015

Analytical Summary
The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with NELAC Standards, A2LA and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett - MCP

ESS Laboratory Work Order: 1505568

SAMPLE RECEIPT

The following samples were received on May 22, 2015 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has performed and reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Data Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

Revision 1, June 5, 2015: This report has been revised to include a corrected certification form for Question G.

Lab Number	Sample Name	Matrix	Analysis
1505568-01	SW-10-05-22-15	Surface Water	6010C, 7010, 7196A, 7470A, 8270C, 8270D SIM, EPH8270, MADEP-EPH
1505568-02	SW-11-05-22-15	Surface Water	6010C, 7010, 7196A, 7470A, 8270C, 8270D SIM, EPH8270, MADEP-EPH

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett - MCP ESS Laboratory Work Order: 1505568

PROJECT NARRATIVE

8270C Semi-Volatile Organic Compounds

1505568-01 **Internal Standard(s) outside of criteria. Sample was reanalyzed to confirm (IC).**
Chrysene-d12 (49% @ 50-200%), Perylene-d12 (47% @ 50-200%)

CYE0365-CCV1 **Calibration required quadratic regression (Q).**
2,4-Dinitrophenol (96% @ 70-130%)

CYE0365-CCV1 **Continuing Calibration recovery is above upper control limit (C+).**
N-Nitrosodimethylamine (131% @ 70-130%)

CYE0367-CCV1 **Continuing Calibration recovery is above upper control limit (C+).**
2-Chloronaphthalene (155% @ 70-130%), bis(2-Chloroethyl)ether (133% @ 70-130%), N-Nitrosodimethylamine (139% @ 70-130%)

8270D(SIM) Semi-Volatile Organic Compounds

CE52636-BLK1 **Surrogate recovery(ies) above upper control limit (S+).**
2,4,6-Tribromophenol (120% @ 15-110%)

CYE0340-CCV1 **Continuing Calibration recovery is above upper control limit (C+).**
2,4,6-Tribromophenol (152% @ 70-130%)

Dissolved Metals

1505568-01 **Elevated Method Reporting Limits due to sample matrix (EL).**
Lead , Thallium

1505568-02 **Elevated Method Reporting Limits due to sample matrix (EL).**
Lead , Thallium

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

Definitions of Quality Control Parameters

Semivolatile Organics Internal Standard Information

Semivolatile Organics Surrogate Information

Volatile Organics Internal Standard Information

Volatile Organics Surrogate Information

EPH and VPH Alkane Lists

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett - MCP

ESS Laboratory Work Order: 1505568

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

1010A - Flashpoint
6010C - ICP
6020A - ICP MS
7010 - Graphite Furnace
7196A - Hexavalent Chromium
7470A - Aqueous Mercury
7471B - Solid Mercury
8011 - EDB/DBCP/TCP
8015D - GRO/DRO
8081B - Pesticides
8082A - PCB
8100M - TPH
8151A - Herbicides
8260B - VOA
8270D - SVOA
8270D SIM - SVOA Low Level
9014 - Cyanide
9038 - Sulfate
9040C - Aqueous pH
9045D - Solid pH (Corrosivity)
9050A - Specific Conductance
9056A - Anions (IC)
9060A - TOC
9095B - Paint Filter
MADEP 04-1.1 - EPH / VPH

Prep Methods

3005A - Aqueous ICP Digestion
3020A - Aqueous Graphite Furnace / ICP MS Digestion
3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
3060A - Solid Hexavalent Chromium Digestion
3510C - Separatory Funnel Extraction
3520C - Liquid / Liquid Extraction
3540C - Manual Soxhlet Extraction
3541 - Automated Soxhlet Extraction
3546 - Microwave Extraction
3580A - Waste Dilution
5030B - Aqueous Purge and Trap
5030C - Aqueous Purge and Trap
5035 - Solid Purge and Trap

SW846 Reactivity Methods 7.3.3.2 (Reactive Cyanide) and 7.3.4.1 (Reactive Sulfide) have been withdrawn by EPA. These methods are reported per client request and are not NELAP accredited.

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett - MCP

ESS Laboratory Work Order: 1505568

MassDEP Analytical Protocol Certification Form

MADEP RTN: _____

This form provides certification for the following data set: **1505568-01 through 1505568-02**

Matrices: (X) Ground Water/Surface Water ( ) Soil/Sediment ( ) Drinking Water ( ) Air ( ) Other:_____

CAM Protocol (check all that apply below):

( ) 8260 VOC CAM II A	(X) 7470/7471 Hg CAM III B	( ) MassDEP VPH CAM IV A	( ) 8081 Pesticides CAM V B	(X) 7196 Hex Cr CAM VI B	( ) MassDEP APH CAM IX A
(X) 8270 SVOC CAM II B	(X) 7010 Metals CAM III C	(X) MassDEP EPH CAM IV B	( ) 8151 Herbicides CAM V C	( ) 8330 Explosives CAM VIII A	( ) TO-15 VOC CAM IX B
(X) 6010 Metals CAM III A	( ) 6020 Metals CAM III D	( ) 8082 PCB CAM V A	( ) 6860 Perchlorate CAM VIII B	( ) 9014 Total Cyanide/PAC CAM VI A	

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	Yes (X) No ( )
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	Yes (X) No ( )
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	Yes (X) No ( )
D	Does the laboratory report comply with all the reporting requirements specified in the CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	Yes (X) No ( )
E	a. VPH, EPH, APH and TO-15 only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	Yes (X) No ( )
	b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	Yes ( ) No ( )
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	Yes (X) No ( )

Responses to Questions G, H and I below are required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocols(s)?	Yes ( ) No (X)*
	***Data User Note:* Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.**	
H	Were **all** QC performance standards specified in the CAM protocol(s) achieved?	Yes ( ) No (X)*
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	Yes (X) No ( )*

***All negative responses must be addressed in an attached laboratory narrative.**

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Laurel Stoddard

Date: June 04, 2015

Printed Name: Laurel Stoddard

Position: Laboratory Director

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett - MCP
Client Sample ID: SW-10-05-22-15
Date Sampled: 05/22/15 09:40
Percent Solids: N/A

ESS Laboratory Work Order: 1505568
ESS Laboratory Sample ID: 1505568-01
Sample Matrix: Surface Water
Units: ug/L

Extraction Method: 3005A/200.7

Dissolved Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (2.5)		7010		1	KJK	05/31/15 12:31	50	25	CE52605
Arsenic	**6.6** (5.0)		7010		2	KJK	06/03/15 16:35	50	25	CE52605
Barium	ND (50.0)		6010C		2	KJK	05/28/15 6:43	50	25	CE52605
Beryllium	ND (0.5)		6010C		1	KJK	05/27/15 0:39	50	25	CE52605
Cadmium	ND (2.5)		6010C		1	KJK	05/27/15 0:39	50	25	CE52605
Chromium	ND (10.0)		6010C		1	KJK	05/27/15 0:39	50	25	CE52605
Lead	**EL** ND (25.0)		6010C		2	KJK	05/28/15 6:43	50	25	CE52605
Mercury	ND (0.20)		7470A		1	BJV	05/26/15 15:00	20	40	CE52602
Nickel	ND (25.0)		6010C		1	KJK	05/27/15 0:39	50	25	CE52605
Selenium	ND (5.0)		7010		1	KJK	05/31/15 8:30	50	25	CE52605
Silver	ND (5.0)		6010C		1	KJK	05/27/15 0:39	50	25	CE52605
Thallium	**EL** ND (8.0)		7010		8	KJK	05/29/15 18:15	50	25	CE52605
Vanadium	ND (10.0)		6010C		1	KJK	05/27/15 0:39	50	25	CE52605
Zinc	**30.8** (25.0)		6010C		1	KJK	05/28/15 4:10	50	25	CE52605

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett - MCP
Client Sample ID: SW-10-05-22-15
Date Sampled: 05/22/15 09:40
Percent Solids: N/A
Initial Volume: 1070
Final Volume: 1
Extraction Method: 3520C

ESS Laboratory Work Order: 1505568
ESS Laboratory Sample ID: 1505568-01
Sample Matrix: Surface Water
Units: ug/L
Analyst: VSC
Prepared: 5/26/15 19:05

8270C Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (9.3)		8270C		1	05/28/15 16:28	CYE0377	CE52612
1,2-Dichlorobenzene	ND (9.3)		8270C		1	05/28/15 16:28	CYE0377	CE52612
1,3-Dichlorobenzene	ND (9.3)		8270C		1	05/28/15 16:28	CYE0377	CE52612
1,4-Dichlorobenzene	ND (9.3)		8270C		1	05/28/15 16:28	CYE0377	CE52612
2,4,5-Trichlorophenol	ND (9.3)		8270C		1	05/28/15 16:28	CYE0377	CE52612
2,4,6-Trichlorophenol	ND (9.3)		8270C		1	05/28/15 16:28	CYE0377	CE52612
2,4-Dichlorophenol	ND (9.3)		8270C		1	05/28/15 16:28	CYE0377	CE52612
2,4-Dimethylphenol	ND (46.7)		8270C		1	05/28/15 16:28	CYE0377	CE52612
2,4-Dinitrophenol	ND (46.7)		8270C		1	05/28/15 16:28	CYE0377	CE52612
2,4-Dinitrotoluene	ND (9.3)		8270C		1	05/28/15 16:28	CYE0377	CE52612
2,6-Dinitrotoluene	ND (9.3)		8270C		1	05/28/15 16:28	CYE0377	CE52612
2-Chloronaphthalene	ND (9.3)		8270C		1	05/28/15 16:28	CYE0377	CE52612
2-Chlorophenol	ND (9.3)		8270C		1	05/28/15 16:28	CYE0377	CE52612
2-Methylphenol	ND (9.3)		8270C		1	05/28/15 16:28	CYE0377	CE52612
2-Nitrophenol	ND (9.3)		8270C		1	05/28/15 16:28	CYE0377	CE52612
3,3´-Dichlorobenzidine	ND (18.7)		8270C		1	05/28/15 16:28	CYE0377	CE52612
3+4-Methylphenol	ND (18.7)		8270C		1	05/28/15 16:28	CYE0377	CE52612
4-Bromophenyl-phenylether	ND (9.3)		8270C		1	05/28/15 16:28	CYE0377	CE52612
4-Chloroaniline	ND (18.7)		8270C		1	05/28/15 16:28	CYE0377	CE52612
4-Nitrophenol	ND (46.7)		8270C		1	05/28/15 16:28	CYE0377	CE52612
Acetophenone	ND (9.3)		8270C		1	05/28/15 16:28	CYE0377	CE52612
Aniline	ND (9.3)		8270C		1	05/28/15 16:28	CYE0377	CE52612
Azobenzene	ND (18.7)		8270C		1	05/28/15 16:28	CYE0377	CE52612
bis(2-Chloroethoxy)methane	ND (9.3)		8270C		1	05/28/15 16:28	CYE0377	CE52612
bis(2-Chloroethyl)ether	ND (9.3)		8270C		1	05/28/15 16:28	CYE0377	CE52612
bis(2-chloroisopropyl)Ether	ND (9.3)		8270C		1	05/28/15 16:28	CYE0377	CE52612
bis(2-Ethylhexyl)phthalate	ND (5.6)		8270C		1	05/28/15 16:28	CYE0377	CE52612
Butylbenzylphthalate	ND (9.3)		8270C		1	05/28/15 16:28	CYE0377	CE52612
Dibenzofuran	ND (9.3)		8270C		1	05/28/15 16:28	CYE0377	CE52612
Diethylphthalate	ND (9.3)		8270C		1	05/28/15 16:28	CYE0377	CE52612
Dimethylphthalate	ND (9.3)		8270C		1	05/28/15 16:28	CYE0377	CE52612
Di-n-butylphthalate	ND (9.3)		8270C		1	05/28/15 16:28	CYE0377	CE52612

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett - MCP
Client Sample ID: SW-10-05-22-15
Date Sampled: 05/22/15 09:40
Percent Solids: N/A
Initial Volume: 1070
Final Volume: 1
Extraction Method: 3520C

ESS Laboratory Work Order: 1505568
ESS Laboratory Sample ID: 1505568-01
Sample Matrix: Surface Water
Units: ug/L
Analyst: VSC
Prepared: 5/26/15 19:05

8270C Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Di-n-octylphthalate	ND (9.3)		8270C		1	05/28/15 16:28	CYE0377	CE52612
Hexachlorobutadiene	ND (9.3)		8270C		1	05/28/15 16:28	CYE0377	CE52612
Hexachloroethane	ND (4.7)		8270C		1	05/28/15 16:28	CYE0377	CE52612
Isophorone	ND (9.3)		8270C		1	05/28/15 16:28	CYE0377	CE52612
Nitrobenzene	ND (9.3)		8270C		1	05/28/15 16:28	CYE0377	CE52612
N-Nitrosodimethylamine	ND (9.3)		8270C		1	05/28/15 16:28	CYE0377	CE52612
Phenol	ND (9.3)		8270C		1	05/28/15 16:28	CYE0377	CE52612

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*60 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*71 %*		*15-110*
Surrogate: 2-Chlorophenol-d4	*64 %*		*15-110*
Surrogate: 2-Fluorobiphenyl	*64 %*		*30-130*
Surrogate: 2-Fluorophenol	*58 %*		*15-110*
Surrogate: Nitrobenzene-d5	*61 %*		*30-130*
Surrogate: Phenol-d6	*65 %*		*15-110*
Surrogate: p-Terphenyl-d14	*71 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett - MCP
Client Sample ID: SW-10-05-22-15
Date Sampled: 05/22/15 09:40
Percent Solids: N/A
Initial Volume: 1060
Final Volume: 0.25
Extraction Method: 3510C

ESS Laboratory Work Order: 1505568
ESS Laboratory Sample ID: 1505568-01
Sample Matrix: Surface Water
Units: ug/L
Analyst: VSC
Prepared: 5/26/15 17:45

8270D(SIM) Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.19)		8270D SIM		1	05/27/15 19:50	CYE0340	CE52636
Acenaphthene	ND (0.19)		8270D SIM		1	05/27/15 19:50	CYE0340	CE52636
Acenaphthylene	ND (0.19)		8270D SIM		1	05/27/15 19:50	CYE0340	CE52636
Anthracene	ND (0.19)		8270D SIM		1	05/27/15 19:50	CYE0340	CE52636
Benzo(a)anthracene	ND (0.05)		8270D SIM		1	05/27/15 19:50	CYE0340	CE52636
Benzo(a)pyrene	ND (0.05)		8270D SIM		1	05/27/15 19:50	CYE0340	CE52636
Benzo(b)fluoranthene	ND (0.05)		8270D SIM		1	05/27/15 19:50	CYE0340	CE52636
Benzo(g,h,i)perylene	ND (0.19)		8270D SIM		1	05/27/15 19:50	CYE0340	CE52636
Benzo(k)fluoranthene	ND (0.05)		8270D SIM		1	05/27/15 19:50	CYE0340	CE52636
Chrysene	ND (0.05)		8270D SIM		1	05/27/15 19:50	CYE0340	CE52636
Dibenzo(a,h)Anthracene	ND (0.05)		8270D SIM		1	05/27/15 19:50	CYE0340	CE52636
Fluoranthene	ND (0.19)		8270D SIM		1	05/27/15 19:50	CYE0340	CE52636
Fluorene	ND (0.19)		8270D SIM		1	05/27/15 19:50	CYE0340	CE52636
Hexachlorobenzene	ND (0.19)		8270D SIM		1	05/27/15 19:50	CYE0340	CE52636
Indeno(1,2,3-cd)Pyrene	ND (0.05)		8270D SIM		1	05/27/15 19:50	CYE0340	CE52636
Naphthalene	ND (0.19)		8270D SIM		1	05/27/15 19:50	CYE0340	CE52636
Pentachlorophenol	ND (0.85)		8270D SIM		1	05/27/15 19:50	CYE0340	CE52636
Phenanthrene	ND (0.19)		8270D SIM		1	05/27/15 19:50	CYE0340	CE52636
Pyrene	ND (0.19)		8270D SIM		1	05/27/15 19:50	CYE0340	CE52636

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*51 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*115 %*		*15-110*
Surrogate: 2-Fluorobiphenyl	*70 %*		*30-130*
Surrogate: Nitrobenzene-d5	*86 %*		*30-130*
Surrogate: p-Terphenyl-d14	*82 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett - MCP
Client Sample ID: SW-10-05-22-15
Date Sampled: 05/22/15 09:40
Percent Solids: N/A

ESS Laboratory Work Order: 1505568
ESS Laboratory Sample ID: 1505568-01
Sample Matrix: Surface Water

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Hexavalent Chromium	ND (10)		7196A		1	JLK	05/23/15 8:15	ug/L	CE52302

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett - MCP
Client Sample ID: SW-10-05-22-15
Date Sampled: 05/22/15 09:40
Percent Solids: N/A
Initial Volume: 1070
Final Volume: 1
Extraction Method: 3510C

ESS Laboratory Work Order: 1505568
ESS Laboratory Sample ID: 1505568-01
Sample Matrix: Surface Water
Units: ug/L

Prepared: 5/28/15 17:32

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	ND (93)		MADEP-EPH		1	DPS	05/29/15 6:13	CYE0371	CE52810
C19-C36 Aliphatics1	ND (93)		MADEP-EPH		1	DPS	05/29/15 6:13	CYE0371	CE52810
C11-C22 Unadjusted Aromatics1	ND (93.5)		EPH8270		1	DPS	05/28/15 23:22	CYE0355	CE52810
C11-C22 Aromatics1,2	ND (93.5)		EPH8270			DPS	05/28/15 23:22		[CALC]
Preservative:	**pH <= 2**		MADEP-EPH			DPS			CE52810

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*68 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*96 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*92 %*		*40-140*
Surrogate: O-Terphenyl	*65 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett - MCP
Client Sample ID: SW-11-05-22-15
Date Sampled: 05/22/15 10:00
Percent Solids: N/A

ESS Laboratory Work Order: 1505568
ESS Laboratory Sample ID: 1505568-02
Sample Matrix: Surface Water
Units: ug/L

Extraction Method: 3005A/200.7

Dissolved Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (2.5)		7010		1	KJK	05/31/15 12:37	100	50	CE52605
Arsenic	ND (2.5)		7010		1	KJK	05/31/15 5:36	100	50	CE52605
Barium	ND (25.0)		6010C		1	KJK	05/27/15 0:44	100	50	CE52605
Beryllium	ND (0.5)		6010C		1	KJK	05/27/15 0:44	100	50	CE52605
Cadmium	ND (2.5)		6010C		1	KJK	05/27/15 0:44	100	50	CE52605
Chromium	ND (10.0)		6010C		1	KJK	05/27/15 0:44	100	50	CE52605
Lead	**EL** ND (25.0)		6010C		2	KJK	05/29/15 17:36	100	50	CE52605
Mercury	ND (0.20)		7470A		1	BJV	05/26/15 15:03	20	40	CE52602
Nickel	ND (25.0)		6010C		1	KJK	05/27/15 0:44	100	50	CE52605
Selenium	ND (5.0)		7010		1	KJK	05/31/15 8:36	100	50	CE52605
Silver	ND (5.0)		6010C		1	KJK	05/27/15 0:44	100	50	CE52605
Thallium	**EL** ND (10.0)		7010		10	KJK	05/29/15 19:01	100	50	CE52605
Vanadium	ND (10.0)		6010C		1	KJK	05/27/15 0:44	100	50	CE52605
Zinc	ND (25.0)		6010C		1	KJK	05/29/15 17:53	100	50	CE52605

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett - MCP
Client Sample ID: SW-11-05-22-15
Date Sampled: 05/22/15 10:00
Percent Solids: N/A
Initial Volume: 970
Final Volume: 1
Extraction Method: 3520C

ESS Laboratory Work Order: 1505568
ESS Laboratory Sample ID: 1505568-02
Sample Matrix: Surface Water
Units: ug/L
Analyst: ML
Prepared: 5/26/15 19:05

8270C Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (10.3)		8270C		1	05/28/15 2:38	CYE0367	CE52612
1,2-Dichlorobenzene	ND (10.3)		8270C		1	05/28/15 2:38	CYE0367	CE52612
1,3-Dichlorobenzene	ND (10.3)		8270C		1	05/28/15 2:38	CYE0367	CE52612
1,4-Dichlorobenzene	ND (10.3)		8270C		1	05/28/15 2:38	CYE0367	CE52612
2,4,5-Trichlorophenol	ND (10.3)		8270C		1	05/28/15 2:38	CYE0367	CE52612
2,4,6-Trichlorophenol	ND (10.3)		8270C		1	05/28/15 2:38	CYE0367	CE52612
2,4-Dichlorophenol	ND (10.3)		8270C		1	05/28/15 2:38	CYE0367	CE52612
2,4-Dimethylphenol	ND (51.5)		8270C		1	05/28/15 2:38	CYE0367	CE52612
2,4-Dinitrophenol	ND (51.5)		8270C		1	05/28/15 2:38	CYE0367	CE52612
2,4-Dinitrotoluene	ND (10.3)		8270C		1	05/28/15 2:38	CYE0367	CE52612
2,6-Dinitrotoluene	ND (10.3)		8270C		1	05/28/15 2:38	CYE0367	CE52612
2-Chloronaphthalene	ND (10.3)		8270C		1	05/28/15 2:38	CYE0367	CE52612
2-Chlorophenol	ND (10.3)		8270C		1	05/28/15 2:38	CYE0367	CE52612
2-Methylphenol	ND (10.3)		8270C		1	05/28/15 2:38	CYE0367	CE52612
2-Nitrophenol	ND (10.3)		8270C		1	05/28/15 2:38	CYE0367	CE52612
3,3´-Dichlorobenzidine	ND (20.6)		8270C		1	05/28/15 2:38	CYE0367	CE52612
3+4-Methylphenol	ND (20.6)		8270C		1	05/28/15 2:38	CYE0367	CE52612
4-Bromophenyl-phenylether	ND (10.3)		8270C		1	05/28/15 2:38	CYE0367	CE52612
4-Chloroaniline	ND (20.6)		8270C		1	05/28/15 2:38	CYE0367	CE52612
4-Nitrophenol	ND (51.5)		8270C		1	05/28/15 2:38	CYE0367	CE52612
Acetophenone	ND (10.3)		8270C		1	05/28/15 2:38	CYE0367	CE52612
Aniline	ND (10.3)		8270C		1	05/28/15 2:38	CYE0367	CE52612
Azobenzene	ND (20.6)		8270C		1	05/28/15 2:38	CYE0367	CE52612
bis(2-Chloroethoxy)methane	ND (10.3)		8270C		1	05/28/15 2:38	CYE0367	CE52612
bis(2-Chloroethyl)ether	ND (10.3)		8270C		1	05/28/15 2:38	CYE0367	CE52612
bis(2-chloroisopropyl)Ether	ND (10.3)		8270C		1	05/28/15 2:38	CYE0367	CE52612
bis(2-Ethylhexyl)phthalate	ND (6.2)		8270C		1	05/28/15 2:38	CYE0367	CE52612
Butylbenzylphthalate	ND (10.3)		8270C		1	05/28/15 2:38	CYE0367	CE52612
Dibenzofuran	ND (10.3)		8270C		1	05/28/15 2:38	CYE0367	CE52612
Diethylphthalate	ND (10.3)		8270C		1	05/28/15 2:38	CYE0367	CE52612
Dimethylphthalate	ND (10.3)		8270C		1	05/28/15 2:38	CYE0367	CE52612
Di-n-butylphthalate	ND (10.3)		8270C		1	05/28/15 2:38	CYE0367	CE52612

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett - MCP
Client Sample ID: SW-11-05-22-15
Date Sampled: 05/22/15 10:00
Percent Solids: N/A
Initial Volume: 970
Final Volume: 1
Extraction Method: 3520C

ESS Laboratory Work Order: 1505568
ESS Laboratory Sample ID: 1505568-02
Sample Matrix: Surface Water
Units: ug/L
Analyst: ML
Prepared: 5/26/15 19:05

8270C Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Di-n-octylphthalate	ND (10.3)		8270C		1	05/28/15 2:38	CYE0367	CE52612
Hexachlorobutadiene	ND (10.3)		8270C		1	05/28/15 2:38	CYE0367	CE52612
Hexachloroethane	ND (5.2)		8270C		1	05/28/15 2:38	CYE0367	CE52612
Isophorone	ND (10.3)		8270C		1	05/28/15 2:38	CYE0367	CE52612
Nitrobenzene	ND (10.3)		8270C		1	05/28/15 2:38	CYE0367	CE52612
N-Nitrosodimethylamine	ND (10.3)		8270C		1	05/28/15 2:38	CYE0367	CE52612
Phenol	ND (10.3)		8270C		1	05/28/15 2:38	CYE0367	CE52612

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*65 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*66 %*		*15-110*
Surrogate: 2-Chlorophenol-d4	*70 %*		*15-110*
Surrogate: 2-Fluorobiphenyl	*65 %*		*30-130*
Surrogate: 2-Fluorophenol	*69 %*		*15-110*
Surrogate: Nitrobenzene-d5	*64 %*		*30-130*
Surrogate: Phenol-d6	*70 %*		*15-110*
Surrogate: p-Terphenyl-d14	*62 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett - MCP
Client Sample ID: SW-11-05-22-15
Date Sampled: 05/22/15 10:00
Percent Solids: N/A
Initial Volume: 1070
Final Volume: 0.25
Extraction Method: 3510C

ESS Laboratory Work Order: 1505568
ESS Laboratory Sample ID: 1505568-02
Sample Matrix: Surface Water
Units: ug/L
Analyst: VSC
Prepared: 5/26/15 17:45

8270D(SIM) Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.19)		8270D SIM		1	05/27/15 20:40	CYE0340	CE52636
Acenaphthene	ND (0.19)		8270D SIM		1	05/27/15 20:40	CYE0340	CE52636
Acenaphthylene	ND (0.19)		8270D SIM		1	05/27/15 20:40	CYE0340	CE52636
Anthracene	ND (0.19)		8270D SIM		1	05/27/15 20:40	CYE0340	CE52636
Benzo(a)anthracene	ND (0.05)		8270D SIM		1	05/27/15 20:40	CYE0340	CE52636
Benzo(a)pyrene	ND (0.05)		8270D SIM		1	05/27/15 20:40	CYE0340	CE52636
Benzo(b)fluoranthene	ND (0.05)		8270D SIM		1	05/27/15 20:40	CYE0340	CE52636
Benzo(g,h,i)perylene	ND (0.19)		8270D SIM		1	05/27/15 20:40	CYE0340	CE52636
Benzo(k)fluoranthene	ND (0.05)		8270D SIM		1	05/27/15 20:40	CYE0340	CE52636
Chrysene	ND (0.05)		8270D SIM		1	05/27/15 20:40	CYE0340	CE52636
Dibenzo(a,h)Anthracene	ND (0.05)		8270D SIM		1	05/27/15 20:40	CYE0340	CE52636
Fluoranthene	ND (0.19)		8270D SIM		1	05/27/15 20:40	CYE0340	CE52636
Fluorene	ND (0.19)		8270D SIM		1	05/27/15 20:40	CYE0340	CE52636
Hexachlorobenzene	ND (0.19)		8270D SIM		1	05/27/15 20:40	CYE0340	CE52636
Indeno(1,2,3-cd)Pyrene	ND (0.05)		8270D SIM		1	05/27/15 20:40	CYE0340	CE52636
Naphthalene	ND (0.19)		8270D SIM		1	05/27/15 20:40	CYE0340	CE52636
Pentachlorophenol	ND (0.84)		8270D SIM		1	05/27/15 20:40	CYE0340	CE52636
Phenanthrene	ND (0.19)		8270D SIM		1	05/27/15 20:40	CYE0340	CE52636
Pyrene	ND (0.19)		8270D SIM		1	05/27/15 20:40	CYE0340	CE52636

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*47 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*87 %*		*15-110*
Surrogate: 2-Fluorobiphenyl	*61 %*		*30-130*
Surrogate: Nitrobenzene-d5	*75 %*		*30-130*
Surrogate: p-Terphenyl-d14	*70 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett - MCP
Client Sample ID: SW-11-05-22-15
Date Sampled: 05/22/15 10:00
Percent Solids: N/A

ESS Laboratory Work Order: 1505568
ESS Laboratory Sample ID: 1505568-02
Sample Matrix: Surface Water

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Hexavalent Chromium	ND (10)		7196A		1	JLK	05/23/15 8:15	ug/L	CE52302

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett - MCP
Client Sample ID: SW-11-05-22-15
Date Sampled: 05/22/15 10:00
Percent Solids: N/A
Initial Volume: 1060
Final Volume: 1
Extraction Method: 3510C

ESS Laboratory Work Order: 1505568
ESS Laboratory Sample ID: 1505568-02
Sample Matrix: Surface Water
Units: ug/L

Prepared: 5/28/15 17:32

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	ND (94)		MADEP-EPH		1	DPS	05/29/15 8:45	CYE0371	CE52810
C19-C36 Aliphatics1	ND (94)		MADEP-EPH		1	DPS	05/29/15 8:45	CYE0371	CE52810
C11-C22 Unadjusted Aromatics1	ND (94.3)		EPH8270		1	DPS	05/28/15 23:59	CYE0355	CE52810
C11-C22 Aromatics1,2	ND (94.3)		EPH8270			DPS	05/28/15 23:59		[CALC]
Preservative:	**pH <= 2**		MADEP-EPH			DPS			CE52810

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*64 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*98 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*95 %*		*40-140*
Surrogate: O-Terphenyl	*70 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett - MCP

ESS Laboratory Work Order: 1505568

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Dissolved Metals										
Batch CE52602 - 245.1/7470A										
Blank										
Mercury	ND	0.20	ug/L							
LCS										
Mercury	5.70	0.20	ug/L	6.000		95	80-120			
LCS Dup										
Mercury	5.61	0.20	ug/L	6.000		93	80-120	2	20	
Batch CE52605 - 3005A/200.7										
Blank										
Antimony	ND	2.5	ug/L							
Arsenic	ND	2.5	ug/L							
Barium	ND	25.0	ug/L							
Beryllium	ND	0.5	ug/L							
Cadmium	ND	2.5	ug/L							
Chromium	ND	10.0	ug/L							
Lead	ND	12.5	ug/L							
Nickel	ND	25.0	ug/L							
Selenium	ND	5.0	ug/L							
Silver	ND	5.0	ug/L							
Thallium	ND	1.0	ug/L							
Vanadium	ND	10.0	ug/L							
Zinc	ND	25.0	ug/L							
LCS										
Antimony	266	50.0	ug/L	250.0		106	80-120			
Arsenic	214	50.0	ug/L	250.0		86	80-120			
Barium	240	25.0	ug/L	250.0		96	80-120			
Beryllium	23.9	0.5	ug/L	25.00		96	80-120			
Cadmium	113	2.5	ug/L	125.0		91	80-120			
Chromium	238	10.0	ug/L	250.0		95	80-120			
Lead	237	10.0	ug/L	250.0		95	80-120			
Nickel	235	25.0	ug/L	250.0		94	80-120			
Selenium	531	100	ug/L	500.0		106	80-120			
Silver	122	5.0	ug/L	125.0		97	80-120			
Thallium	214	20.0	ug/L	250.0		85	80-120			
Vanadium	240	10.0	ug/L	250.0		96	80-120			
Zinc	237	25.0	ug/L	250.0		95	80-120			
LCS Dup										
Antimony	276	50.0	ug/L	250.0		110	80-120	3	20	
Arsenic	223	50.0	ug/L	250.0		89	80-120	4	20	
Barium	249	25.0	ug/L	250.0		100	80-120	4	20	
Beryllium	24.9	0.5	ug/L	25.00		100	80-120	4	20	
Cadmium	118	2.5	ug/L	125.0		94	80-120	4	20	
Chromium	248	10.0	ug/L	250.0		99	80-120	4	20	
Lead	246	10.0	ug/L	250.0		98	80-120	4	20	
Nickel	246	25.0	ug/L	250.0		98	80-120	4	20	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett - MCP

ESS Laboratory Work Order: 1505568

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Dissolved Metals										
Batch CE52605 - 3005A/200.7										
Selenium	555	100	ug/L	500.0		111	80-120	4	20	
Silver	128	5.0	ug/L	125.0		102	80-120	5	20	
Thallium	229	20.0	ug/L	250.0		92	80-120	7	20	
Vanadium	251	10.0	ug/L	250.0		100	80-120	5	20	
Zinc	253	25.0	ug/L	250.0		101	80-120	7	20	
8270C Semi-Volatile Organic Compounds										
Batch CE52612 - 3520C										
Blank										
1,2,4-Trichlorobenzene	ND	10.0	ug/L							
1,2-Dichlorobenzene	ND	10.0	ug/L							
1,3-Dichlorobenzene	ND	10.0	ug/L							
1,4-Dichlorobenzene	ND	10.0	ug/L							
2,4,5-Trichlorophenol	ND	10.0	ug/L							
2,4,6-Trichlorophenol	ND	10.0	ug/L							
2,4-Dichlorophenol	ND	10.0	ug/L							
2,4-Dimethylphenol	ND	50.0	ug/L							
2,4-Dinitrophenol	ND	50.0	ug/L							
2,4-Dinitrotoluene	ND	10.0	ug/L							
2,6-Dinitrotoluene	ND	10.0	ug/L							
2-Chloronaphthalene	ND	10.0	ug/L							
2-Chlorophenol	ND	10.0	ug/L							
2-Methylphenol	ND	10.0	ug/L							
2-Nitrophenol	ND	10.0	ug/L							
3,3´-Dichlorobenzidine	ND	20.0	ug/L							
3+4-Methylphenol	ND	20.0	ug/L							
4-Bromophenyl-phenylether	ND	10.0	ug/L							
4-Chloroaniline	ND	20.0	ug/L							
4-Nitrophenol	ND	50.0	ug/L							
Acetophenone	ND	10.0	ug/L							
Aniline	ND	10.0	ug/L							
Azobenzene	ND	20.0	ug/L							
bis(2-Chloroethoxy)methane	ND	10.0	ug/L							
bis(2-Chloroethyl)ether	ND	10.0	ug/L							
bis(2-chloroisopropyl)Ether	ND	10.0	ug/L							
bis(2-Ethylhexyl)phthalate	ND	6.0	ug/L							
Butylbenzylphthalate	ND	10.0	ug/L							
Dibenzofuran	ND	10.0	ug/L							
Diethylphthalate	ND	10.0	ug/L							
Dimethylphthalate	ND	10.0	ug/L							
Di-n-butylphthalate	ND	10.0	ug/L							
Di-n-octylphthalate	ND	10.0	ug/L							
Hexachlorobutadiene	ND	10.0	ug/L							
Hexachloroethane	ND	5.0	ug/L							
Isophorone	ND	10.0	ug/L							

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett - MCP

ESS Laboratory Work Order: 1505568

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270C Semi-Volatile Organic Compounds										
Batch CE52612 - 3520C										
Nitrobenzene	ND	10.0	ug/L							
N-Nitrosodimethylamine	ND	10.0	ug/L							
Phenol	ND	10.0	ug/L							
Surrogate: 1,2-Dichlorobenzene-d4	*60.5*		ug/L	*100.0*		*60*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*99.8*		ug/L	*150.0*		*67*	*15-110*			
Surrogate: 2-Chlorophenol-d4	*96.9*		ug/L	*150.0*		*65*	*15-110*			
Surrogate: 2-Fluorobiphenyl	*60.9*		ug/L	*100.0*		*61*	*30-130*			
Surrogate: 2-Fluorophenol	*85.5*		ug/L	*150.0*		*57*	*15-110*			
Surrogate: Nitrobenzene-d5	*64.1*		ug/L	*100.0*		*64*	*30-130*			
Surrogate: Phenol-d6	*96.1*		ug/L	*150.0*		*64*	*15-110*			
Surrogate: p-Terphenyl-d14	*69.1*		ug/L	*100.0*		*69*	*30-130*			
LCS										
1,2,4-Trichlorobenzene	56.1	10.0	ug/L	100.0		56	40-140			
1,2-Dichlorobenzene	44.5	10.0	ug/L	100.0		44	40-140			
1,3-Dichlorobenzene	43.1	10.0	ug/L	100.0		43	40-140			
1,4-Dichlorobenzene	42.8	10.0	ug/L	100.0		43	40-140			
2,4,5-Trichlorophenol	69.3	10.0	ug/L	100.0		69	30-130			
2,4,6-Trichlorophenol	64.4	10.0	ug/L	100.0		64	30-130			
2,4-Dichlorophenol	61.3	10.0	ug/L	100.0		61	30-130			
2,4-Dimethylphenol	63.6	50.0	ug/L	100.0		64	30-130			
2,4-Dinitrophenol	42.1	50.0	ug/L	100.0		42	30-130			
2,4-Dinitrotoluene	68.3	10.0	ug/L	100.0		68	40-140			
2,6-Dinitrotoluene	65.3	10.0	ug/L	100.0		65	40-140			
2-Chloronaphthalene	89.0	10.0	ug/L	100.0		89	40-140			
2-Chlorophenol	56.0	10.0	ug/L	100.0		56	30-130			
2-Methylphenol	58.3	10.0	ug/L	100.0		58	30-130			
2-Nitrophenol	57.6	10.0	ug/L	100.0		58	30-130			
3,3´-Dichlorobenzidine	56.3	20.0	ug/L	100.0		56	40-140			
3+4-Methylphenol	125	20.0	ug/L	200.0		63	30-130			
4-Bromophenyl-phenylether	63.3	10.0	ug/L	100.0		63	40-140			
4-Chloroaniline	51.6	20.0	ug/L	100.0		52	40-140			
4-Nitrophenol	48.6	50.0	ug/L	100.0		49	30-130			
Acetophenone	59.4	10.0	ug/L	100.0		59	40-140			
Aniline	47.4	10.0	ug/L	100.0		47	40-140			
Azobenzene	58.0	20.0	ug/L	100.0		58	40-140			
bis(2-Chloroethoxy)methane	57.0	10.0	ug/L	100.0		57	40-140			
bis(2-Chloroethyl)ether	74.8	10.0	ug/L	100.0		75	40-140			
bis(2-chloroisopropyl)Ether	57.0	10.0	ug/L	100.0		57	40-140			
bis(2-Ethylhexyl)phthalate	66.1	6.0	ug/L	100.0		66	40-140			
Butylbenzylphthalate	64.1	10.0	ug/L	100.0		64	40-140			
Dibenzofuran	63.9	10.0	ug/L	100.0		64	40-140			
Diethylphthalate	69.0	10.0	ug/L	100.0		69	40-140			
Dimethylphthalate	65.3	10.0	ug/L	100.0		65	40-140			
Di-n-butylphthalate	69.8	10.0	ug/L	100.0		70	40-140			
Di-n-octylphthalate	70.3	10.0	ug/L	100.0		70	40-140			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett - MCP

ESS Laboratory Work Order: 1505568

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270C Semi-Volatile Organic Compounds										
Batch CE52612 - 3520C										
Hexachlorobutadiene	55.3	10.0	ug/L	100.0		55	40-140			
Hexachloroethane	43.5	5.0	ug/L	100.0		44	40-140			
Isophorone	54.7	10.0	ug/L	100.0		55	40-140			
Nitrobenzene	60.3	10.0	ug/L	100.0		60	40-140			
N-Nitrosodimethylamine	82.1	10.0	ug/L	100.0		82	40-140			
Phenol	55.2	10.0	ug/L	100.0		55	30-130			
Surrogate: 1,2-Dichlorobenzene-d4	*63.8*		ug/L	*100.0*		*64*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*114*		ug/L	*150.0*		*76*	*15-110*			
Surrogate: 2-Chlorophenol-d4	*96.8*		ug/L	*150.0*		*64*	*15-110*			
Surrogate: 2-Fluorobiphenyl	*70.2*		ug/L	*100.0*		*70*	*30-130*			
Surrogate: 2-Fluorophenol	*83.5*		ug/L	*150.0*		*56*	*15-110*			
Surrogate: Nitrobenzene-d5	*66.6*		ug/L	*100.0*		*67*	*30-130*			
Surrogate: Phenol-d6	*97.9*		ug/L	*150.0*		*65*	*15-110*			
Surrogate: p-Terphenyl-d14	*71.3*		ug/L	*100.0*		*71*	*30-130*			
LCS Dup										
1,2,4-Trichlorobenzene	59.0	10.0	ug/L	100.0		59	40-140	5	20	
1,2-Dichlorobenzene	47.5	10.0	ug/L	100.0		47	40-140	7	20	
1,3-Dichlorobenzene	45.9	10.0	ug/L	100.0		46	40-140	6	20	
1,4-Dichlorobenzene	45.2	10.0	ug/L	100.0		45	40-140	6	20	
2,4,5-Trichlorophenol	73.5	10.0	ug/L	100.0		74	30-130	6	20	
2,4,6-Trichlorophenol	68.4	10.0	ug/L	100.0		68	30-130	6	20	
2,4-Dichlorophenol	66.9	10.0	ug/L	100.0		67	30-130	9	20	
2,4-Dimethylphenol	66.6	50.0	ug/L	100.0		67	30-130	5	20	
2,4-Dinitrophenol	45.8	50.0	ug/L	100.0		46	30-130	8	20	
2,4-Dinitrotoluene	72.0	10.0	ug/L	100.0		72	40-140	5	20	
2,6-Dinitrotoluene	71.8	10.0	ug/L	100.0		72	40-140	9	20	
2-Chloronaphthalene	93.2	10.0	ug/L	100.0		93	40-140	5	20	
2-Chlorophenol	61.3	10.0	ug/L	100.0		61	30-130	9	20	
2-Methylphenol	62.5	10.0	ug/L	100.0		62	30-130	7	20	
2-Nitrophenol	61.0	10.0	ug/L	100.0		61	30-130	6	20	
3,3´-Dichlorobenzidine	59.3	20.0	ug/L	100.0		59	40-140	5	20	
3+4-Methylphenol	133	20.0	ug/L	200.0		66	30-130	6	20	
4-Bromophenyl-phenylether	66.8	10.0	ug/L	100.0		67	40-140	5	20	
4-Chloroaniline	51.0	20.0	ug/L	100.0		51	40-140	1	20	
4-Nitrophenol	51.1	50.0	ug/L	100.0		51	30-130	5	20	
Acetophenone	63.1	10.0	ug/L	100.0		63	40-140	6	20	
Aniline	50.2	10.0	ug/L	100.0		50	40-140	6	20	
Azobenzene	61.1	20.0	ug/L	100.0		61	40-140	5	20	
bis(2-Chloroethoxy)methane	59.1	10.0	ug/L	100.0		59	40-140	4	20	
bis(2-Chloroethyl)ether	80.6	10.0	ug/L	100.0		81	40-140	8	20	
bis(2-chloroisopropyl)Ether	58.9	10.0	ug/L	100.0		59	40-140	3	20	
bis(2-Ethylhexyl)phthalate	71.1	6.0	ug/L	100.0		71	40-140	7	20	
Butylbenzylphthalate	66.9	10.0	ug/L	100.0		67	40-140	4	20	
Dibenzofuran	66.2	10.0	ug/L	100.0		66	40-140	4	20	
Diethylphthalate	74.2	10.0	ug/L	100.0		74	40-140	7	20	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270C Semi-Volatile Organic Compounds										
Batch CE52612 - 3520C										
Dimethylphthalate	70.5	10.0	ug/L	100.0		70	40-140	8	20	
Di-n-butylphthalate	73.9	10.0	ug/L	100.0		74	40-140	6	20	
Di-n-octylphthalate	75.2	10.0	ug/L	100.0		75	40-140	7	20	
Hexachlorobutadiene	59.0	10.0	ug/L	100.0		59	40-140	7	20	
Hexachloroethane	46.4	5.0	ug/L	100.0		46	40-140	6	20	
Isophorone	59.1	10.0	ug/L	100.0		59	40-140	8	20	
Nitrobenzene	63.7	10.0	ug/L	100.0		64	40-140	5	20	
N-Nitrosodimethylamine	84.9	10.0	ug/L	100.0		85	40-140	3	20	
Phenol	60.3	10.0	ug/L	100.0		60	30-130	9	20	
Surrogate: 1,2-Dichlorobenzene-d4	*62.1*		ug/L	*100.0*		*62*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*115*		ug/L	*150.0*		*77*	*15-110*			
Surrogate: 2-Chlorophenol-d4	*98.3*		ug/L	*150.0*		*66*	*15-110*			
Surrogate: 2-Fluorobiphenyl	*68.0*		ug/L	*100.0*		*68*	*30-130*			
Surrogate: 2-Fluorophenol	*87.6*		ug/L	*150.0*		*58*	*15-110*			
Surrogate: Nitrobenzene-d5	*65.1*		ug/L	*100.0*		*65*	*30-130*			
Surrogate: Phenol-d6	*97.2*		ug/L	*150.0*		*65*	*15-110*			
Surrogate: p-Terphenyl-d14	*69.8*		ug/L	*100.0*		*70*	*30-130*			
8270D(SIM) Semi-Volatile Organic Compounds										
Batch CE52636 - 3510C										
Blank										
2-Methylnaphthalene	ND	0.20	ug/L							
Acenaphthene	ND	0.20	ug/L							
Acenaphthylene	ND	0.20	ug/L							
Anthracene	ND	0.20	ug/L							
Benzo(a)anthracene	ND	0.05	ug/L							
Benzo(a)pyrene	ND	0.05	ug/L							
Benzo(b)fluoranthene	ND	0.05	ug/L							
Benzo(g,h,i)perylene	ND	0.20	ug/L							
Benzo(k)fluoranthene	ND	0.05	ug/L							
Chrysene	ND	0.05	ug/L							
Dibenzo(a,h)Anthracene	ND	0.05	ug/L							
Fluoranthene	ND	0.20	ug/L							
Fluorene	ND	0.20	ug/L							
Hexachlorobenzene	ND	0.20	ug/L							
Indeno(1,2,3-cd)Pyrene	ND	0.05	ug/L							
Naphthalene	ND	0.20	ug/L							
Pentachlorophenol	ND	0.90	ug/L							
Phenanthrene	ND	0.20	ug/L							
Pyrene	ND	0.20	ug/L							
Surrogate: 1,2-Dichlorobenzene-d4	*1.27*		ug/L	*2.500*		*51*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*4.49*		ug/L	*3.750*		*120*	*15-110*			*S+*
Surrogate: 2-Fluorobiphenyl	*1.58*		ug/L	*2.500*		*63*	*30-130*			
Surrogate: Nitrobenzene-d5	*2.05*		ug/L	*2.500*		*82*	*30-130*			
Surrogate: p-Terphenyl-d14	*1.93*		ug/L	*2.500*		*77*	*30-130*			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
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ESS Laboratory Work Order: 1505568

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D(SIM) Semi-Volatile Organic Compounds										
Batch CE52636 - 3510C										
LCS										
2-Methylnaphthalene	1.84	0.20	ug/L	4.000		46	40-140			
Acenaphthene	2.38	0.20	ug/L	4.000		59	40-140			
Acenaphthylene	2.31	0.20	ug/L	4.000		58	40-140			
Anthracene	2.88	0.20	ug/L	4.000		72	40-140			
Benzo(a)anthracene	3.06	0.05	ug/L	4.000		77	40-140			
Benzo(a)pyrene	3.21	0.05	ug/L	4.000		80	40-140			
Benzo(b)fluoranthene	3.21	0.05	ug/L	4.000		80	40-140			
Benzo(g,h,i)perylene	3.19	0.20	ug/L	4.000		80	40-140			
Benzo(k)fluoranthene	3.40	0.05	ug/L	4.000		85	40-140			
Chrysene	3.14	0.05	ug/L	4.000		78	40-140			
Dibenzo(a,h)Anthracene	3.17	0.05	ug/L	4.000		79	40-140			
Fluoranthene	3.10	0.20	ug/L	4.000		77	40-140			
Fluorene	2.53	0.20	ug/L	4.000		63	40-140			
Hexachlorobenzene	3.21	0.20	ug/L	4.000		80	40-140			
Indeno(1,2,3-cd)Pyrene	3.20	0.05	ug/L	4.000		80	40-140			
Naphthalene	2.02	0.20	ug/L	4.000		51	40-140			
Pentachlorophenol	1.83	0.90	ug/L	4.000		46	30-130			
Phenanthrene	2.78	0.20	ug/L	4.000		69	40-140			
Pyrene	3.10	0.20	ug/L	4.000		77	40-140			
Surrogate: 1,2-Dichlorobenzene-d4	*0.991*		ug/L	*2.500*		*40*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*4.10*		ug/L	*3.750*		*109*	*15-110*			
Surrogate: 2-Fluorobiphenyl	*1.33*		ug/L	*2.500*		*53*	*30-130*			
Surrogate: Nitrobenzene-d5	*1.56*		ug/L	*2.500*		*62*	*30-130*			
Surrogate: p-Terphenyl-d14	*1.72*		ug/L	*2.500*		*69*	*30-130*			
LCS Dup										
2-Methylnaphthalene	1.75	0.20	ug/L	4.000		44	40-140	5	20	
Acenaphthene	2.20	0.20	ug/L	4.000		55	40-140	8	20	
Acenaphthylene	2.16	0.20	ug/L	4.000		54	40-140	6	20	
Anthracene	2.84	0.20	ug/L	4.000		71	40-140	1	20	
Benzo(a)anthracene	3.22	0.05	ug/L	4.000		81	40-140	5	20	
Benzo(a)pyrene	3.46	0.05	ug/L	4.000		86	40-140	8	20	
Benzo(b)fluoranthene	3.42	0.05	ug/L	4.000		86	40-140	7	20	
Benzo(g,h,i)perylene	3.43	0.20	ug/L	4.000		86	40-140	7	20	
Benzo(k)fluoranthene	3.62	0.05	ug/L	4.000		91	40-140	6	20	
Chrysene	3.30	0.05	ug/L	4.000		83	40-140	5	20	
Dibenzo(a,h)Anthracene	3.42	0.05	ug/L	4.000		85	40-140	8	20	
Fluoranthene	3.39	0.20	ug/L	4.000		85	40-140	9	20	
Fluorene	2.33	0.20	ug/L	4.000		58	40-140	8	20	
Hexachlorobenzene	3.13	0.20	ug/L	4.000		78	40-140	2	20	
Indeno(1,2,3-cd)Pyrene	3.42	0.05	ug/L	4.000		85	40-140	6	20	
Naphthalene	1.94	0.20	ug/L	4.000		48	40-140	4	20	
Pentachlorophenol	2.08	0.90	ug/L	4.000		52	30-130	13	20	
Phenanthrene	2.72	0.20	ug/L	4.000		68	40-140	2	20	
Pyrene	3.18	0.20	ug/L	4.000		80	40-140	3	20	

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D(SIM) Semi-Volatile Organic Compounds										
Batch CE52636 - 3510C										
Surrogate: 1,2-Dichlorobenzene-d4	*0.995*		ug/L	*2.500*		*40*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*4.14*		ug/L	*3.750*		*110*	*15-110*			
Surrogate: 2-Fluorobiphenyl	*1.30*		ug/L	*2.500*		*52*	*30-130*			
Surrogate: Nitrobenzene-d5	*1.53*		ug/L	*2.500*		*61*	*30-130*			
Surrogate: p-Terphenyl-d14	*1.81*		ug/L	*2.500*		*72*	*30-130*			
Classical Chemistry										
Batch CE52302 - General Preparation										
Blank										
Hexavalent Chromium	ND	10	ug/L							
LCS										
Hexavalent Chromium	0.5		mg/L	0.4998		97	90-110			
LCS Dup										
Hexavalent Chromium	0.5		mg/L	0.4998		97	90-110	0.2	20	
MADEP-EPH Extractable Petroleum Hydrocarbons										
Batch CE52810 - 3510C										
Blank										
C19-C36 Aliphatics1	ND	100	ug/L							
C9-C18 Aliphatics1	ND	100	ug/L							
Decane (C10)	ND	5	ug/L							
Docosane (C22)	ND	5	ug/L							
Dodecane (C12)	ND	5	ug/L							
Eicosane (C20)	ND	5	ug/L							
Hexacosane (C26)	ND	5	ug/L							
Hexadecane (C16)	ND	5	ug/L							
Hexatriacontane (C36)	ND	5	ug/L							
Nonadecane (C19)	ND	5	ug/L							
Nonane (C9)	ND	5	ug/L							
Octacosane (C28)	ND	5	ug/L							
Octadecane (C18)	ND	5	ug/L							
Tetracosane (C24)	ND	5	ug/L							
Tetradecane (C14)	ND	5	ug/L							
Triacontane (C30)	ND	5	ug/L							
Surrogate: 1-Chlorooctadecane	*36.5*		ug/L	*50.00*		*73*	*40-140*			
Blank										
2-Methylnaphthalene	ND	5.0	ug/L							
Acenaphthene	ND	5.0	ug/L							
Acenaphthylene	ND	5.0	ug/L							
Anthracene	ND	5.0	ug/L							
Benzo(a)anthracene	ND	5.0	ug/L							
Benzo(a)pyrene	ND	10.0	ug/L							

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
MADEP-EPH Extractable Petroleum Hydrocarbons										
Batch CE52810 - 3510C										
Benzo(b)fluoranthene	ND	5.0	ug/L							
Benzo(g,h,i)perylene	ND	10.0	ug/L							
Benzo(k)fluoranthene	ND	10.0	ug/L							
C11-C22 Unadjusted Aromatics1	ND	100	ug/L							
Chrysene	ND	10.0	ug/L							
Dibenzo(a,h)Anthracene	ND	5.0	ug/L							
Fluoranthene	ND	10.0	ug/L							
Fluorene	ND	5.0	ug/L							
Indeno(1,2,3-cd)Pyrene	ND	5.0	ug/L							
Naphthalene	ND	10.0	ug/L							
Phenanthrene	ND	5.0	ug/L							
Pyrene	ND	5.0	ug/L							
Surrogate: 2-Bromonaphthalene	*47.1*		ug/L	*50.00*		*94*	*40-140*			
Surrogate: 2-Fluorobiphenyl	*48.7*		ug/L	*50.00*		*97*	*40-140*			
Surrogate: O-Terphenyl	*38.9*		ug/L	*50.00*		*78*	*40-140*			
LCS										
C19-C36 Aliphatics1	294	100	ug/L	400.0		74	40-140			
C9-C18 Aliphatics1	182	100	ug/L	300.0		61	40-140			
Decane (C10)	23	5	ug/L	50.00		47	40-140			
Docosane (C22)	37	5	ug/L	50.00		74	40-140			
Dodecane (C12)	26	5	ug/L	50.00		51	40-140			
Eicosane (C20)	37	5	ug/L	50.00		75	40-140			
Hexacosane (C26)	37	5	ug/L	50.00		74	40-140			
Hexadecane (C16)	36	5	ug/L	50.00		72	40-140			
Hexatriacontane (C36)	34	5	ug/L	50.00		68	40-140			
Nonadecane (C19)	38	5	ug/L	50.00		75	40-140			
Nonane (C9)	18	5	ug/L	50.00		36	30-140			
Octacosane (C28)	36	5	ug/L	50.00		71	40-140			
Octadecane (C18)	37	5	ug/L	50.00		74	40-140			
Tetracosane (C24)	35	5	ug/L	50.00		71	40-140			
Tetradecane (C14)	32	5	ug/L	50.00		65	40-140			
Triacontane (C30)	36	5	ug/L	50.00		72	40-140			
Surrogate: 1-Chlorooctadecane	*36.0*		ug/L	*50.00*		*72*	*40-140*			
LCS										
2-Methylnaphthalene	35.0	5.0	ug/L	50.00		70	40-140			
Acenaphthene	37.8	5.0	ug/L	50.00		76	40-140			
Acenaphthylene	38.6	5.0	ug/L	50.00		77	40-140			
Anthracene	40.5	5.0	ug/L	50.00		81	40-140			
Benzo(a)anthracene	32.4	5.0	ug/L	50.00		65	40-140			
Benzo(a)pyrene	35.8	10.0	ug/L	50.00		72	40-140			
Benzo(b)fluoranthene	32.4	5.0	ug/L	50.00		65	40-140			
Benzo(g,h,i)perylene	34.2	10.0	ug/L	50.00		68	40-140			
Benzo(k)fluoranthene	36.0	10.0	ug/L	50.00		72	40-140			
C11-C22 Unadjusted Aromatics1	614	100	ug/L	850.0		72	40-140			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett - MCP

ESS Laboratory Work Order: 1505568

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
MADEP-EPH Extractable Petroleum Hydrocarbons										
Batch CE52810 - 3510C										
Chrysene	37.4	10.0	ug/L	50.00		75	40-140			
Dibenzo(a,h)Anthracene	32.5	5.0	ug/L	50.00		65	40-140			
Fluoranthene	37.4	10.0	ug/L	50.00		75	40-140			
Fluorene	38.0	5.0	ug/L	50.00		76	40-140			
Indeno(1,2,3-cd)Pyrene	33.0	5.0	ug/L	50.00		66	40-140			
Naphthalene	33.9	10.0	ug/L	50.00		68	40-140			
Phenanthrene	38.4	5.0	ug/L	50.00		77	40-140			
Pyrene	38.6	5.0	ug/L	50.00		77	40-140			
Surrogate: 2-Bromonaphthalene	*50.0*		ug/L	*50.00*		*100*	*40-140*			
Surrogate: 2-Fluorobiphenyl	*49.4*		ug/L	*50.00*		*99*	*40-140*			
Surrogate: O-Terphenyl	*38.1*		ug/L	*50.00*		*76*	*40-140*			
LCS										
2-Methylnaphthalene Breakthrough	0.0		%				0-5			
Naphthalene Breakthrough	0.0		%				0-5			
LCS Dup										
C19-C36 Aliphatics1	288	100	ug/L	400.0		72	40-140	2	25	
C9-C18 Aliphatics1	173	100	ug/L	300.0		58	40-140	5	25	
Decane (C10)	21	5	ug/L	50.00		42	40-140	10	25	
Docosane (C22)	37	5	ug/L	50.00		73	40-140	2	25	
Dodecane (C12)	23	5	ug/L	50.00		47	40-140	8	25	
Eicosane (C20)	37	5	ug/L	50.00		73	40-140	2	25	
Hexacosane (C26)	36	5	ug/L	50.00		73	40-140	1	25	
Hexadecane (C16)	35	5	ug/L	50.00		69	40-140	3	25	
Hexatriacontane (C36)	33	5	ug/L	50.00		66	40-140	3	25	
Nonadecane (C19)	37	5	ug/L	50.00		73	40-140	2	25	
Nonane (C9)	16	5	ug/L	50.00		33	30-140	9	25	
Octacosane (C28)	35	5	ug/L	50.00		70	40-140	1	25	
Octadecane (C18)	36	5	ug/L	50.00		72	40-140	3	25	
Tetracosane (C24)	35	5	ug/L	50.00		70	40-140	2	25	
Tetradecane (C14)	31	5	ug/L	50.00		62	40-140	4	25	
Triacontane (C30)	36	5	ug/L	50.00		71	40-140	1	25	
Surrogate: 1-Chlorooctadecane	*34.7*		ug/L	*50.00*		*69*	*40-140*			
LCS Dup										
2-Methylnaphthalene	33.3	5.0	ug/L	50.00		67	40-140	5	20	
Acenaphthene	35.8	5.0	ug/L	50.00		72	40-140	5	20	
Acenaphthylene	37.1	5.0	ug/L	50.00		74	40-140	4	20	
Anthracene	39.8	5.0	ug/L	50.00		80	40-140	2	20	
Benzo(a)anthracene	32.5	5.0	ug/L	50.00		65	40-140	0.09	20	
Benzo(a)pyrene	35.9	10.0	ug/L	50.00		72	40-140	0.3	20	
Benzo(b)fluoranthene	32.2	5.0	ug/L	50.00		64	40-140	0.5	20	
Benzo(g,h,i)perylene	34.1	10.0	ug/L	50.00		68	40-140	0.2	20	
Benzo(k)fluoranthene	37.2	10.0	ug/L	50.00		74	40-140	3	20	
C11-C22 Unadjusted Aromatics1	604	100	ug/L	850.0		71	40-140	2	25	
Chrysene	37.7	10.0	ug/L	50.00		75	40-140	0.7	20	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett - MCP

ESS Laboratory Work Order: 1505568

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
MADEP-EPH Extractable Petroleum Hydrocarbons										
Batch CE52810 - 3510C										
Dibenzo(a,h)Anthracene	32.2	5.0	ug/L	50.00		64	40-140	1	20	
Fluoranthene	36.7	10.0	ug/L	50.00		73	40-140	2	20	
Fluorene	37.0	5.0	ug/L	50.00		74	40-140	3	20	
Indeno(1,2,3-cd)Pyrene	33.1	5.0	ug/L	50.00		66	40-140	0.3	20	
Naphthalene	32.0	10.0	ug/L	50.00		64	40-140	6	20	
Phenanthrene	37.6	5.0	ug/L	50.00		75	40-140	2	20	
Pyrene	37.7	5.0	ug/L	50.00		75	40-140	2	20	
Surrogate: 2-Bromonaphthalene	*49.9*		ug/L	*50.00*		*100*	*40-140*			
Surrogate: 2-Fluorobiphenyl	*49.2*		ug/L	*50.00*		*98*	*40-140*			
Surrogate: O-Terphenyl	*37.0*		ug/L	*50.00*		*74*	*40-140*			
LCS Dup										
2-Methylnaphthalene Breakthrough	0.0		%				0-5		200	
Naphthalene Breakthrough	0.0		%				0-5		200	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett - MCP

ESS Laboratory Work Order: 1505568

Notes and Definitions

Z-06	pH <= 2
U	Analyte included in the analysis, but not detected
S+	Surrogate recovery(ies) above upper control limit (S+).
Q	Calibration required quadratic regression (Q).
IC	Internal Standard(s) outside of criteria. Sample was reanalyzed to confirm (IC).
EL	Elevated Method Reporting Limits due to sample matrix (EL).
D	Diluted.
C+	Continuing Calibration recovery is above upper control limit (C+).
ND	Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
I/V	Initial Volume
F/V	Final Volume
§	Subcontracted analysis; see attached report
1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of target analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.
Avg	Results reported as a mathematical average.
NR	No Recovery
[CALC]	Calculated Analyte
SUB	Subcontracted analysis; see attached report

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett - MCP

ESS Laboratory Work Order: 1505568

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Department of Defense (DoD) Environmental Laboratory Accreditation Program (ELAP)
A2LA Accredited: Testing Cert# 2864.01
http://www.a2la.org/scopepdf/2864-01.pdf

Rhode Island Potable and Non Potable Water: LAI00179
http://www.health.ri.gov/find/labs/analytical/ESS.pdf

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750
http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutofStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI0002
http://www.maine.gov/dhhs/mecdc/environmental-health/water/dwp-services/labcert/documents/AllLabs.xls

Massachusetts Potable and Non Potable Water: M-RI002
http://public.dep.state.ma.us/Labcert/Labcert.aspx

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424
http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313
http://www.wadsworth.org/labcert/elap/comm.html

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006
http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752
http://www.depweb.state.pa.us/portal/server.pt/community/labs/13780/laboratory_accreditation_program/590095

CHEMISTRY

A2LA Accredited: Testing Cert # 2864.01
Lead in Paint, Phthalates, Lead in Children's Metals Products (Including Jewelry)
http://www.A2LA.org/dirsearchnew/newsearch.cfm

CPSC ID# 1141
Lead Paint, Lead in Children's Metals Jewelry
http://www.cpsc.gov/cgi-bin/labapplist.aspx

Sample and Cooler Receipt Checklist

Client: GZA GeoEnvironmental, Inc.
Client Project ID: _____
Shipped/Delivered Via: ESS Courier

ESS Project ID: 15050568
Date Project Due: ~~5/29/15~~ 6/1/15 w- 5/22/15
Days For Project: 5 Day

Items to be checked upon receipt:

1. Air Bill Manifest Present?	* No	10. Are the samples properly preserved?	Yes
Air No.:		11. Proper sample containers used?	Yes
2. Were Custody Seals Present?	Yes	12. Any air bubbles in the VOA vials?	N/A
3. Were Custody Seals Intact?	Yes	13. Holding times exceeded?	No
4. Is Radiation count < 100 CPM?	Yes	14. Sufficient sample volumes?	Yes
5. Is a cooler present?	Yes	15. Any Subcontracting needed?	No
Cooler Temp: **3.4**		16. Are ESS labels on correct containers?	**Yes|No**
Iced With: **Ice**		17. Were samples received intact?	**Yes|No**
6. Was COC included with samples?	Yes	ESS Sample IDs:	
7. Was COC signed and dated by client?	Yes	Sub Lab:	
8. Does the COC match the sample	Yes	Analysis:	
9. Is COC complete and correct?	Yes	TAT:	

18. Was there need to call project manager to discuss status? If yes, please explain.

_____

_____

_____

Who was called?:_____ By whom? _____

Sample Number	Properly Preserved	Container Type	# of Containers	Preservative
1	Yes	1 L Glass	2	HCL
1	Yes	1 L Glass	5	NP
1	Yes	250 ml Plastic	1	HNO3
2	Yes	1 L Glass	2	HCL
2	Yes	1 L Glass	5	NP
2	Yes	500 ml Plastic	1	HNO3

Completed By: _____ Date/Time: 5/22/15 1643
Reviewed By: Nancy A Rose Date/Time: 5/22/15 1700

ESS Laboratory

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

Turn Time: X Standard Other ____
If faster than 5 days, prior approval by laboratory is required # ____

State where samples were collected from:
(MA) RI CT NH NJ NY ME Other ____

Is this project for any of the following:
(MA-MCP) Navy USACE Other ____

Reporting Limits

ESS LAB PROJECT ID: 1505368

Electronic Deliverable: Yes X No ____
Format: Excel X Access ____ PDF X Other ____

Co. Name	Project #	Project Name (20 Char. or less)
GZA GeoEnvironmental	17521.13	Wynn Everett

Contact Person	Address
David E. Leone	749 Vanderbilt Ave

City	State	Zip	PO#
Norwood	MA	02062	

Telephone #	Fax #	Email Address
(781) 278-5766		davide.leone@gza.com

ESS LAB Sample #	Date	Collection Time	COMP	GRAB	MATRIX	Sample Identification (20 Char. or less)	Pres Code	Number of Containers	Type of Containers	8260 VOA / 624 / 524.2	8021 MTBE/BTEX / 8015 GRO / VPH w/targets	8100 TPH / 8015 DRO	EPH w/o PAH's / EPH w/PAH's / EPH 4 Diesel	8081 Pesticides / 8082 PCB / 608 Pesticides / 608 PCB	8270 SVOA / 625 / PAH 8270	RCRA5 / RCRA8 / PP13 / TAL23	TCLP-RCRA8 / NBC7	MCP METALS (8) / MCP-14 METALS / MCP-METALS (13) w/Hg	Hexavalent Cr				Notes
1	05-22-15	0940		X	SW	SW-10-05-22-15	1,2,4	8	P,G				X		X			X	X				1,2
2	05-22-15	1000		X	SW	SW-11-05-22-15	1,2,4	8	P,G				X		✓			✓	X				1,2

Container Type: P-Poly G-Glass S-Sterile V-VOA
Matrix: S-Soil SD-Solid D-Sludge WW-Waste Water GW-Ground Water SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filters

Cooler Present: ✓ Yes ___ No
Seals Intact: ___ Yes ___ No NA: ___
Cooler Temp: 3.4 Ice Kit

Internal Use Only
[ ] Pickup
[ ] Technicians ____

Preservation Code 1- NP, 2- HCl, 3- H_2SO_4, 4- HNO_3, 5- NaOH, 6- MeOH, 7- Asorbic Acid, 8- ZnAct, 9- ____

Sampled by: Alice Blayney *EPH range per client request 5/26/15 cmt

Comments: send results to timothy.briggs@gza.com as well as David Leone
Notes: (1) Run PAH SIM (2) MCP-14 Dissolved Metals were field filtered

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
	05-22-15 11:45			GZA Fridge W/CS	5/22/15 1526		5/22/15 1526
	5/22/15 1635		5/22/15 1637				

By circling MA-MCP, client acknowledges samples were collected in accordance with MADEP CAM VII A

Please fax all changes to Chain of Custody in writing.

1 (White) Lab Copy 2 (Yellow) Client Receipt

10/26/04 A

ESS Laboratory

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

Turn Time: X Standard Other ____
If faster than 5 days, prior approval by laboratory is required # ____

State where samples were collected from: (MA) RI CT NH NJ NY ME Other ____

Is this project for any of the following: (MA-MCP) Navy USACE Other ____

Reporting Limits

ESS LAB PROJECT ID: 1505368

Electronic Deliverable: Yes X No ____
Format: Excel X Access ____ PDF X Other ____

Co. Name	Project #	Project Name (20 Char. or less)
GZA GeoEnvironmental	17152113	Wynn Everett

Contact Person	Address
David E. Leone	749 Vanderbilt Ave

City	State	Zip	PO#
Norwood	MA	02062	

Telephone #	Fax #	Email Address
(781) 278-5766		davide.leone@gza.com

ESS LAB Sample #	Date	Collection Time	COMP	GRAB	MATRIX	Sample Identification (20 Char. or less)	Pres Code	Number of Containers	Type of Containers	8260 VOA	624	524.2	8021 MTBE/BTEX	8015 GRO	VPH w/targets	8100 TPH	8015 DRO	EPH w/o PAHs	EPH (EPH w/PAHs)	EPH 4 Diesel	8081 Pesticides	8082 PCB	608 Pesticides	608 PCB	8270 SVOA	625	PAH 8270	RCRA5	RCRA8	PP13	TAL23	TCLP-RCRA8	NBC7	MCP-METALS (13) w/Hg	MCP-14 METALS (14)	Hexavalent Cr					Notes
1	05-22-15	0940		X	SW	SW-10-05-22-15	1,2,4	8	P,G									X							X								X	X						1,2
2	05-22-15	1000		X	SW	SW-11-05-22-15	1,2,4	8	P,G									X							✓								✓	x						1,2

Container Type: P-Poly G-Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Waste Water GW-Ground Water SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filters

Cooler Present: ✓ Yes ___ No
Seals Intact: ___ Yes ___ No NA: ___
Cooler Temp: 3.4 Ice Kit

Internal Use Only
[ ] Pickup
[ ] Technicians ____

Preservation Code 1- NP, 2- HCl, 3- H_2SO_4, 4- HNO_3, 5- NaOH, 6- MeOH, 7- Asorbic Acid, 8- ZnAct, 9- ____

Sampled by: Alice Blayney

Comments: send results to timothy.briggs@gza.com as well as David Leone
Notes: (1) Run PAH SIM (2) MCP-14 Dissolved Metals were field filtered

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
	05-22-15 11:45			GZA Fridge w/CS	5/22/15 1526		5/22/15 1526
	5/22/15 1635		5/22/15 1637				

By circling MA-MCP, client acknowledges samples were collected in accordance with MADEP CAM VII A

Please fax all changes to Chain of Custody in writing.

1 (White) Lab Copy 2 (Yellow) Client Receipt

10/26/04 A

APPENDIX B

SEDIMENT CORE LOGS

SEDIMENT CORE LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Wynn Everett
Horizon Way
Everett, Massachusetts

CORE NO.: GZ-1
SHEET: 1 of 1
PROJECT NO: 171521.02
REVIEWED BY:

Drilling Co.: C.R. Environmental	**Type of Rig:** Vibracore	**Core Location:** See Plan	**H. Datum:**
Foreman: Ken Thompson	**Rig Model:** N/A	**Ground Surface Elev. (ft.):**	**V. Datum:**
Logged By: Jason Chrzanowski	**Drilling Method:** Direct-Push	**Final Core Depth (ft.):** 12	
		Date Start - Finish: 7/31/2013 - 7/31/2013	

Auger/Casing Type:	**Sampler Type:** 12' Core Barrel	
I.D/O.D.(in):	**I.D./O.D. (in.):** 4"	
Hammer Weight (lb.):	**Sampler Hmr Wt (lb):**	
Hammer Fall (in.):	**Sampler Hmr Fall (in):**	
Other:	**Other:**	

Groundwater Depth (ft.)

Date	Time	Water Depth	Casing	Stab. Time

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Sample Pen. (ft)	Sample Rec. (ft)	Sample Blows (per 6 in.)	Sample SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Stratum Depth (ft.)	Stratum Description	Stratum Elev. (ft.)
				12	9			0'-6'2": Black MUCK, Silty Clay, trace-little Gravel, trace fine Sand				MUCK	
5											6.17'		
								6'2"-9': Gray Organic SILT & CLAY, Hydrogen Sulfide odor				ORGANIC SILT & CLAY	
10											9'		
								Bottom of core at 12 feet.					
15													
20													
25													
30													

REMARKS

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Core No.: GZ-1

171521.02 WYNN EVERETT.GPJ; WYNN-CORE; 9/29/2015

SEDIMENT CORE LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Wynn Everett
Horizon Way
Everett, Massachusetts

CORE NO.: GZ-10
SHEET: 1 of 1
PROJECT NO: 171521.02
REVIEWED BY:

Drilling Co.: C.R. Environmental	**Type of Rig:** Vibracore	**Core Location:** See Plan	**H. Datum:**
Foreman: Ken Thompson	**Rig Model:** N/A	**Ground Surface Elev. (ft.):**	**V. Datum:**
Logged By: Jason Chrzanowski	**Drilling Method:** Direct-Push	**Final Core Depth (ft.):** 12	
		Date Start - Finish: 7/31/2013 - 7/31/2013	

		Groundwater Depth (ft.)				
Auger/Casing Type:	**Sampler Type:** 12' Core Barrel	**Date**	**Time**	**Water Depth**	**Casing**	**Stab. Time**
I.D/O.D.(in):	**I.D./O.D. (in.):** 4"					
Hammer Weight (lb.):	**Sampler Hmr Wt (lb):**					
Hammer Fall (in.):	**Sampler Hmr Fall (in):**					
Other:	**Other:**					

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Sample Pen. (ft)	Sample Rec. (ft)	Sample Blows (per 6 in.)	Sample SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Stratum Depth (ft.)	Stratum Description	Stratum Elev. (ft.)
				12	5.67			0-5'8": Black, mucky SILT & CLAY, little gravel, trace Organic fibers, Hydrogen Sulfide odor				MUCKY SILT & CLAY	
5											5.67'		
10													
								Bottom of core at 12 feet.					
15													
20													
25													
30													

REMARKS

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Core No.: GZ-10

171521.02 WYNN EVERETT.GPJ; WYNN-CORE; 9/29/2015

SEDIMENT CORE LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Wynn Everett
Horizon Way
Everett, Massachusetts

CORE NO.: GZ-101
SHEET: 1 of 1
PROJECT NO: 171521.02
REVIEWED BY:

Drilling Co.: C.R. Environmental	**Type of Rig:** Vibracore	**Core Location:** See Plan	**H. Datum:**
Foreman: Ken Thompson	**Rig Model:** N/A	**Ground Surface Elev. (ft.):**	**V. Datum:**
Logged By: Jason Chrzanowski	**Drilling Method:** Direct-Push	**Final Core Depth (ft.):** 12	
		Date Start - Finish: 8/1/2013 - 8/1/2013	

		Groundwater Depth (ft.)				
Auger/Casing Type:	**Sampler Type:** 12' Core Barrel	**Date**	**Time**	**Water Depth**	**Casing**	**Stab. Time**
I.D/O.D.(in):	**I.D./O.D. (in.):** 4"					
Hammer Weight (lb.):	**Sampler Hmr Wt (lb):**					
Hammer Fall (in.):	**Sampler Hmr Fall (in):**					
Other:	**Other:**					

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Sample Pen. (ft)	Sample Rec. (ft)	Sample Blows (per 6 in.)	Sample SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Stratum Depth (ft.)	Stratum Description	Stratum Elev. (ft.)
				12	9			0'-3'10": Black MUCK, Silt & Clay, trace Organic fibers & wood fragments				MUCK	
											3.83'		'
5								3'10"-7'5": Dark gray, Organic SILT & CLAY, trace Organic fibers, Hydrogen Sulfide odor, few patches of white paste-like material, 1" band at 5'11"-6'				ORGANIC SILT & CLAY	
								7'5"-9': Dark gray Organic SILT & CLAY, trace fine Sand lenses (brown), trace Organic fibers			9'		'
10													
								Bottom of core at 12 feet.					
15													
20													
25													
30													

REMARKS

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Core No.: GZ-101

171521.02 WYNN EVERETT.GPJ; WYNN-CORE; 9/29/2015

SEDIMENT CORE LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Wynn Everett
Horizon Way
Everett, Massachusetts

CORE NO.: GZ-102
SHEET: 1 of 1
PROJECT NO: 171521.02
REVIEWED BY:

Drilling Co.: C.R. Environmental	**Type of Rig:** Vibracore	**Core Location:** See Plan	**H. Datum:**
Foreman: Ken Thompson	**Rig Model:** N/A	**Ground Surface Elev. (ft.):**	**V. Datum:**
Logged By: Jason Chrzanowski	**Drilling Method:** Direct-Push	**Final Core Depth (ft.):** 12	
		Date Start - Finish: 8/1/2013 - 8/1/2013	

		Groundwater Depth (ft.)				
Auger/Casing Type:	**Sampler Type:** 12' Core Barrel	**Date**	**Time**	**Water Depth**	**Casing**	**Stab. Time**
I.D/O.D.(in):	**I.D./O.D. (in.):** 4"					
Hammer Weight (lb.):	**Sampler Hmr Wt (lb):**					
Hammer Fall (in.):	**Sampler Hmr Fall (in):**					
Other:	**Other:**					

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Sample Pen. (ft)	Sample Rec. (ft)	Sample Blows (per 6 in.)	Sample SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Stratum Depth (ft.)	Stratum Description	Stratum Elev. (ft.)
				12	10.17			0'-4'4.5": Black mucky SILT & CLAY, trace wood fragment				MUCKY SILT & CLAY	
5								4'4.5"-10'2": Dark gray Organic SILT & CLAY, trace fine Sand lenses, few patches white pastelike material and 3" band at 6'2"-6'5", Hydrogen Sulfide odor			4.38'		
												ORGANIC SILT & CLAY	
10											10.17'		
								Bottom of core at 12 feet.					
15													
20													
25													
30													

REMARKS

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Core No.: GZ-102

171521.02 WYNN EVERETT.GPJ; WYNN-CORE; 9/29/2015

SEDIMENT CORE LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Wynn Everett
Horizon Way
Everett, Massachusetts

CORE NO.: GZ-103
SHEET: 1 of 1
PROJECT NO: 171521.02
REVIEWED BY:

Drilling Co.: C.R. Environmental	**Type of Rig:** Vibracore	**Core Location:** See Plan	**H. Datum:**
Foreman: Ken Thompson	**Rig Model:** N/A	**Ground Surface Elev. (ft.):**	**V. Datum:**
Logged By: Jason Chrzanowski	**Drilling Method:** Direct-Push	**Final Core Depth (ft.):** 10	
		Date Start - Finish: 8/1/2013 - 8/1/2013	

Auger/Casing Type:	**Sampler Type:** 12' Core Barrel	
I.D/O.D.(in):	**I.D./O.D. (in.):** 4"	
Hammer Weight (lb.):	**Sampler Hmr Wt (lb):**	
Hammer Fall (in.):	**Sampler Hmr Fall (in):**	
Other:	**Other:**	

Groundwater Depth (ft.)

Date	Time	Water Depth	Casing	Stab. Time

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Sample Pen. (ft)	Sample Rec. (ft)	Sample Blows (per 6 in.)	Sample SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Stratum Depth (ft.)	Stratum Description	Stratum Elev. (ft.)
				10	7.5			0'-3'6": Black MUCK, Silt & Clay, Hydrogen Sulfide odor				MUCK	
											3.5'		'
5								3'6"-7'6": Dark gray Organic SILT & CLAY, trace fine Sand, alternating dark gray-brown bands from 3'6"-5', small 1/4" or less white paste-like bands, intermittent, 1/2" band at 6'7"				ORGANIC SILT & CLAY	
											7.5'		'
10								Bottom of core at 10 feet.					
15													
20													
25													
30													

REMARKS

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Core No.: GZ-103

171521.02 WYNN EVERETT.GPJ; WYNN-CORE; 9/29/2015

SEDIMENT CORE LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Wynn Everett
Horizon Way
Everett, Massachusetts

CORE NO.: GZ-104
SHEET: 1 of 1
PROJECT NO: 171521.02
REVIEWED BY:

Drilling Co.: C.R. Environmental	**Type of Rig:** Vibracore	**Core Location:** See Plan	**H. Datum:**
Foreman: Ken Thompson	**Rig Model:** N/A	**Ground Surface Elev. (ft.):**	**V. Datum:**
Logged By: Jason Chrzanowski	**Drilling Method:** Direct-Push	**Final Core Depth (ft.):** 12	
		Date Start - Finish: 8/1/2013 - 8/1/2013	

Auger/Casing Type:	**Sampler Type:** 12' Core Barrel	
I.D/O.D.(in):	**I.D./O.D. (in.):** 4"	
Hammer Weight (lb.):	**Sampler Hmr Wt (lb):**	
Hammer Fall (in.):	**Sampler Hmr Fall (in):**	
Other:	**Other:**	

Groundwater Depth (ft.)

Date	Time	Water Depth	Casing	Stab. Time

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Sample Pen. (ft)	Sample Rec. (ft)	Sample Blows (per 6 in.)	Sample SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Stratum Depth (ft.)	Stratum Description	Stratum Elev. (ft.)
				12	7.92			0'-0'6": Black MUCK 0'6"-3'5": Black SILT & CLAY, trace shells, trace Organic fibers 3'5"-5'5": Gray Organic SILT, little-some fine Sand, trace shells, trace fine-coarse gravel, Hydrogen Sulfide odor 5'5"-7'11": Gray, Organic, clayey SILT, trace fine Sand, trace shells, (2) lg shells (~1.5-2") at 6'7"-6'10", Hydrogen Sulfide odor			0.5'	MUCK	'
												SILT & CLAY	
											3.42'		'
5												ORGANIC SILT	
											5.42'		'
												ORGANIC CLAYEY SILT	
10											7.92'		'
								Bottom of core at 12 feet.					
15													
20													
25													
30													

REMARKS

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Core No.: GZ-104

171521.02 WYNN EVERETT.GPJ; WYNN-CORE; 9/29/2015

SEDIMENT CORE LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Wynn Everett
Horizon Way
Everett, Massachusetts

CORE NO.: GZ-105
SHEET: 1 of 1
PROJECT NO: 171521.02
REVIEWED BY:

Drilling Co.: C.R. Environmental	**Type of Rig:** Vibracore	**Core Location:** See Plan	**H. Datum:**
Foreman: Ken Thompson	**Rig Model:** N/A	**Ground Surface Elev. (ft.):**	**V. Datum:**
Logged By: Jason Chrzanowski	**Drilling Method:** Direct-Push	**Final Core Depth (ft.):** 12	
		Date Start - Finish: 8/1/2013 - 8/1/2013	

		Groundwater Depth (ft.)				
Auger/Casing Type:	**Sampler Type:** 12' Core Barrel	**Date**	**Time**	**Water Depth**	**Casing**	**Stab. Time**
I.D/O.D.(in):	**I.D./O.D. (in.):** 4"					
Hammer Weight (lb.):	**Sampler Hmr Wt (lb):**					
Hammer Fall (in.):	**Sampler Hmr Fall (in):**					
Other:	**Other:**					

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Sample Pen. (ft)	Sample Rec. (ft)	Sample Blows (per 6 in.)	Sample SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Stratum Depth (ft.)	Stratum Description	Stratum Elev. (ft.)
0				12	8.5			0'-0'6": Black MUCK 0'6"-6'9": Black SILT & CLAY, moderate petroleum-like odor, 3-4 faint sheen spots at 5'			0.5'	MUCK	'
5												SILT & CLAY	
								6'9"-8'6": Dark gray Organic SILT & CLAY, trace Organic fibers, faint petroleum-like odor			6.75'		'
10												ORGANIC SILT & CLAY	
											8.5'		'
								Bottom of core at 12 feet.					
15													
20													
25													
30													

REMARKS

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Core No.: GZ-105

171521.02 WYNN EVERETT.GPJ; WYNN-CORE; 9/29/2015

SEDIMENT CORE LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Wynn Everett
Horizon Way
Everett, Massachusetts

CORE NO.: GZ-106
SHEET: 1 of 1
PROJECT NO: 171521.02
REVIEWED BY:

Drilling Co.: C.R. Environmental	**Type of Rig:** Vibracore	**Core Location:** See Plan	**H. Datum:**
Foreman: Ken Thompson	**Rig Model:** N/A	**Ground Surface Elev. (ft.):**	**V. Datum:**
Logged By: Jason Chrzanowski	**Drilling Method:** Direct-Push	**Final Core Depth (ft.):** 12	
		Date Start - Finish: 8/1/2013 - 8/1/2013	

		Groundwater Depth (ft.)				
Auger/Casing Type:	**Sampler Type:** 12' Core Barrel	**Date**	**Time**	**Water Depth**	**Casing**	**Stab. Time**
I.D/O.D.(in):	**I.D./O.D. (in.):** 4"					
Hammer Weight (lb.):	**Sampler Hmr Wt (lb):**					
Hammer Fall (in.):	**Sampler Hmr Fall (in):**					
Other:	**Other:**					

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Sample Pen. (ft)	Sample Rec. (ft)	Sample Blows (per 6 in.)	Sample SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Stratum Depth (ft.)	Stratum Description	Stratum Elev. (ft.)
				12	8.5			0'-0'6": Black MUCK 0'6"-4'3.5": Black SILT & CLAY, trace shells, faint petroleum-like odor 4'3.5"-8'6": Dark gray, Organic SILT & CLAY; 7'-8' has alternating banding dark gray-olive gray; 1" band white paste-like material at 6'1"			0.5'	MUCK	'
												SILT & CLAY	
											4.25'		'
												ORGANIC SILT & CLAY	
											8.5'		'
								Bottom of core at 12 feet.					

5
10
15
20
25
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REMARKS

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Core No.: GZ-106

171521.02 WYNN EVERETT.GPJ; WYNN-CORE; 9/29/2015

SEDIMENT CORE LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Wynn Everett
Horizon Way
Everett, Massachusetts

CORE NO.: GZ-107
SHEET: 1 of 1
PROJECT NO: 171521.02
REVIEWED BY:

Drilling Co.: C.R. Environmental	**Type of Rig:** Vibracore	**Core Location:** See Plan	**H. Datum:**
Foreman: Ken Thompson	**Rig Model:** N/A	**Ground Surface Elev. (ft.):**	**V. Datum:**
Logged By: Jason Chrzanowski	**Drilling Method:** Direct-Push	**Final Core Depth (ft.):** 12	
		Date Start - Finish: 8/1/2013 - 8/1/2013	

		Groundwater Depth (ft.)				
Auger/Casing Type:	**Sampler Type:** 12' Core Barrel	**Date**	**Time**	**Water Depth**	**Casing**	**Stab. Time**
I.D/O.D.(in):	**I.D./O.D. (in.):** 4"					
Hammer Weight (lb.):	**Sampler Hmr Wt (lb):**					
Hammer Fall (in.):	**Sampler Hmr Fall (in):**					
Other:	**Other:**					

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Sample Pen. (ft)	Sample Rec. (ft)	Sample Blows (per 6 in.)	Sample SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Stratum Depth (ft.)	Stratum Description	Stratum Elev. (ft.)
				12	9.42			0'-0'4": Black MUCK 0'4"-9'5": Dark gray Organic SILT & CLAY, trace Organic fibers. Black staining 7'-7'9" with moderate petroleum-like odor			0.33'	MUCK	
5												ORGANIC SILT & CLAY	
10											9.42'		
								Bottom of core at 12 feet.					
15													
20													
25													
30													

REMARKS

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Core No.: GZ-107

171521.02 WYNN EVERETT.GPJ; WYNN-CORE; 9/29/2015

SEDIMENT CORE LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Wynn Everett
Horizon Way
Everett, Massachusetts

CORE NO.: GZ-108
SHEET: 1 of 1
PROJECT NO: 171521.02
REVIEWED BY:

Drilling Co.: C.R. Environmental	**Type of Rig:** Vibracore	**Core Location:** See Plan	**H. Datum:**
Foreman: Ken Thompson	**Rig Model:** N/A	**Ground Surface Elev. (ft.):**	**V. Datum:**
Logged By: Jason Chrzanowski	**Drilling Method:** Direct-Push	**Final Core Depth (ft.):** 10	
		Date Start - Finish: 8/1/2013 - 8/1/2013	

Auger/Casing Type:	**Sampler Type:** 12' Core Barrel	
I.D/O.D.(in):	**I.D./O.D. (in.):** 4"	
Hammer Weight (lb.):	**Sampler Hmr Wt (lb):**	
Hammer Fall (in.):	**Sampler Hmr Fall (in):**	
Other:	**Other:**	

Groundwater Depth (ft.)

Date	Time	Water Depth	Casing	Stab. Time

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Sample Pen. (ft)	Sample Rec. (ft)	Sample Blows (per 6 in.)	Sample SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Stratum Depth (ft.)	Stratum Description	Stratum Elev. (ft.)
				10	10.17			0'-0'9": Black MUCK & SILT 0'9"-2'5": Black SILT & CLAY, trace shale			0.75'	MUCK & SILT	'
											2.42'	SILT & CLAY	'
5								2'5"-8'5": Dark gray Organic SILT & CLAY, trace Organic fibers, patches white paste-like material alternating from 4'-8'5"				ORGANIC SILT & CLAY	
											8.42'		'
10								8'5"-10'2": Dark gray-black CLAY & SILT, faint Hydrogen Sulfide odor			10.17'	CLAY & SILT	'
								Bottom of core at 10 feet.					
15													
20													
25													
30													

REMARKS

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Core No.: GZ-108

171521.02 WYNN EVERETT.GPJ; WYNN-CORE; 9/29/2015

SEDIMENT CORE LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Wynn Everett
Horizon Way
Everett, Massachusetts

CORE NO.: GZ-109
SHEET: 1 of 1
PROJECT NO: 171521.02
REVIEWED BY:

Drilling Co.: C.R. Environmental	**Type of Rig:** Vibracore	**Core Location:** See Plan	**H. Datum:**
Foreman: Ken Thompson	**Rig Model:** N/A	**Ground Surface Elev. (ft.):**	**V. Datum:**
Logged By: Jason Chrzanowski	**Drilling Method:** Direct-Push	**Final Core Depth (ft.):** 7.42	
		Date Start - Finish: 8/2/2013 - 8/2/2013	

Auger/Casing Type:	**Sampler Type:** 12' Core Barrel	
I.D/O.D.(in):	**I.D./O.D. (in.):** 4"	
Hammer Weight (lb.):	**Sampler Hmr Wt (lb):**	
Hammer Fall (in.):	**Sampler Hmr Fall (in):**	
Other:	**Other:**	

Groundwater Depth (ft.)

Date	Time	Water Depth	Casing	Stab. Time

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Sample Pen. (ft)	Sample Rec. (ft)	Sample Blows (per 6 in.)	Sample SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Stratum Depth (ft.)	Stratum Description	Stratum Elev. (ft.)
				7.42	2.33			0'-1': Dark gray, fine-medium SAND & SILT, some Gravel, trace Shells, sheen at top 1'-2'4": Gray fine SAND & SILT, trace organics, red bands of staining from 1'-1'10", yellow sand-like grains from 1'-1'10"			2.33'	SAND & SILT	
5													
								Bottom of core at 7.42 feet.					
10													
15													
20													
25													
30													

REMARKS

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Core No.: GZ-109

171521.02 WYNN EVERETT.GPJ; WYNN-CORE; 9/29/2015

SEDIMENT CORE LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Wynn Everett
Horizon Way
Everett, Massachusetts

CORE NO.: GZ-11
SHEET: 1 of 1
PROJECT NO: 171521.02
REVIEWED BY:

Drilling Co.: C.R. Environmental	**Type of Rig:** Vibracore	**Core Location:** See Plan	**H. Datum:**
Foreman: Ken Thompson	**Rig Model:** N/A	**Ground Surface Elev. (ft.):**	**V. Datum:**
Logged By: Jason Chrzanowski	**Drilling Method:** Direct-Push	**Final Core Depth (ft.):** 12	
		Date Start - Finish: 7/31/2013 - 7/31/2013	

Auger/Casing Type:	**Sampler Type:** 12' Core Barrel	
I.D/O.D.(in):	**I.D./O.D. (in.):** 4"	
Hammer Weight (lb.):	**Sampler Hmr Wt (lb):**	
Hammer Fall (in.):	**Sampler Hmr Fall (in):**	
Other:	**Other:**	

Groundwater Depth (ft.)

Date	Time	Water Depth	Casing	Stab. Time

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Sample Pen. (ft)	Sample Rec. (ft)	Sample Blows (per 6 in.)	Sample SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Stratum Depth (ft.)	Stratum Description	Stratum Elev. (ft.)
				12	9			0'-3': Black MUCK, Silt & Clay, little Gravel, trace Organic fibers				MUCK	
											3'		
								3'-3'5": Medium-coarse SAND & Ash			3.42'	SAND	
5								3'5"-9': Dark gray Organic SILT & CLAY, trace Gravel, trace Organic fibers	1			SILT & CLAY	
											9'		
10													
								Bottom of core at 12 feet.					
15													
20													
25													
30													

REMARKS

1. White paste-like bands throughout; 4'3"-4'6", 5'7"-5'10", then smaller intermittent bands to end

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Core No.: GZ-11

171521.02 WYNN EVERETT.GPJ; WYNN-CORE; 9/29/2015

SEDIMENT CORE LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Wynn Everett
Horizon Way
Everett, Massachusetts

CORE NO.: GZ-110B
SHEET: 1 of 1
PROJECT NO: 171521.02
REVIEWED BY:

Drilling Co.: C.R. Environmental	**Type of Rig:** Vibracore	**Core Location:** See Plan	**H. Datum:**
Foreman: Ken Thompson	**Rig Model:** N/A	**Ground Surface Elev. (ft.):**	**V. Datum:**
Logged By: Daniel Scanlon	**Drilling Method:** Direct-Push	**Final Core Depth (ft.):** 10.4	
		Date Start - Finish: 8/5/2013 - 8/5/2013	

Auger/Casing Type:	**Sampler Type:** 12' Core Barrel	
I.D/O.D.(in):	**I.D./O.D. (in.):** 4"	
Hammer Weight (lb.):	**Sampler Hmr Wt (lb):**	
Hammer Fall (in.):	**Sampler Hmr Fall (in):**	
Other:	**Other:**	

Groundwater Depth (ft.)

Date	Time	Water Depth	Casing	Stab. Time

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Sample Pen. (ft)	Sample Rec. (ft)	Sample Blows (per 6 in.)	Sample SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Stratum Depth (ft.)	Stratum Description	Stratum Elev. (ft.)
				10.42	7			0'-1': Brown-gray, fine-medium SAND, little Silt, little shells, trace fine Gravel, slight Hydrogen Sulfide odor 1'-7': Grayish brown, Organic SILT, trace fine Sand, trace Organics, trace shells, moderate-strong Hydrogen Sulfide odor			1'	SAND	'
5												ORGANIC SILT	
											7'		'
10								Bottom of core at 10.4 feet.					
15													
20													
25													
30													

REMARKS

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Core No.: GZ-110B

171521.02 WYNN EVERETT.GPJ; WYNN-CORE; 9/29/2015

SEDIMENT CORE LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Wynn Everett
Horizon Way
Everett, Massachusetts

CORE NO.: GZ-111
SHEET: 1 of 1
PROJECT NO: 171521.02
REVIEWED BY:

Drilling Co.: C.R. Environmental	**Type of Rig:** Vibracore	**Core Location:** See Plan	**H. Datum:**
Foreman: Ken Thompson	**Rig Model:** N/A	**Ground Surface Elev. (ft.):**	**V. Datum:**
Logged By: Jason Chrzanowski	**Drilling Method:** Direct-Push	**Final Core Depth (ft.):** 12	
		Date Start - Finish: 8/1/2013 - 8/1/2013	

		Groundwater Depth (ft.)				
Auger/Casing Type:	**Sampler Type:** 12' Core Barrel	**Date**	**Time**	**Water Depth**	**Casing**	**Stab. Time**
I.D/O.D.(in):	**I.D./O.D. (in.):** 4"					
Hammer Weight (lb.):	**Sampler Hmr Wt (lb):**					
Hammer Fall (in.):	**Sampler Hmr Fall (in):**					
Other:	**Other:**					

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Sample Pen. (ft)	Sample Rec. (ft)	Sample Blows (per 6 in.)	Sample SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Stratum Depth (ft.)	Stratum Description	Stratum Elev. (ft.)
0				12	7.92			0'-0'7": Black MUCK 0'7"-6'9": Dark gray Organic SILT & CLAY, trace Organic fibers, black staining from 3'4"-6'9" with moderate petroleum-like odor 6'9"-7'11": Olive gray fine SAND, little silt, little shells			0.58'	MUCK	'
											6.75'	SILT & CLAY	'
											7.92'	SAND	'
								Bottom of core at 12 feet.					

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REMARKS

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Core No.: GZ-111

171521.02 WYNN EVERETT.GPJ; WYNN-CORE; 9/29/2015

SEDIMENT CORE LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Wynn Everett
Horizon Way
Everett, Massachusetts

CORE NO.: GZ-112
SHEET: 1 of 1
PROJECT NO: 171521.02
REVIEWED BY:

Drilling Co.: C.R. Environmental	**Type of Rig:** Vibracore	**Core Location:** See Plan	**H. Datum:**
Foreman: Ken Thompson	**Rig Model:** N/A	**Ground Surface Elev. (ft.):**	**V. Datum:**
Logged By: Jason Chrzanowski	**Drilling Method:** Direct-Push	**Final Core Depth (ft.):** 12	
		Date Start - Finish: 8/1/2013 - 8/1/2013	

		Groundwater Depth (ft.)				
Auger/Casing Type:	**Sampler Type:** 12' Core Barrel	**Date**	**Time**	**Water Depth**	**Casing**	**Stab. Time**
I.D/O.D.(in):	**I.D./O.D. (in.):** 4"					
Hammer Weight (lb.):	**Sampler Hmr Wt (lb):**					
Hammer Fall (in.):	**Sampler Hmr Fall (in):**					
Other:	**Other:**					

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Sample Pen. (ft)	Sample Rec. (ft)	Sample Blows (per 6 in.)	Sample SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Stratum Depth (ft.)	Stratum Description	Stratum Elev. (ft.)
				12	9			0'-2': Black, mucky SILT & CLAY				MUCKY SILT & CLAY	
								2'-5'4": Dark gray, Organic SILT & CLAY, Hydrogen Sulfide odor, white paste-like material at 4'			2'		
5								5'4"-8': Dark gray Organic SILT & CLAY, alternating dark gray/white layers with trace organic fibers				ORGANIC SILT & CLAY	
								8'-9': Black SILT & CLAY, moderate petroleum-like odor			8'		
10											9'	SILT & CLAY	
								Bottom of core at 12 feet.					
15													
20													
25													
30													

REMARKS

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Core No.: GZ-112

SEDIMENT CORE LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Wynn Everett
Horizon Way
Everett, Massachusetts

CORE NO.: GZ-113
SHEET: 1 of 1
PROJECT NO: 171521.02
REVIEWED BY:

Drilling Co.: C.R. Environmental	**Type of Rig:** Vibracore	**Core Location:** See Plan	**H. Datum:**
Foreman: Ken Thompson	**Rig Model:** N/A	**Ground Surface Elev. (ft.):**	**V. Datum:**
Logged By: Jason Chrzanowski	**Drilling Method:** Direct-Push	**Final Core Depth (ft.):** 12	
		Date Start - Finish: 8/1/2013 - 8/1/2013	

		Groundwater Depth (ft.)				
Auger/Casing Type:	**Sampler Type:** 12' Core Barrel	**Date**	**Time**	**Water Depth**	**Casing**	**Stab. Time**
I.D/O.D.(in):	**I.D./O.D. (in.):** 4"					
Hammer Weight (lb.):	**Sampler Hmr Wt (lb):**					
Hammer Fall (in.):	**Sampler Hmr Fall (in):**					
Other:	**Other:**					

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Sample Pen. (ft)	Sample Rec. (ft)	Sample Blows (per 6 in.)	Sample SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Stratum Depth (ft.)	Stratum Description	Stratum Elev. (ft.)
				12	9			0'-0'9": Black mucky SILT 0'9"-2': Dark gray SILT & CLAY, little Organic fibers 2'-4'3": Dark gray, Organic SILT, little-some Organic fibers, trace gravel, trace green-yellow sand-like material lens at 2'7" 4'3"-9': Gray fine SAND & SILT, some shells 5'-6'6", Hydrogen Sulfide-like odor			0.75'	SILT	'
											2'	SILT & CLAY	'
											4.25'	ORGANIC SILT	'
											9'	SAND & SILT	'
								Bottom of core at 12 feet.					

REMARKS

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Core No.: GZ-113

171521.02 WYNN EVERETT.GPJ; WYNN-CORE; 9/29/2015

SEDIMENT CORE LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Wynn Everett
Horizon Way
Everett, Massachusetts

CORE NO.: GZ-114
SHEET: 1 of 1
PROJECT NO: 171521.02
REVIEWED BY:

Drilling Co.: C.R. Environmental	**Type of Rig:** Vibracore	**Core Location:** See Plan	**H. Datum:**
Foreman: Ken Thompson	**Rig Model:** N/A	**Ground Surface Elev. (ft.):**	**V. Datum:**
Logged By: Jason Chrzanowski	**Drilling Method:** Direct-Push	**Final Core Depth (ft.):** 11.5	
		Date Start - Finish: 8/1/2013 - 8/1/2013	

Auger/Casing Type:	**Sampler Type:** 12' Core Barrel
I.D/O.D.(in):	**I.D./O.D. (in.):** 4"
Hammer Weight (lb.):	**Sampler Hmr Wt (lb):**
Hammer Fall (in.):	**Sampler Hmr Fall (in):**
Other:	**Other:**

Groundwater Depth (ft.)

Date	Time	Water Depth	Casing	Stab. Time

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Sample Pen. (ft)	Sample Rec. (ft)	Sample Blows (per 6 in.)	Sample SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Stratum Depth (ft.)	Stratum Description	Stratum Elev. (ft.)
				11.5	8			0'-0'6": Dark gray MUCK & SILT 0'6"-2'6": Dark gray Organic SILT & CLAY 2'6"-5': Black SILT & CLAY with faint to moderate petroleum-like odor 5'-7': Gray, fine SAND, some Silt			0.5'	MUCK & SILT	'
												ORGANIC SILT & CLAY	
											2.5'		'
												SILT & CLAY	
5											5'		'
												SAND	
											7'		'
10													
								Bottom of core at 11.5 feet.					
15													
20													
25													
30													

REMARKS

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Core No.: GZ-114

171521.02 WYNN EVERETT.GPJ; WYNN-CORE; 9/29/2015

SEDIMENT CORE LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Wynn Everett
Horizon Way
Everett, Massachusetts

CORE NO.: GZ-115
SHEET: 1 of 1
PROJECT NO: 171521.02
REVIEWED BY:

Drilling Co.: C.R. Environmental	**Type of Rig:** Vibracore	**Core Location:** See Plan	**H. Datum:**
Foreman: Ken Thompson	**Rig Model:** N/A	**Ground Surface Elev. (ft.):**	**V. Datum:**
Logged By: Jason Chrzanowski	**Drilling Method:** Direct-Push	**Final Core Depth (ft.):** 12	
		Date Start - Finish: 8/1/2013 - 8/1/2013	

Auger/Casing Type:	**Sampler Type:** 12' Core Barrel	
I.D/O.D.(in):	**I.D./O.D. (in.):** 4"	
Hammer Weight (lb.):	**Sampler Hmr Wt (lb):**	
Hammer Fall (in.):	**Sampler Hmr Fall (in):**	
Other:	**Other:**	

Groundwater Depth (ft.)

Date	Time	Water Depth	Casing	Stab. Time

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Sample Pen. (ft)	Sample Rec. (ft)	Sample Blows (per 6 in.)	Sample SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Stratum Depth (ft.)	Stratum Description	Stratum Elev. (ft.)
				12	9.83			0'-0'10": Black mucky SILT			0.83'	MUCKY SILT	'
								0'10"-4'9": Dark gray-black SILT & CLAY, trace Organic fibers, moderate petroleum-like odor				SILT & CLAY	
5											4.75'		'
								4'9"-9'10": Gray Organic SILT & CLAY, trace Organic fibers, alternating bands of white paste-like material				ORGANIC SILT & CLAY	
10											9.83'		'
								Bottom of core at 12 feet.					
15													
20													
25													
30													

REMARKS

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Core No.: GZ-115

SEDIMENT CORE LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Wynn Everett
Horizon Way
Everett, Massachusetts

CORE NO.: GZ-116
SHEET: 1 of 1
PROJECT NO: 171521.02
REVIEWED BY:

Drilling Co.: C.R. Environmental	**Type of Rig:** Vibracore	**Core Location:** See Plan	**H. Datum:**
Foreman: Ken Thompson	**Rig Model:** N/A	**Ground Surface Elev. (ft.):**	**V. Datum:**
Logged By: Jason Chrzanowski	**Drilling Method:** Direct-Push	**Final Core Depth (ft.):** 12	
		Date Start - Finish: 8/2/2013 - 8/2/2013	

Auger/Casing Type:	**Sampler Type:** 12' Core Barrel	
I.D/O.D.(in):	**I.D./O.D. (in.):** 4"	
Hammer Weight (lb.):	**Sampler Hmr Wt (lb):**	
Hammer Fall (in.):	**Sampler Hmr Fall (in):**	
Other:	**Other:**	

Groundwater Depth (ft.)

Date	Time	Water Depth	Casing	Stab. Time

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Sample Pen. (ft)	Sample Rec. (ft)	Sample Blows (per 6 in.)	Sample SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Stratum Depth (ft.)	Stratum Description	Stratum Elev. (ft.)
				12	9			0'-4'4": Dark brown, fine-coarse SAND, little Silt, trace Gravel, trace Shells; red staining on outside, white & gray paste-like material 1'2"-1'7". Yellow-green sand-like grains 1'7"-2'2" and 3'8"-4'4". Red staining inside & out from 2'1"-4'4"				SAND	
5								4'4"-9': Gray, fine SAND & SILT, red staining on outside, trace large Shells			4.33'		
												SAND & SILT	
10											9'		
								Bottom of core at 12 feet.					
15													
20													
25													
30													

REMARKS

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Core No.: GZ-116

SEDIMENT CORE LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Wynn Everett
Horizon Way
Everett, Massachusetts

CORE NO.: GZ-117
SHEET: 1 of 1
PROJECT NO: 171521.02
REVIEWED BY:

Drilling Co.: C.R. Environmental	**Type of Rig:** Vibracore	**Core Location:** See Plan	**H. Datum:**
Foreman: Ken Thompson	**Rig Model:** N/A	**Ground Surface Elev. (ft.):**	**V. Datum:**
Logged By: Jason Chrzanowski	**Drilling Method:** Direct-Push	**Final Core Depth (ft.):** 12	
		Date Start - Finish: 8/1/2013 - 8/1/2013	

		Groundwater Depth (ft.)				
Auger/Casing Type:	**Sampler Type:** 12' Core Barrel	**Date**	**Time**	**Water Depth**	**Casing**	**Stab. Time**
I.D/O.D.(in):	**I.D./O.D. (in.):** 4"					
Hammer Weight (lb.):	**Sampler Hmr Wt (lb):**					
Hammer Fall (in.):	**Sampler Hmr Fall (in):**					
Other:	**Other:**					

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Sample Pen. (ft)	Sample Rec. (ft)	Sample Blows (per 6 in.)	Sample SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Stratum Depth (ft.)	Stratum Description	Stratum Elev. (ft.)
0				12	8.92			0'-0'7": Black MUCK, Silt & Clay 0'7"-4': Dark gray-black Organic SILT & CLAY, moderate petroleum-like odor 4'-8'11": Dark gray-gray Organic SILT & CLAY, trace Organic fibers, very fine alternating bands of white paste-like material from 4'-8'11"			0.58'	MUCK	'
5												ORGANIC SILT & CLAY	
10											8.92'		'
								Bottom of core at 12 feet.					
15													
20													
25													
30													

REMARKS

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Core No.: GZ-117

171521.02 WYNN EVERETT.GPJ; WYNN-CORE; 9/29/2015

SEDIMENT CORE LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Wynn Everett
Horizon Way
Everett, Massachusetts

CORE NO.: GZ-118A
SHEET: 1 of 1
PROJECT NO: 171521.02
REVIEWED BY:

Drilling Co.: C.R. Environmental	**Type of Rig:** Vibracore	**Core Location:** See Plan	**H. Datum:**
Foreman: Ken Thompson	**Rig Model:** N/A	**Ground Surface Elev. (ft.):**	**V. Datum:**
Logged By: Daniel Scanlon	**Drilling Method:** Direct-Push	**Final Core Depth (ft.):** 4	
		Date Start - Finish: 8/5/2013 - 8/5/2013	

Auger/Casing Type:	**Sampler Type:** 12' Core Barrel	
I.D/O.D.(in):	**I.D./O.D. (in.):** 4"	
Hammer Weight (lb.):	**Sampler Hmr Wt (lb):**	
Hammer Fall (in.):	**Sampler Hmr Fall (in):**	
Other:	**Other:**	

Groundwater Depth (ft.)

Date	Time	Water Depth	Casing	Stab. Time

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Sample Pen. (ft)	Sample Rec. (ft)	Sample Blows (per 6 in.)	Sample SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Stratum Depth (ft.)	Stratum Description	Stratum Elev. (ft.)
				4	1			0'-1': Brown & black, fine-coarse SAND, little Silt, little fine Gravel, trace shells, no odor			1'	SAND	'
5								Bottom of core at 4 feet.					
10													
15													
20													
25													
30													

REMARKS

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Core No.: GZ-118A

171521.02 WYNN EVERETT.GPJ; WYNN-CORE; 9/29/2015

SEDIMENT CORE LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Wynn Everett
Horizon Way
Everett, Massachusetts

CORE NO.: GZ-119
SHEET: 1 of 1
PROJECT NO: 171521.02
REVIEWED BY:

Drilling Co.: C.R. Environmental	**Type of Rig:** Vibracore	**Core Location:** See Plan	**H. Datum:**
Foreman: Ken Thompson	**Rig Model:** N/A	**Ground Surface Elev. (ft.):**	**V. Datum:**
Logged By: Jason Chrzanowski	**Drilling Method:** Direct-Push	**Final Core Depth (ft.):** 12	
		Date Start - Finish: 8/1/2013 - 8/1/2013	

		Groundwater Depth (ft.)				
Auger/Casing Type:	**Sampler Type:** 12' Core Barrel	**Date**	**Time**	**Water Depth**	**Casing**	**Stab. Time**
I.D/O.D.(in):	**I.D./O.D. (in.):** 4"					
Hammer Weight (lb.):	**Sampler Hmr Wt (lb):**					
Hammer Fall (in.):	**Sampler Hmr Fall (in):**					
Other:	**Other:**					

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Sample Pen. (ft)	Sample Rec. (ft)	Sample Blows (per 6 in.)	Sample SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Stratum Depth (ft.)	Stratum Description	Stratum Elev. (ft.)
0				12	7.25			0'-0'11":Dark gray MUCK & SILT 0'11"-7'3": Dark gray-black Organic SILT & CLAY, trace-little organic fibers, intermittent bands of white paste-like material, moderate-strong petroleum-like odor from 5'-7'			0.92'	MUCK & SILT	
												ORGANIC SILT & CLAY	
											7.25'		
								Bottom of core at 12 feet.					

REMARKS

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Core No.: GZ-119

171521.02 WYNN EVERETT.GPJ; WYNN-CORE; 9/29/2015

SEDIMENT CORE LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Wynn Everett
Horizon Way
Everett, Massachusetts

CORE NO.: GZ-12
SHEET: 1 of 1
PROJECT NO: 171521.02
REVIEWED BY:

Drilling Co.: C.R. Environmental	**Type of Rig:** Vibracore	**Core Location:** See Plan	**H. Datum:**
Foreman: Ken Thompson	**Rig Model:** N/A	**Ground Surface Elev. (ft.):**	**V. Datum:**
Logged By: Jason Chrzanowski	**Drilling Method:** Direct-Push	**Final Core Depth (ft.):** 12	
		Date Start - Finish: 7/31/2013 - 7/31/2013	

Auger/Casing Type:	**Sampler Type:** 12' Core Barrel	
I.D/O.D.(in):	**I.D./O.D. (in.):** 4"	
Hammer Weight (lb.):	**Sampler Hmr Wt (lb):**	
Hammer Fall (in.):	**Sampler Hmr Fall (in):**	
Other:	**Other:**	

Groundwater Depth (ft.)

Date	Time	Water Depth	Casing	Stab. Time

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Sample Pen. (ft)	Sample Rec. (ft)	Sample Blows (per 6 in.)	Sample SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Stratum Depth (ft.)	Stratum Description	Stratum Elev. (ft.)
				12	10			0'-2'10": Black-dark gray MUCK, Silt & Clay				MUCK	
											2.83'		'
5								2'10"-10': Dark gray Organic SILT, trace Organic fibers, white paste-like material at 3'5"-3'6"	1			ORGANIC SILT	
10											10'		'
								Bottom of core at 12 feet.					
15													
20													
25													
30													

REMARKS

1. Patch of white paste-like material at 3'5"-3'6"

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Core No.: GZ-12

171521.02 WYNN EVERETT.GPJ; WYNN-CORE; 9/29/2015

SEDIMENT CORE LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Wynn Everett
Horizon Way
Everett, Massachusetts

CORE NO.: GZ-120
SHEET: 1 of 1
PROJECT NO: 171521.02
REVIEWED BY:

Drilling Co.: C.R. Environmental	**Type of Rig:** Vibracore	**Core Location:** See Plan	**H. Datum:**
Foreman: Ken Thompson	**Rig Model:** N/A	**Ground Surface Elev. (ft.):**	**V. Datum:**
Logged By: Jason Chrzanowski	**Drilling Method:** Direct-Push	**Final Core Depth (ft.):** 11	
		Date Start - Finish: 8/2/2013 - 8/2/2013	

		Groundwater Depth (ft.)				
Auger/Casing Type:	**Sampler Type:** 12' Core Barrel	**Date**	**Time**	**Water Depth**	**Casing**	**Stab. Time**
I.D/O.D.(in):	**I.D./O.D. (in.):** 4"					
Hammer Weight (lb.):	**Sampler Hmr Wt (lb):**					
Hammer Fall (in.):	**Sampler Hmr Fall (in):**					
Other:	**Other:**					

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Sample Pen. (ft)	Sample Rec. (ft)	Sample Blows (per 6 in.)	Sample SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Stratum Depth (ft.)	Stratum Description	Stratum Elev. (ft.)
				11	8.08			0'-0'4": Gray, fine-coarse SAND & GRAVEL, little Silt, little Organics			0.33'	SAND & GRAVEL	
5								0'4"-7'10": Fine SAND, little Silt, trace Organic fibers, faint Hydrogen Sulfide odor				SAND	
10								7'10"-8'1": Fine-medium SAND, trace gravel			8.08'		
								Bottom of core at 11 feet.					
15													
20													
25													
30													

REMARKS

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Core No.: GZ-120

SEDIMENT CORE LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Wynn Everett
Horizon Way
Everett, Massachusetts

CORE NO.: GZ-121
SHEET: 1 of 1
PROJECT NO: 171521.02
REVIEWED BY:

Drilling Co.: C.R. Environmental	**Type of Rig:** Vibracore	**Core Location:** See Plan	**H. Datum:**
Foreman: Ken Thompson	**Rig Model:** N/A	**Ground Surface Elev. (ft.):**	**V. Datum:**
Logged By: Jason Chrzanowski	**Drilling Method:** Direct-Push	**Final Core Depth (ft.):** 12	
		Date Start - Finish: 8/1/2013 - 8/1/2013	

		Groundwater Depth (ft.)				
Auger/Casing Type:	**Sampler Type:** 12' Core Barrel	**Date**	**Time**	**Water Depth**	**Casing**	**Stab. Time**
I.D/O.D.(in):	**I.D./O.D. (in.):** 4"					
Hammer Weight (lb.):	**Sampler Hmr Wt (lb):**					
Hammer Fall (in.):	**Sampler Hmr Fall (in):**					
Other:	**Other:**					

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Sample Pen. (ft)	Sample Rec. (ft)	Sample Blows (per 6 in.)	Sample SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Stratum Depth (ft.)	Stratum Description	Stratum Elev. (ft.)
				12	10.08			0'-3'4": Gray, SILT & CLAY; alternating white paste-like bands at 3'-3'4"				SILT & CLAY	
											3.33'		'
5								3'4"-10'1": Black Organic clayey SILT, trace-little Organic fibers, moderate petroleum-like odor				ORGANIC CLAYEY SILT	
10											10.08'		'
								Bottom of core at 12 feet.					
15													
20													
25													
30													

REMARKS

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Core No.: GZ-121

171521.02 WYNN EVERETT.GPJ; WYNN-CORE; 9/29/2015

SEDIMENT CORE LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Wynn Everett
Horizon Way
Everett, Massachusetts

CORE NO.: GZ-122
SHEET: 1 of 1
PROJECT NO: 171521.02
REVIEWED BY:

Drilling Co.: C.R. Environmental	**Type of Rig:** Vibracore	**Core Location:** See Plan	**H. Datum:**
Foreman: Ken Thompson	**Rig Model:** N/A	**Ground Surface Elev. (ft.):**	**V. Datum:**
Logged By: Jason Chrzanowski	**Drilling Method:** Direct-Push	**Final Core Depth (ft.):** 10	
		Date Start - Finish: 8/2/2013 - 8/2/2013	

Auger/Casing Type:	**Sampler Type:** 12' Core Barrel	**Groundwater Depth (ft.)**			
I.D/O.D.(in):	**I.D./O.D. (in.):** 4"	**Date**	**Time**	**Water Depth**	**Casing**	**Stab. Time**
Hammer Weight (lb.):	**Sampler Hmr Wt (lb):**					
Hammer Fall (in.):	**Sampler Hmr Fall (in):**					
Other:	**Other:**					

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Sample Pen. (ft)	Sample Rec. (ft)	Sample Blows (per 6 in.)	Sample SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Stratum Depth (ft.)	Stratum Description	Stratum Elev. (ft.)
0				11.5	10			0'-0'10": Dark gray MUCK, fine-coarse Sand, fine-coarse Gravel, some Silt 0'10"-10': Gray fine SAND, trace Silt, trace Organic fibers. 1" lens of Organics at 6'1", trace shells at 7'8". 4" lens of fine-medium Sand at 8'7"-8'11"			0.83'	MUCK	
5												SAND	
10								Bottom of core at 10 feet.			10'		
15													
20													
25													
30													

REMARKS

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Core No.: GZ-122

171521.02 WYNN EVERETT.GPJ; WYNN-CORE; 9/29/2015

SEDIMENT CORE LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Wynn Everett
Horizon Way
Everett, Massachusetts

CORE NO.: GZ-123
SHEET: 1 of 1
PROJECT NO: 171521.02
REVIEWED BY:

Drilling Co.: C.R. Environmental	**Type of Rig:** Vibracore	**Core Location:** See Plan	**H. Datum:**
Foreman: Ken Thompson	**Rig Model:** N/A	**Ground Surface Elev. (ft.):**	**V. Datum:**
Logged By: Jason Chrzanowski	**Drilling Method:** Direct-Push	**Final Core Depth (ft.):** 12	
		Date Start - Finish: 8/1/2013 - 8/1/2013	

		Groundwater Depth (ft.)				
Auger/Casing Type:	**Sampler Type:** 12' Core Barrel	**Date**	**Time**	**Water Depth**	**Casing**	**Stab. Time**
I.D/O.D.(in):	**I.D./O.D. (in.):** 4"					
Hammer Weight (lb.):	**Sampler Hmr Wt (lb):**					
Hammer Fall (in.):	**Sampler Hmr Fall (in):**					
Other:	**Other:**					

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Sample Pen. (ft)	Sample Rec. (ft)	Sample Blows (per 6 in.)	Sample SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Stratum Depth (ft.)	Stratum Description	Stratum Elev. (ft.)
0				12	8.33			0'-3'10": Soft, dark gray SILT & CLAY, trace sheen, trace white paste-like material				SILT & CLAY	
											3.83'		
5								3'10"-8': Black Organic CLAYEY SILT, little Organic fibers, moderate petroleum-like odor				ORGANIC CLAYEY SILT	
											8'		
10								8'-8'4": Black CLAY, moderate petroleum-like odor			8.33'	CLAY	
								Bottom of core at 12 feet.					
15													
20													
25													
30													

REMARKS

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Core No.: GZ-123

SEDIMENT CORE LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Wynn Everett
Horizon Way
Everett, Massachusetts

CORE NO.: GZ-124
SHEET: 1 of 1
PROJECT NO: 171521.02
REVIEWED BY:

Drilling Co.: C.R. Environmental	**Type of Rig:** Vibracore	**Core Location:** See Plan	**H. Datum:**
Foreman: Ken Thompson	**Rig Model:** N/A	**Ground Surface Elev. (ft.):**	**V. Datum:**
Logged By: Jason Chrzanowski	**Drilling Method:** Direct-Push	**Final Core Depth (ft.):** 11.58	
		Date Start - Finish: 8/2/2013 - 8/2/2013	

Auger/Casing Type:	**Sampler Type:** 12' Core Barrel	
I.D/O.D.(in):	**I.D./O.D. (in.):** 4"	
Hammer Weight (lb.):	**Sampler Hmr Wt (lb):**	
Hammer Fall (in.):	**Sampler Hmr Fall (in):**	
Other:	**Other:**	

Groundwater Depth (ft.)

Date	Time	Water Depth	Casing	Stab. Time

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Sample Pen. (ft)	Sample Rec. (ft)	Sample Blows (per 6 in.)	Sample SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Stratum Depth (ft.)	Stratum Description	Stratum Elev. (ft.)
				11.58	8.75			0'-0'4": Gray fine SAND, some Silt, little shells 0'4"-8'9": Gray fine SAND, little-trace Silt, trace Organics (thin, compressed lenses)				SAND	
5													
											8.75'		
10													
								Bottom of core at 11.58 feet.					
15													
20													
25													
30													

REMARKS

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Core No.: GZ-124

171521.02 WYNN EVERETT.GPJ; WYNN-CORE; 9/29/2015

SEDIMENT CORE LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Wynn Everett
Horizon Way
Everett, Massachusetts

CORE NO.: GZ-125A
SHEET: 1 of 1
PROJECT NO: 171521.02
REVIEWED BY:

Drilling Co.: C.R. Environmental	**Type of Rig:** Vibracore	**Core Location:** See Plan	**H. Datum:**
Foreman: Ken Thompson	**Rig Model:** N/A	**Ground Surface Elev. (ft.):**	**V. Datum:**
Logged By: Daniel Scanlon	**Drilling Method:** Direct-Push	**Final Core Depth (ft.):** 11.5	
		Date Start - Finish: 8/5/2013 - 8/5/2013	

Auger/Casing Type:	**Sampler Type:** 12' Core Barrel	
I.D/O.D.(in):	**I.D./O.D. (in.):** 4"	
Hammer Weight (lb.):	**Sampler Hmr Wt (lb):**	
Hammer Fall (in.):	**Sampler Hmr Fall (in):**	
Other:	**Other:**	

Groundwater Depth (ft.)

Date	Time	Water Depth	Casing	Stab. Time

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Sample Pen. (ft)	Sample Rec. (ft)	Sample Blows (per 6 in.)	Sample SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Stratum Depth (ft.)	Stratum Description	Stratum Elev. (ft.)
				11.5	9			0'-0'6": Black-gray, Silty fine SAND, trace shells, trace Organics 0'6"-4': Gray-brown, fine SAND, little Silt, trace shells, faint Hydrogen Sulfide odor 4'-4'4": Gray SAND and SILT, layer of small clams 4'4"-7': Grayish brown, fine SAND, little Silt, trace shells, slight Hydrogen Sulfide odor 7'-9': Brown, Clayey SILT, trace fine Sand, moderate Hydrogen Sulfide odor			0.5'	SILTY SAND	
											4'	SAND	
5											4.33'	SAND & SILT	
											7'	SAND	
10											9'	CLAYEY SILT	
								Bottom of core at 11.5 feet.					
15													
20													
25													
30													

REMARKS

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Core No.: GZ-125A

SEDIMENT CORE LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Wynn Everett
Horizon Way
Everett, Massachusetts

CORE NO.: GZ-126
SHEET: 1 of 1
PROJECT NO: 171521.02
REVIEWED BY:

Drilling Co.: C.R. Environmental	**Type of Rig:** Vibracore	**Core Location:** See Plan	**H. Datum:**
Foreman: Ken Thompson	**Rig Model:** N/A	**Ground Surface Elev. (ft.):**	**V. Datum:**
Logged By: Daniel Scanlon	**Drilling Method:** Direct-Push	**Final Core Depth (ft.):** 4.6	
		Date Start - Finish: 8/5/2013 - 8/5/2013	

Auger/Casing Type:	**Sampler Type:** 12' Core Barrel	
I.D/O.D.(in):	**I.D./O.D. (in.):** 4"	
Hammer Weight (lb.):	**Sampler Hmr Wt (lb):**	
Hammer Fall (in.):	**Sampler Hmr Fall (in):**	
Other:	**Other:**	

Groundwater Depth (ft.)

Date	Time	Water Depth	Casing	Stab. Time

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Sample Pen. (ft)	Sample Rec. (ft)	Sample Blows (per 6 in.)	Sample SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Stratum Depth (ft.)	Stratum Description	Stratum Elev. (ft.)
				4.58	3.83			0'-1': Brown, Clayey SILT, trace fine Sand, trace Organics 1'-2'6": Brown-gray, fine-coarse SAND, trace shells, moderate Hydrogen Sulfide odor 2'6"-3'10": Brown-gray, fine SAND, little Silt, trace shells, faint-moderate Hydrogen Sulfide odor			1'	CLAYEY SILT	'
												SAND	
											3.83'		'
5								Bottom of core at 4.6 feet.					
10													
15													
20													
25													
30													

REMARKS

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Core No.: GZ-126

171521.02 WYNN EVERETT.GPJ; WYNN-CORE; 9/29/2015

SEDIMENT CORE LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Wynn Everett
Horizon Way
Everett, Massachusetts

CORE NO.: GZ-127
SHEET: 1 of 1
PROJECT NO: 171521.02
REVIEWED BY:

Drilling Co.: C.R. Environmental	**Type of Rig:** Vibracore	**Core Location:** See Plan	**H. Datum:**
Foreman: Ken Thompson	**Rig Model:** N/A	**Ground Surface Elev. (ft.):**	**V. Datum:**
Logged By: Daniel Scanlon	**Drilling Method:** Direct-Push	**Final Core Depth (ft.):** 6	
		Date Start - Finish: 8/5/2013 - 8/5/2013	

Auger/Casing Type:	**Sampler Type:** 12' Core Barrel	
I.D/O.D.(in):	**I.D./O.D. (in.):** 4"	
Hammer Weight (lb.):	**Sampler Hmr Wt (lb):**	
Hammer Fall (in.):	**Sampler Hmr Fall (in):**	
Other:	**Other:**	

Groundwater Depth (ft.)

Date	Time	Water Depth	Casing	Stab. Time

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Sample Pen. (ft)	Sample Rec. (ft)	Sample Blows (per 6 in.)	Sample SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Stratum Depth (ft.)	Stratum Description	Stratum Elev. (ft.)
				6	4.83			0'-0'6": Dark brown, loose, fine SAND & SILT (muck) 0'6"-1': Gray-pink, fine SAND & Organic Silt, trace Organic fibers, trace fine Gravel 1'-2'6": Gray-brown, fine SAND, little Silt, no odor 2'6"-3'6": Gray & brown, fine SAND, trace Silt, no odor 3'6"-4'10": Gray CLAY, trace Silt, trace fine Sand			0.5'	SAND & SILT	'
												SAND	
											3.5'		'
5											4.83'	CLAY	'
								Bottom of core at 6 feet.					
10													
15													
20													
25													
30													

REMARKS

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Core No.: GZ-127

171521.02 WYNN EVERETT.GPJ; WYNN-CORE; 9/29/2015

SEDIMENT CORE LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Wynn Everett
Horizon Way
Everett, Massachusetts

CORE NO.: GZ-128
SHEET: 1 of 1
PROJECT NO: 171521.02
REVIEWED BY:

Drilling Co.: C.R. Environmental	**Type of Rig:** Vibracore	**Core Location:** See Plan	**H. Datum:**
Foreman: Ken Thompson	**Rig Model:** N/A	**Ground Surface Elev. (ft.):**	**V. Datum:**
Logged By: Jason Chrzanowski	**Drilling Method:** Direct-Push	**Final Core Depth (ft.):** 12	
		Date Start - Finish: 8/1/2013 - 8/1/2013	

Auger/Casing Type:	**Sampler Type:** 12' Core Barrel	
I.D/O.D.(in):	**I.D./O.D. (in.):** 4"	
Hammer Weight (lb.):	**Sampler Hmr Wt (lb):**	
Hammer Fall (in.):	**Sampler Hmr Fall (in):**	
Other:	**Other:**	

Groundwater Depth (ft.)

Date	Time	Water Depth	Casing	Stab. Time

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Sample Pen. (ft)	Sample Rec. (ft)	Sample Blows (per 6 in.)	Sample SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Stratum Depth (ft.)	Stratum Description	Stratum Elev. (ft.)
				12	10			0'-3'3": Dark gray CLAY & SILT, little Organic fibers, Hydrogen Sulfide odor				CLAY & SILT	
											3.25'		'
5								3'3"-10': Dark gray-black Organic CLAYEY SILT, trace-little Organic fibers, faint petroleum-like odor				ORGANIC CLAYEY SILT	
10											10'		'
								Bottom of core at 12 feet.					
15													
20													
25													
30													

REMARKS

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Core No.: GZ-128

171521.02 WYNN EVERETT.GPJ; WYNN-CORE; 9/29/2015

SEDIMENT CORE LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Wynn Everett
Horizon Way
Everett, Massachusetts

CORE NO.: GZ-129
SHEET: 1 of 1
PROJECT NO: 171521.02
REVIEWED BY:

Drilling Co.: C.R. Environmental	**Type of Rig:** Vibracore	**Core Location:** See Plan	**H. Datum:**
Foreman: Ken Thompson	**Rig Model:** N/A	**Ground Surface Elev. (ft.):**	**V. Datum:**
Logged By: Jason Chrzanowski	**Drilling Method:** Direct-Push	**Final Core Depth (ft.):** 12	
		Date Start - Finish: 8/2/2013 - 8/2/2013	

		Groundwater Depth (ft.)				
Auger/Casing Type:	**Sampler Type:** 12' Core Barrel	**Date**	**Time**	**Water Depth**	**Casing**	**Stab. Time**
I.D/O.D.(in):	**I.D./O.D. (in.):** 4"					
Hammer Weight (lb.):	**Sampler Hmr Wt (lb):**					
Hammer Fall (in.):	**Sampler Hmr Fall (in):**					
Other:	**Other:**					

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Sample Pen. (ft)	Sample Rec. (ft)	Sample Blows (per 6 in.)	Sample SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Stratum Depth (ft.)	Stratum Description	Stratum Elev. (ft.)
				12	9.33			0'-9'4": Gray CLAYEY SILT and fine Sand, trace shells, compressed Organic fiber lenses throughout, Hydrogen Sulfide odor				CLAYEY SILT AND SAND	
5													
											9.33'		
10													
								Bottom of core at 12 feet.					
15													
20													
25													
30													

REMARKS

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Core No.: GZ-129

171521.02 WYNN EVERETT.GPJ; WYNN-CORE; 9/29/2015

SEDIMENT CORE LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Wynn Everett
Horizon Way
Everett, Massachusetts

CORE NO.: GZ-13
SHEET: 1 of 1
PROJECT NO: 171521.02
REVIEWED BY:

Drilling Co.: C.R. Environmental	**Type of Rig:** Vibracore	**Core Location:** See Plan	**H. Datum:**
Foreman: Ken Thompson	**Rig Model:** N/A	**Ground Surface Elev. (ft.):**	**V. Datum:**
Logged By: Jason Chrzanowski	**Drilling Method:** Direct-Push	**Final Core Depth (ft.):** 10	
		Date Start - Finish: 7/31/2013 - 7/31/2013	

Auger/Casing Type:	**Sampler Type:** 12' Core Barrel
I.D/O.D.(in):	**I.D./O.D. (in.):** 4"
Hammer Weight (lb.):	**Sampler Hmr Wt (lb):**
Hammer Fall (in.):	**Sampler Hmr Fall (in):**
Other:	**Other:**

Groundwater Depth (ft.)

Date	Time	Water Depth	Casing	Stab. Time

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Sample Pen. (ft)	Sample Rec. (ft)	Sample Blows (per 6 in.)	Sample SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Stratum Depth (ft.)	Stratum Description	Stratum Elev. (ft.)
				10	8.33			0'-5'3": Black-dark gray MUCK, little shells, trace sticks				MUCK	
5								5'3"-8'4": Dark gray Organic SILT & CLAY, Hydrogen Sulfide odor			5.25'		
												ORGANIC SILT & CLAY	
10								Bottom of core at 10 feet.			8.33'		
15													
20													
25													
30													

REMARKS

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Core No.: GZ-13

SEDIMENT CORE LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Wynn Everett
Horizon Way
Everett, Massachusetts

CORE NO.: GZ-130
SHEET: 1 of 1
PROJECT NO: 171521.02
REVIEWED BY:

Drilling Co.: C.R. Environmental	**Type of Rig:** Vibracore	**Core Location:** See Plan	**H. Datum:**
Foreman: Ken Thompson	**Rig Model:** N/A	**Ground Surface Elev. (ft.):**	**V. Datum:**
Logged By: Jason Chrzanowski	**Drilling Method:** Direct-Push	**Final Core Depth (ft.):** 10.5	
		Date Start - Finish: 8/2/2013 - 8/2/2013	

		Groundwater Depth (ft.)				
Auger/Casing Type:	**Sampler Type:** 12' Core Barrel	**Date**	**Time**	**Water Depth**	**Casing**	**Stab. Time**
I.D/O.D.(in):	**I.D./O.D. (in.):** 4"					
Hammer Weight (lb.):	**Sampler Hmr Wt (lb):**					
Hammer Fall (in.):	**Sampler Hmr Fall (in):**					
Other:	**Other:**					

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Sample Pen. (ft)	Sample Rec. (ft)	Sample Blows (per 6 in.)	Sample SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Stratum Depth (ft.)	Stratum Description	Stratum Elev. (ft.)
				10.5	8.17			0'-1'5": Gray Organic CLAYEY SILT, trace Organic fibers, trace fine Sand 1'5"-4': Gray fine SAND, trace Silt, trace shells 4'-8'2": Gray Organic CLAYEY SILT, trace Organic fibers, trace shell fragments, Hydrogen Sulfide odor				ORGANIC CLAYEY SILT	
											1.42'		
												SAND	
											4'		
												ORGANIC CLAYEY SILT	
											8.17'		
								Bottom of core at 10.5 feet.					

5 10 15 20 25 30

REMARKS

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Core No.: GZ-130

171521.02 WYNN EVERETT.GPJ; WYNN-CORE; 9/29/2015

SEDIMENT CORE LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Wynn Everett
Horizon Way
Everett, Massachusetts

CORE NO.: GZ-131
SHEET: 1 of 1
PROJECT NO: 171521.02
REVIEWED BY:

Drilling Co.: C.R. Environmental	**Type of Rig:** Vibracore	**Core Location:** See Plan	**H. Datum:**
Foreman: Ken Thompson	**Rig Model:** N/A	**Ground Surface Elev. (ft.):**	**V. Datum:**
Logged By: Jason Chrzanowski	**Drilling Method:** Direct-Push	**Final Core Depth (ft.):** 6.5	
		Date Start - Finish: 8/2/2013 - 8/2/2013	

Auger/Casing Type:	**Sampler Type:** 12' Core Barrel	
I.D/O.D.(in):	**I.D./O.D. (in.):** 4"	
Hammer Weight (lb.):	**Sampler Hmr Wt (lb):**	
Hammer Fall (in.):	**Sampler Hmr Fall (in):**	
Other:	**Other:**	

Groundwater Depth (ft.)

Date	Time	Water Depth	Casing	Stab. Time

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Sample Pen. (ft)	Sample Rec. (ft)	Sample Blows (per 6 in.)	Sample SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Stratum Depth (ft.)	Stratum Description	Stratum Elev. (ft.)
				6.5	5			0'-0'6": Dark gray MUCK, Silt & Clay, trace shells, trace Gravel 0'6"-1': Dark gray CLAYEY SILT, trace medium-coarse Sand, trace shell fragments 1'-3'9": Gray fine SAND, trace shells, trace Silt 3'9"-5': Gray fine-coarse SAND, little Silt, trace Gravel			0.5' 1'	MUCK CLAYEY SILT	
												SAND	
5											5'		
								Bottom of core at 6.5 feet.					
10													
15													
20													
25													
30													

REMARKS

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Core No.: GZ-131

171521.02 WYNN EVERETT.GPJ; WYNN-CORE; 9/29/2015

SEDIMENT CORE LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Wynn Everett
Horizon Way
Everett, Massachusetts

CORE NO.: GZ-132
SHEET: 1 of 1
PROJECT NO: 171521.02
REVIEWED BY:

Drilling Co.: C.R. Environmental	**Type of Rig:** Vibracore	**Core Location:** See Plan	**H. Datum:**
Foreman: Ken Thompson	**Rig Model:** N/A	**Ground Surface Elev. (ft.):**	**V. Datum:**
Logged By: Daniel Scanlon	**Drilling Method:** Direct-Push	**Final Core Depth (ft.):** 4	
		Date Start - Finish: 8/5/2013 - 8/5/2013	

Auger/Casing Type:	**Sampler Type:** 12' Core Barrel	
I.D/O.D.(in):	**I.D./O.D. (in.):** 4"	
Hammer Weight (lb.):	**Sampler Hmr Wt (lb):**	
Hammer Fall (in.):	**Sampler Hmr Fall (in):**	
Other:	**Other:**	

Groundwater Depth (ft.)

Date	Time	Water Depth	Casing	Stab. Time

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Sample Pen. (ft)	Sample Rec. (ft)	Sample Blows (per 6 in.)	Sample SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Stratum Depth (ft.)	Stratum Description	Stratum Elev. (ft.)
				4	2			0'-1'6": Dark gray, fine SAND, little Silt, trace shells 1'6"-2': Gray, Silty fine SAND, trace Clay			1.5'	SAND	
											2'	SILTY SAND	
5								Bottom of core at 4 feet.					
10													
15													
20													
25													
30													

REMARKS

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Core No.: GZ-132

171521.02 WYNN EVERETT.GPJ; WYNN-CORE; 9/29/2015

SEDIMENT CORE LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Wynn Everett
Horizon Way
Everett, Massachusetts

CORE NO.: GZ-133
SHEET: 1 of 1
PROJECT NO: 171521.02
REVIEWED BY:

Drilling Co.: C.R. Environmental	**Type of Rig:** Vibracore	**Core Location:** See Plan	**H. Datum:**
Foreman: Ken Thompson	**Rig Model:** N/A	**Ground Surface Elev. (ft.):**	**V. Datum:**
Logged By: Daniel Scanlon	**Drilling Method:** Direct-Push	**Final Core Depth (ft.):** 5.5	
		Date Start - Finish: 8/5/2013 - 8/5/2013	

Auger/Casing Type:	**Sampler Type:** 12' Core Barrel	
I.D/O.D.(in):	**I.D./O.D. (in.):** 4"	
Hammer Weight (lb.):	**Sampler Hmr Wt (lb):**	
Hammer Fall (in.):	**Sampler Hmr Fall (in):**	
Other:	**Other:**	

Groundwater Depth (ft.)

Date	Time	Water Depth	Casing	Stab. Time

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Sample Pen. (ft)	Sample Rec. (ft)	Sample Blows (per 6 in.)	Sample SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Stratum Depth (ft.)	Stratum Description	Stratum Elev. (ft.)
				5.5	4.33			0'-0'6": Black, Organic SILT (muck) & fine Sand 0'6"-2'6": Black, fine SAND, some Silt, trace coarse Sand, trace shells, very faint petroleum-like odor 2'6"-4'4": Brown-gray, Silty fine SAND, trace coarse Sand, trace fine Gravel, no odor			0.5'	SILT & SAND	'
											2.5'	SAND	'
											4.33'	SILTY SAND	'
5								Bottom of core at 5.5 feet.					
10													
15													
20													
25													
30													

REMARKS

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Core No.: GZ-133

171521.02 WYNN EVERETT.GPJ; WYNN-CORE; 9/29/2015

SEDIMENT CORE LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Wynn Everett
Horizon Way
Everett, Massachusetts

CORE NO.: GZ-134
SHEET: 1 of 1
PROJECT NO: 171521.02
REVIEWED BY:

Drilling Co.: C.R. Environmental	**Type of Rig:** Vibracore	**Core Location:** See Plan	**H. Datum:**
Foreman: Ken Thompson	**Rig Model:** N/A	**Ground Surface Elev. (ft.):**	**V. Datum:**
Logged By: Jason Chrzanowski	**Drilling Method:** Direct-Push	**Final Core Depth (ft.):** 12	
		Date Start - Finish: 8/2/2013 - 8/2/2013	

Auger/Casing Type:	**Sampler Type:** 12' Core Barrel	
I.D/O.D.(in):	**I.D./O.D. (in.):** 4"	
Hammer Weight (lb.):	**Sampler Hmr Wt (lb):**	
Hammer Fall (in.):	**Sampler Hmr Fall (in):**	
Other:	**Other:**	

Groundwater Depth (ft.)

Date	Time	Water Depth	Casing	Stab. Time

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Sample Pen. (ft)	Sample Rec. (ft)	Sample Blows (per 6 in.)	Sample SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Stratum Depth (ft.)	Stratum Description	Stratum Elev. (ft.)
				12	9.25			0'-1'5": Dark gray CLAY 1'5"-3'5": Dark gray CLAY, some Organics, trace NAPL, moderate-strong petroleum-like odor 3'5"-6'6": Black CLAY, little Organics, strong petroleum-like odor 6'6"-9'3": Black CLAY, strong petroleum-like odor				CLAY	
5													
											9.25'		
10													
								Bottom of core at 12 feet.					
15													
20													
25													
30													

REMARKS

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Core No.: GZ-134

171521.02 WYNN EVERETT.GPJ; WYNN-CORE; 9/29/2015

SEDIMENT CORE LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Wynn Everett
Horizon Way
Everett, Massachusetts

CORE NO.: GZ-135
SHEET: 1 of 1
PROJECT NO: 171521.02
REVIEWED BY:

Drilling Co.: C.R. Environmental	**Type of Rig:** Vibracore	**Core Location:** See Plan	**H. Datum:**
Foreman: Ken Thompson	**Rig Model:** N/A	**Ground Surface Elev. (ft.):**	**V. Datum:**
Logged By: Jason Chrzanowski	**Drilling Method:** Direct-Push	**Final Core Depth (ft.):** 12	
		Date Start - Finish: 8/2/2013 - 8/2/2013	

Auger/Casing Type:	**Sampler Type:** 12' Core Barrel	
I.D/O.D.(in):	**I.D./O.D. (in.):** 4"	
Hammer Weight (lb.):	**Sampler Hmr Wt (lb):**	
Hammer Fall (in.):	**Sampler Hmr Fall (in):**	
Other:	**Other:**	

Groundwater Depth (ft.)

Date	Time	Water Depth	Casing	Stab. Time

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Sample Pen. (ft)	Sample Rec. (ft)	Sample Blows (per 6 in.)	Sample SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Stratum Depth (ft.)	Stratum Description	Stratum Elev. (ft.)
				12	9.42			0'-0'3": Fine SAND & CLAYEY SILT 0'3"-3'1": Gray fine SAND, little-some Silt, trace shell fragments, trace Organic fibers, Hydrogen Sulfide odor 3'1"-9'5": Gray fine SAND, some Clayey Silt, trace shell fragments, trace Organic deposits, Hydrogen Sulfide odor			0.25'	SAND & CLAYEY SILT	
5												SAND	
10											9.42'		
								Bottom of core at 12 feet.					
15													
20													
25													
30													

REMARKS

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Core No.: GZ-135

171521.02 WYNN EVERETT.GPJ; WYNN-CORE; 9/29/2015

SEDIMENT CORE LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Wynn Everett
Horizon Way
Everett, Massachusetts

CORE NO.: GZ-136
SHEET: 1 of 1
PROJECT NO: 171521.02
REVIEWED BY:

Drilling Co.: C.R. Environmental	**Type of Rig:** Vibracore	**Core Location:** See Plan	**H. Datum:**
Foreman: Ken Thompson	**Rig Model:** N/A	**Ground Surface Elev. (ft.):**	**V. Datum:**
Logged By: Daniel Scanlon	**Drilling Method:** Direct-Push	**Final Core Depth (ft.):** 12	
		Date Start - Finish: 8/5/2013 - 8/5/2013	

Auger/Casing Type:	**Sampler Type:** 12' Core Barrel	
I.D/O.D.(in):	**I.D./O.D. (in.):** 4"	
Hammer Weight (lb.):	**Sampler Hmr Wt (lb):**	
Hammer Fall (in.):	**Sampler Hmr Fall (in):**	
Other:	**Other:**	

Groundwater Depth (ft.)

Date	Time	Water Depth	Casing	Stab. Time

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Sample Pen. (ft)	Sample Rec. (ft)	Sample Blows (per 6 in.)	Sample SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Stratum Depth (ft.)	Stratum Description	Stratum Elev. (ft.)
				12	10.83			0'-1': Dark brown-black, Silty fine SAND, trace shells, trace fine Gravel 1'-3': Brown-gray, Silty fine SAND, moderate-strong Hydrogen Sulfide odor 3'-3'3": Medium-coarse SAND and shells 3'3"-7'6": Brown-gray, Silty fine SAND, moderate Hydrogen Sulfide odor 7'6"-9': Brown-gray, Silty fine SAND and medium-coarse Sand and shells 9'-10'10": Gray-brown, Silty fine SAND				SILTY SAND	
											3'		
											3.25'	SAND	
5												SILTY SAND	
10													10.83'
								Bottom of core at 12 feet.					
15													
20													
25													
30													

REMARKS

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Core No.: GZ-136

171521.02 WYNN EVERETT.GPJ; WYNN-CORE; 9/29/2015

SEDIMENT CORE LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Wynn Everett
Horizon Way
Everett, Massachusetts

CORE NO.: GZ-137
SHEET: 1 of 1
PROJECT NO: 171521.02
REVIEWED BY:

Drilling Co.: C.R. Environmental	**Type of Rig:** Vibracore	**Core Location:** See Plan	**H. Datum:**
Foreman: Ken Thompson	**Rig Model:** N/A	**Ground Surface Elev. (ft.):**	**V. Datum:**
Logged By: Daniel Scanlon	**Drilling Method:** Direct-Push	**Final Core Depth (ft.):** 5.5	
		Date Start - Finish: 8/5/2013 - 8/5/2013	

Auger/Casing Type:	**Sampler Type:** 12' Core Barrel	
I.D/O.D.(in):	**I.D./O.D. (in.):** 4"	
Hammer Weight (lb.):	**Sampler Hmr Wt (lb):**	
Hammer Fall (in.):	**Sampler Hmr Fall (in):**	
Other:	**Other:**	

Groundwater Depth (ft.)

Date	Time	Water Depth	Casing	Stab. Time

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Sample Pen. (ft)	Sample Rec. (ft)	Sample Blows (per 6 in.)	Sample SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Stratum Depth (ft.)	Stratum Description	Stratum Elev. (ft.)
				5.5	5.08			0'-2'2": Dark gray, loose, Organic SILT, trace fine Sand, slight Hydrogen Sulfide odor 2'2"-5'1": Brown, fine-medium SAND, some Silt, trace shells, moderate Hydrogen Sulfide odor				ORGANIC SILT	
											2.17'		'
												SAND	
5											5.08'		'
								Bottom of core at 5.5 feet.					
10													
15													
20													
25													
30													

REMARKS

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Core No.: GZ-137

171521.02 WYNN EVERETT.GPJ; WYNN-CORE; 9/29/2015

SEDIMENT CORE LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Wynn Everett
Horizon Way
Everett, Massachusetts

CORE NO.: GZ-138
SHEET: 1 of 1
PROJECT NO: 171521.02
REVIEWED BY:

Drilling Co.: C.R. Environmental	**Type of Rig:** Vibracore	**Core Location:** See Plan	**H. Datum:**
Foreman: Ken Thompson	**Rig Model:** N/A	**Ground Surface Elev. (ft.):**	**V. Datum:**
Logged By: Jason Chrzanowski	**Drilling Method:** Direct-Push	**Final Core Depth (ft.):** 12	
		Date Start - Finish: 8/2/2013 - 8/2/2013	

Auger/Casing Type:	**Sampler Type:** 12' Core Barrel	
I.D/O.D.(in):	**I.D./O.D. (in.):** 4"	
Hammer Weight (lb.):	**Sampler Hmr Wt (lb):**	
Hammer Fall (in.):	**Sampler Hmr Fall (in):**	
Other:	**Other:**	

Groundwater Depth (ft.)

Date	Time	Water Depth	Casing	Stab. Time

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Sample Pen. (ft)	Sample Rec. (ft)	Sample Blows (per 6 in.)	Sample SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Stratum Depth (ft.)	Stratum Description	Stratum Elev. (ft.)
				12	8.25			0'-0'6": Black MUCKY SILT 0'6"-2'6": Dark gray Organic SILT, trace organics (sedges) 2'6"-3': Black SILT & CLAY, trace fine Sand, moderate petroleum-like odor 3'-5'6": Dark gray SILTY CLAY, faint petroleum-like odor 5'6"-8'3": Black SILTY CLAY, trace Organics, fine Sand lens (1") at 7'6", faint-moderate petroleum-like odor			0.5'	SILT	
											2.5'	ORGANIC SILT	
											3'	SILT & CLAY	
												SILTY CLAY	
											8.25'		
								Bottom of core at 12 feet.					

5
10
15
20
25
30

REMARKS

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Core No.: GZ-138

171521.02 WYNN EVERETT.GPJ; WYNN-CORE; 9/29/2015

SEDIMENT CORE LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Wynn Everett
Horizon Way
Everett, Massachusetts

CORE NO.: GZ-139
SHEET: 1 of 1
PROJECT NO: 171521.02
REVIEWED BY:

Drilling Co.: C.R. Environmental	**Type of Rig:** Vibracore	**Core Location:** See Plan	**H. Datum:**
Foreman: Ken Thompson	**Rig Model:** N/A	**Ground Surface Elev. (ft.):**	**V. Datum:**
Logged By: Daniel Scanlon	**Drilling Method:** Direct-Push	**Final Core Depth (ft.):** 12.17	
		Date Start - Finish: 8/5/2013 - 8/5/2013	

		Groundwater Depth (ft.)				
Auger/Casing Type:	**Sampler Type:** 12' Core Barrel	**Date**	**Time**	**Water Depth**	**Casing**	**Stab. Time**
I.D/O.D.(in):	**I.D./O.D. (in.):** 4"					
Hammer Weight (lb.):	**Sampler Hmr Wt (lb):**					
Hammer Fall (in.):	**Sampler Hmr Fall (in):**					
Other:	**Other:**					

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Sample Pen. (ft)	Sample Rec. (ft)	Sample Blows (per 6 in.)	Sample SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Stratum Depth (ft.)	Stratum Description	Stratum Elev. (ft.)
				12.17	8.5			0'-1': Dark gray MUCK and Organic Silt, faint Hydrogen Sulfide odor 1'-8'6": Gray/brown, silty fine SAND, trace shells, moderate Hydrogen Sulfide odor			1'	MUCK	'
5												SILTY SAND	
											8.5'		'
10													
								Bottom of core at 12.17 feet.					
15													
20													
25													
30													

REMARKS

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Core No.: GZ-139

171521.02 WYNN EVERETT.GPJ; WYNN-CORE; 9/29/2015

SEDIMENT CORE LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Wynn Everett
Horizon Way
Everett, Massachusetts

CORE NO.: GZ-14
SHEET: 1 of 1
PROJECT NO: 171521.02
REVIEWED BY:

Drilling Co.: C.R. Environmental	**Type of Rig:** Vibracore	**Core Location:** See Plan	**H. Datum:**
Foreman: Ken Thompson	**Rig Model:** N/A	**Ground Surface Elev. (ft.):**	**V. Datum:**
Logged By: Jason Chrzanowski	**Drilling Method:** Direct-Push	**Final Core Depth (ft.):** 10	
		Date Start - Finish: 7/31/2013 - 7/31/2013	

Auger/Casing Type:	**Sampler Type:** 12' Core Barrel	
I.D/O.D.(in):	**I.D./O.D. (in.):** 4"	
Hammer Weight (lb.):	**Sampler Hmr Wt (lb):**	
Hammer Fall (in.):	**Sampler Hmr Fall (in):**	
Other:	**Other:**	

Groundwater Depth (ft.)

Date	Time	Water Depth	Casing	Stab. Time

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Sample Pen. (ft)	Sample Rec. (ft)	Sample Blows (per 6 in.)	Sample SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Stratum Depth (ft.)	Stratum Description	Stratum Elev. (ft.)
				10	7.75			0'-7'9": Black-dark gray, mucky Organic SILT, trace Gravel, Hydrogen Sulfide odor	1 2			ORGANIC SILT	
5											7.75'		
10								Bottom of core at 10 feet.					
15													
20													
25													
30													

REMARKS

1. Top 2' of recovery more mucky, with sticks & shells`
2. Trace Gravel at 3'

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Core No.: GZ-14

SEDIMENT CORE LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Wynn Everett
Horizon Way
Everett, Massachusetts

CORE NO.: GZ-140A
SHEET: 1 of 1
PROJECT NO: 171521.02
REVIEWED BY:

Drilling Co.: C.R. Environmental	**Type of Rig:** Vibracore	**Core Location:** See Plan	**H. Datum:**
Foreman: Ken Thompson	**Rig Model:** N/A	**Ground Surface Elev. (ft.):**	**V. Datum:**
Logged By: Daniel Scanlon	**Drilling Method:** Direct-Push	**Final Core Depth (ft.):** 4	
		Date Start - Finish: 8/5/2013 - 8/5/2013	

Auger/Casing Type:	**Sampler Type:** 12' Core Barrel	
I.D/O.D.(in):	**I.D./O.D. (in.):** 4"	
Hammer Weight (lb.):	**Sampler Hmr Wt (lb):**	
Hammer Fall (in.):	**Sampler Hmr Fall (in):**	
Other:	**Other:**	

Groundwater Depth (ft.)

Date	Time	Water Depth	Casing	Stab. Time

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Sample Pen. (ft)	Sample Rec. (ft)	Sample Blows (per 6 in.)	Sample SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Stratum Depth (ft.)	Stratum Description	Stratum Elev. (ft.)
				4	3			0'-0'6": Dark brown-black, Organic SILT (Muck) 0'6"-2': Dark gray, Organic SILT, trace fine SAND 2'-3': Dark gray-brown, fine-coarse SAND, little Silt. Faint-moderate petroleum-like odor				ORGANIC SILT	
											2'		
											3'	SAND	
5								Bottom of core at 4 feet.					
10													
15													
20													
25													
30													

REMARKS

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Core No.: GZ-140A

171521.02 WYNN EVERETT.GPJ; WYNN-CORE; 9/29/2015

SEDIMENT CORE LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Wynn Everett
Horizon Way
Everett, Massachusetts

CORE NO.: GZ-15
SHEET: 1 of 1
PROJECT NO: 171521.02
REVIEWED BY:

Drilling Co.: C.R. Environmental	**Type of Rig:** Vibracore	**Core Location:** See Plan	**H. Datum:**
Foreman: Ken Thompson	**Rig Model:** N/A	**Ground Surface Elev. (ft.):**	**V. Datum:**
Logged By: Jason Chrzanowski	**Drilling Method:** Direct-Push	**Final Core Depth (ft.):** 10	
		Date Start - Finish: 7/31/2013 - 7/31/2013	

Auger/Casing Type:	**Sampler Type:** 12' Core Barrel	**Groundwater Depth (ft.)**			
I.D/O.D.(in):	**I.D./O.D. (in.):** 4"	**Date**	**Time**	**Water Depth**	**Casing**	**Stab. Time**
Hammer Weight (lb.):	**Sampler Hmr Wt (lb):**					
Hammer Fall (in.):	**Sampler Hmr Fall (in):**					
Other:	**Other:**					

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Sample Pen. (ft)	Sample Rec. (ft)	Sample Blows (per 6 in.)	Sample SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Stratum Depth (ft.)	Stratum Description	Stratum Elev. (ft.)
				10	7.67			0'-2'6": Black, mucky SILT & CLAY, trace sticks/reeds				MUCKY SILT & CLAY	
								2'6"-5'10": Dark gray Organic SILT & CLAY, strong Hydrogen Sulfide odor, with white paste-like bands 1" thick, intermittently spaced			2.5'	ORGANIC SILT & CLAY	
5								5'10"-7'8": Gray Organic SILT, trace Organic fibers, trace fine Sand			5.83'	ORGANIC SILT	
10								Bottom of core at 10 feet.			7.67'		
15													
20													
25													
30													

REMARKS

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Core No.: GZ-15

SEDIMENT CORE LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Wynn Everett
Horizon Way
Everett, Massachusetts

CORE NO.: GZ-16
SHEET: 1 of 1
PROJECT NO: 171521.02
REVIEWED BY:

Drilling Co.: C.R. Environmental	**Type of Rig:** Vibracore	**Core Location:** See Plan	**H. Datum:**
Foreman: Ken Thompson	**Rig Model:** N/A	**Ground Surface Elev. (ft.):**	**V. Datum:**
Logged By: Jason Chrzanowski	**Drilling Method:** Direct-Push	**Final Core Depth (ft.):** 10	
		Date Start - Finish: 7/31/2013 - 7/31/2013	

		Groundwater Depth (ft.)				
Auger/Casing Type:	**Sampler Type:** 12' Core Barrel	**Date**	**Time**	**Water Depth**	**Casing**	**Stab. Time**
I.D/O.D.(in):	**I.D./O.D. (in.):** 4"					
Hammer Weight (lb.):	**Sampler Hmr Wt (lb):**					
Hammer Fall (in.):	**Sampler Hmr Fall (in):**					
Other:	**Other:**					

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Sample Pen. (ft)	Sample Rec. (ft)	Sample Blows (per 6 in.)	Sample SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Stratum Depth (ft.)	Stratum Description	Stratum Elev. (ft.)
				10	8.5			0'-4': Black, mucky SILT & CLAY				MUCKY SILT & CLAY	
											4'		
5								4'-4'8": Dark gray SILT & CLAY 4'8"-8'4": Black SILT & CLAY				SILT & CLAY	
											8.33'		
								8'4"-8'6": Gray CLAY, moderate petroleum-like odor			8.5'	CLAY	
10								Bottom of core at 10 feet.					
15													
20													
25													
30													

REMARKS

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Core No.: GZ-16

SEDIMENT CORE LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Wynn Everett
Horizon Way
Everett, Massachusetts

CORE NO.: GZ-17
SHEET: 1 of 1
PROJECT NO: 171521.02
REVIEWED BY:

Drilling Co.: C.R. Environmental	**Type of Rig:** Vibracore	**Core Location:** See Plan	**H. Datum:**
Foreman: Ken Thompson	**Rig Model:** N/A	**Ground Surface Elev. (ft.):**	**V. Datum:**
Logged By: Jason Chrzanowski	**Drilling Method:** Direct-Push	**Final Core Depth (ft.):** 10	
		Date Start - Finish: 7/31/2013 - 7/31/2013	

Auger/Casing Type:	**Sampler Type:** 12' Core Barrel	
I.D/O.D.(in):	**I.D./O.D. (in.):** 4"	
Hammer Weight (lb.):	**Sampler Hmr Wt (lb):**	
Hammer Fall (in.):	**Sampler Hmr Fall (in):**	
Other:	**Other:**	

Groundwater Depth (ft.)

Date	Time	Water Depth	Casing	Stab. Time

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Sample Pen. (ft)	Sample Rec. (ft)	Sample Blows (per 6 in.)	Sample SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Stratum Depth (ft.)	Stratum Description	Stratum Elev. (ft.)
				10	8.33			0'-2'6": Dark gray-black mucky SILT & CLAY, strong Hydrogen Sulfide odor				MUCKY SILT & CLAY	
								2'6"-6'10": Dark gray Organic SILT & CLAY, trace Organic fibers, strong Hydrogen Sulfide odor			2.5'	ORGANIC SILT & CLAY	
5											6.83'		
								6'10"-8'4": Black Organic SILT, strong Hydrogen Sulfide odor				ORGANIC SILT	
											8.33'		
10								Bottom of core at 10 feet.					
15													
20													
25													
30													

REMARKS

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Core No.: GZ-17

SEDIMENT CORE LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Wynn Everett
Horizon Way
Everett, Massachusetts

CORE NO.: GZ-18
SHEET: 1 of 1
PROJECT NO: 171521.02
REVIEWED BY:

Drilling Co.: C.R. Environmental	**Type of Rig:** Vibracore	**Core Location:** See Plan	**H. Datum:**
Foreman: Ken Thompson	**Rig Model:** N/A	**Ground Surface Elev. (ft.):**	**V. Datum:**
Logged By: Jason Chrzanowski	**Drilling Method:** Direct-Push	**Final Core Depth (ft.):** 10	
		Date Start - Finish: 7/31/2013 - 7/31/2013	

		Groundwater Depth (ft.)				
Auger/Casing Type:	**Sampler Type:** 12' Core Barrel	**Date**	**Time**	**Water Depth**	**Casing**	**Stab. Time**
I.D/O.D.(in):	**I.D./O.D. (in.):** 4"					
Hammer Weight (lb.):	**Sampler Hmr Wt (lb):**					
Hammer Fall (in.):	**Sampler Hmr Fall (in):**					
Other:	**Other:**					

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Sample Pen. (ft)	Sample Rec. (ft)	Sample Blows (per 6 in.)	Sample SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Stratum Depth (ft.)	Stratum Description	Stratum Elev. (ft.)
				10	7			0'-1': Black, mucky SILT & CLAY 1'-1'2": Coarse SAND & GRAVEL 1'2"-5'4": Dark gray Organic SILT, strong Hydrogen Sulfide odor, with intermittent band of white, paste-like material; 3" band at 4'1"-4'3" 5'4"-7': Black Organic SILT, trace fine Sand, burnt odor			1'	MUCKY SILT & CLAY	
											1.17'	SAND & GRAVEL	
												ORGANIC SILT	
											7'		
								Bottom of core at 10 feet.					

5
10
15
20
25
30

REMARKS

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Core No.: GZ-18

171521.02 WYNN EVERETT.GPJ; WYNN-CORE; 9/29/2015

SEDIMENT CORE LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Wynn Everett
Horizon Way
Everett, Massachusetts

CORE NO.: GZ-2
SHEET: 1 of 1
PROJECT NO: 171521.02
REVIEWED BY:

Drilling Co.: C.R. Environmental	**Type of Rig:** Vibracore	**Core Location:** See Plan	**H. Datum:**
Foreman: Ken Thompson	**Rig Model:** N/A	**Ground Surface Elev. (ft.):**	**V. Datum:**
Logged By: Jason Chrzanowski	**Drilling Method:** Direct-Push	**Final Core Depth (ft.):** 12	
		Date Start - Finish: 7/31/2013 - 7/31/2013	

		Groundwater Depth (ft.)				
Auger/Casing Type:	**Sampler Type:** 12' Core Barrel	**Date**	**Time**	**Water Depth**	**Casing**	**Stab. Time**
I.D/O.D.(in):	**I.D./O.D. (in.):** 4"					
Hammer Weight (lb.):	**Sampler Hmr Wt (lb):**					
Hammer Fall (in.):	**Sampler Hmr Fall (in):**					
Other:	**Other:**					

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Sample Pen. (ft)	Sample Rec. (ft)	Sample Blows (per 6 in.)	Sample SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Stratum Depth (ft.)	Stratum Description	Stratum Elev. (ft.)
				12	7.5			0'-3'2": Black, mucky SILT & CLAY				MUCKY SILT & CLAY	
								3'2"-7'6": Gray, Organic, SILT & CLAY			3.17'		
5												ORGANIC SILT & CLAY	
											7.5'		
10													
								Bottom of core at 12 feet.					
15													
20													
25													
30													

REMARKS

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Core No.: GZ-2

171521.02 WYNN EVERETT.GPJ; WYNN-CORE; 9/29/2015

SEDIMENT CORE LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Wynn Everett
Horizon Way
Everett, Massachusetts

CORE NO.: GZ-3B
SHEET: 1 of 1
PROJECT NO: 171521.02
REVIEWED BY:

Drilling Co.: C.R. Environmental	**Type of Rig:** Vibracore	**Core Location:** See Plan	**H. Datum:**
Foreman: Ken Thompson	**Rig Model:** N/A	**Ground Surface Elev. (ft.):**	**V. Datum:**
Logged By: Jason Chrzanowski	**Drilling Method:** Direct-Push	**Final Core Depth (ft.):** 12	
		Date Start - Finish: 7/31/2013 - 7/31/2013	

Auger/Casing Type:	**Sampler Type:** 12' Core Barrel	
I.D/O.D.(in):	**I.D./O.D. (in.):** 4"	
Hammer Weight (lb.):	**Sampler Hmr Wt (lb):**	
Hammer Fall (in.):	**Sampler Hmr Fall (in):**	
Other:	**Other:**	

Groundwater Depth (ft.)

Date	Time	Water Depth	Casing	Stab. Time

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Sample Pen. (ft)	Sample Rec. (ft)	Sample Blows (per 6 in.)	Sample SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Stratum Depth (ft.)	Stratum Description	Stratum Elev. (ft.)
				12	7			0'-1'5": Black MUCK, Silt & Clay, trace Gravel				MUCK	
								1'5"-7': Gray-black Organic SILT & CLAY	1		1.4'		
5												ORGANIC SILT & CLAY	
											7'		
10													
								Bottom of core at 12 feet.					
15													
20													
25													
30													

REMARKS

1. Small, dime-size patch of white paste-like material at 3'6"

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Core No.: GZ-3B

171521.02 WYNN EVERETT.GPJ; WYNN-CORE; 9/29/2015

SEDIMENT CORE LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Wynn Everett
Horizon Way
Everett, Massachusetts

CORE NO.: GZ-4
SHEET: 1 of 1
PROJECT NO: 171521.02
REVIEWED BY:

Drilling Co.: C.R. Environmental	**Type of Rig:** Vibracore	**Core Location:** See Plan	**H. Datum:**
Foreman: Ken Thompson	**Rig Model:** N/A	**Ground Surface Elev. (ft.):**	**V. Datum:**
Logged By: Jason Chrzanowski	**Drilling Method:** Direct-Push	**Final Core Depth (ft.):** 12	
		Date Start - Finish: 7/31/2013 - 7/31/2013	

		Groundwater Depth (ft.)				
Auger/Casing Type:	**Sampler Type:** 12' Core Barrel	**Date**	**Time**	**Water Depth**	**Casing**	**Stab. Time**
I.D/O.D.(in):	**I.D./O.D. (in.):** 4"					
Hammer Weight (lb.):	**Sampler Hmr Wt (lb):**					
Hammer Fall (in.):	**Sampler Hmr Fall (in):**					
Other:	**Other:**					

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Sample Pen. (ft)	Sample Rec. (ft)	Sample Blows (per 6 in.)	Sample SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Stratum Depth (ft.)	Stratum Description	Stratum Elev. (ft.)
0				12	9			0'-4'2": Black MUCK, silty Clay, Hydrogen Sulfide odor				MUCK	
											4.17'		'
5								4'2"-8'5": Gray SILT & CLAY				SILT & CLAY	
											8.42'		'
10								8'5"-9': Gray SILT, little-some fine-medium Sand, trace Gravel			9'	SILT	'
								Bottom of core at 12 feet.					
15													
20													
25													
30													

REMARKS

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Core No.: GZ-4

171521.02 WYNN EVERETT.GPJ; WYNN-CORE; 9/29/2015

SEDIMENT CORE LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Wynn Everett
Horizon Way
Everett, Massachusetts

CORE NO.: GZ-5A
SHEET: 1 of 1
PROJECT NO: 171521.02
REVIEWED BY:

Drilling Co.: C.R. Environmental	**Type of Rig:** Vibracore	**Core Location:** See Plan	**H. Datum:**
Foreman: Ken Thompson	**Rig Model:** N/A	**Ground Surface Elev. (ft.):**	**V. Datum:**
Logged By: Jason Chrzanowski	**Drilling Method:** Direct-Push	**Final Core Depth (ft.):** 4.75	
		Date Start - Finish: 7/31/2013 - 7/31/2013	

		Groundwater Depth (ft.)				
Auger/Casing Type:	**Sampler Type:** 12' Core Barrel	**Date**	**Time**	**Water Depth**	**Casing**	**Stab. Time**
I.D/O.D.(in):	**I.D./O.D. (in.):** 4"					
Hammer Weight (lb.):	**Sampler Hmr Wt (lb):**					
Hammer Fall (in.):	**Sampler Hmr Fall (in):**					
Other:	**Other:**					

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Sample Pen. (ft)	Sample Rec. (ft)	Sample Blows (per 6 in.)	Sample SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Stratum Depth (ft.)	Stratum Description	Stratum Elev. (ft.)
				4.75	2.83			0'-1' MUCK			1'	MUCK	'
								1'-2'10" SAND & GRAVEL	1			SAND & GRAVEL	
											2.83'		'
5								Bottom of core at 4.75 feet.					
10													
15													
20													
25													
30													

REMARKS

1. Make attempt #2 totry to advance deeper. See GZ-5B.

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Core No.: GZ-5A

171521.02 WYNN EVERETT.GPJ; WYNN-CORE; 9/29/2015

SEDIMENT CORE LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Wynn Everett
Horizon Way
Everett, Massachusetts

CORE NO.: GZ-5B
SHEET: 1 of 1
PROJECT NO: 171521.02
REVIEWED BY:

Drilling Co.: C.R. Environmental	**Type of Rig:** Vibracore	**Core Location:** See Plan	**H. Datum:**
Foreman: Ken Thompson	**Rig Model:** N/A	**Ground Surface Elev. (ft.):**	**V. Datum:**
Logged By: Jason Chrzanowski	**Drilling Method:** Direct-Push	**Final Core Depth (ft.):** 12	
		Date Start - Finish: 7/31/2013 - 7/31/2013	

Auger/Casing Type:	**Sampler Type:** 12' Core Barrel	
I.D/O.D.(in):	**I.D./O.D. (in.):** 4"	
Hammer Weight (lb.):	**Sampler Hmr Wt (lb):**	
Hammer Fall (in.):	**Sampler Hmr Fall (in):**	
Other:	**Other:**	

Groundwater Depth (ft.)

Date	Time	Water Depth	Casing	Stab. Time

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Sample Pen. (ft)	Sample Rec. (ft)	Sample Blows (per 6 in.)	Sample SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Stratum Depth (ft.)	Stratum Description	Stratum Elev. (ft.)
				12	10			0'-2': Black MUCK, Silty Clay, trace Wood fragments				MUCK	
											2'		
								2'-3': Black, Fine to coarse SAND, little Silt, trace Shells				SAND	
											3'		
								3'-9': Black-gray Organic SILT, trace Reeds					
5												ORGANIC SILT	
10								9'-10': Dark gray Organic SILT, little fine Sand, trace Gravel			10'		
								Bottom of core at 12 feet.					
15													
20													
25													
30													

REMARKS

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Core No.: GZ-5B

171521.02 WYNN EVERETT.GPJ; WYNN-CORE; 9/29/2015

SEDIMENT CORE LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Wynn Everett
Horizon Way
Everett, Massachusetts

CORE NO.: GZ-6
SHEET: 1 of 1
PROJECT NO: 171521.02
REVIEWED BY:

Drilling Co.: C.R. Environmental	**Type of Rig:** Vibracore	**Core Location:** See Plan	**H. Datum:**
Foreman: Ken Thompson	**Rig Model:** N/A	**Ground Surface Elev. (ft.):**	**V. Datum:**
Logged By: Jason Chrzanowski	**Drilling Method:** Direct-Push	**Final Core Depth (ft.):** 12.5	
		Date Start - Finish: 7/31/2013 - 7/31/2013	

		Groundwater Depth (ft.)				
Auger/Casing Type:	**Sampler Type:** 12' Core Barrel	**Date**	**Time**	**Water Depth**	**Casing**	**Stab. Time**
I.D/O.D.(in):	**I.D./O.D. (in.):** 4"					
Hammer Weight (lb.):	**Sampler Hmr Wt (lb):**					
Hammer Fall (in.):	**Sampler Hmr Fall (in):**					
Other:	**Other:**					

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Sample Pen. (ft)	Sample Rec. (ft)	Sample Blows (per 6 in.)	Sample SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Stratum Depth (ft.)	Stratum Description	Stratum Elev. (ft.)
0				12	12			0'-12': Black, mucky SILT & CLAY, trace shells, trace slag	1		12'	MUCKY SILT & CLAY	
								Bottom of core at 12.5 feet.					

REMARKS

1. Gray-Black alternating striations at 7'10" - 7'11"

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Core No.: GZ-6

171521.02 WYNN EVERETT.GPJ; WYNN-CORE; 9/29/2015

SEDIMENT CORE LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Wynn Everett
Horizon Way
Everett, Massachusetts

CORE NO.: GZ-7
SHEET: 1 of 1
PROJECT NO: 171521.02
REVIEWED BY:

Drilling Co.: C.R. Environmental	**Type of Rig:** Vibracore	**Core Location:** See Plan	**H. Datum:**
Foreman: Ken Thompson	**Rig Model:** N/A	**Ground Surface Elev. (ft.):**	**V. Datum:**
Logged By: Jason Chrzanowski	**Drilling Method:** Direct-Push	**Final Core Depth (ft.):** 12	
		Date Start - Finish: 7/31/2013 - 7/31/2013	

Auger/Casing Type:	**Sampler Type:** 12' Core Barrel	
I.D/O.D.(in):	**I.D./O.D. (in.):** 4"	
Hammer Weight (lb.):	**Sampler Hmr Wt (lb):**	
Hammer Fall (in.):	**Sampler Hmr Fall (in):**	
Other:	**Other:**	

Groundwater Depth (ft.)

Date	Time	Water Depth	Casing	Stab. Time

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Sample Pen. (ft)	Sample Rec. (ft)	Sample Blows (per 6 in.)	Sample SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Stratum Depth (ft.)	Stratum Description	Stratum Elev. (ft.)
				12	10.5			0'-6'6": Black, Mucky SILT & CLAY, trace shells, trace Gravel				MUCK	
5											6.5'		
								6'6"-10'6": Dark gray-black Organic SILT & CLAY, white paste-like bands from 6'7"-6'10" and 7'5"-7'11"	1			ORGANIC SILT & CLAY	
10											10.5'		
								Bottom of core at 12 feet.					
15													
20													
25													
30													

REMARKS

1. White paste-like bands at 6'7"-6'10", 7'5"-7'11"

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Core No.: GZ-7

171521.02 WYNN EVERETT.GPJ; WYNN-CORE; 9/29/2015

SEDIMENT CORE LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Wynn Everett
Horizon Way
Everett, Massachusetts

CORE NO.: GZ-8
SHEET: 1 of 1
PROJECT NO: 171521.02
REVIEWED BY:

Drilling Co.: C.R. Environmental	**Type of Rig:** Vibracore	**Core Location:** See Plan	**H. Datum:**
Foreman: Ken Thompson	**Rig Model:** N/A	**Ground Surface Elev. (ft.):**	**V. Datum:**
Logged By: Jason Chrzanowski	**Drilling Method:** Direct-Push	**Final Core Depth (ft.):** 12	
		Date Start - Finish: 7/31/2013 - 7/31/2013	

Auger/Casing Type:	**Sampler Type:** 12' Core Barrel	
I.D/O.D.(in):	**I.D./O.D. (in.):** 4"	
Hammer Weight (lb.):	**Sampler Hmr Wt (lb):**	
Hammer Fall (in.):	**Sampler Hmr Fall (in):**	
Other:	**Other:**	

Groundwater Depth (ft.)

Date	Time	Water Depth	Casing	Stab. Time

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Sample Pen. (ft)	Sample Rec. (ft)	Sample Blows (per 6 in.)	Sample SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Stratum Depth (ft.)	Stratum Description	Stratum Elev. (ft.)
				12	8.25			0'-3'6": Black MUCK, Organic fibers, trace Gravel, trace coarse Sand, strong Hydrogen Sulfide odor				MUCK	
											3.5'		'
5								3'6"-8'3": Dark Gray-Gray Organic SILT & CLAY, trace shells, trace Organic fibers, white paste-like material from 5'9"-5'10" and 6'-7'3"	1			ORGANIC SILT & CLAY	
											8.25'		'
10													
								Bottom of core at 12 feet.					
15													
20													
25													
30													

REMARKS

1. Observed paste-like striations at 3'7", 5'9"-5'10", intermittent 6'-7'3"

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Core No.: GZ-8

171521.02 WYNN EVERETT.GPJ; WYNN-CORE; 9/29/2015

SEDIMENT CORE LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Wynn Everett
Horizon Way
Everett, Massachusetts

CORE NO.: GZ-9
SHEET: 1 of 1
PROJECT NO: 171521.02
REVIEWED BY:

Drilling Co.: C.R. Environmental	**Type of Rig:** Vibracore	**Core Location:** See Plan	**H. Datum:**
Foreman: Ken Thompson	**Rig Model:** N/A	**Ground Surface Elev. (ft.):**	**V. Datum:**
Logged By: Jason Chrzanowski	**Drilling Method:** Direct-Push	**Final Core Depth (ft.):** 12	
		Date Start - Finish: 7/31/2013 - 7/31/2013	

		Groundwater Depth (ft.)				
Auger/Casing Type:	**Sampler Type:** 12' Core Barrel	**Date**	**Time**	**Water Depth**	**Casing**	**Stab. Time**
I.D/O.D.(in):	**I.D./O.D. (in.):** 4"					
Hammer Weight (lb.):	**Sampler Hmr Wt (lb):**					
Hammer Fall (in.):	**Sampler Hmr Fall (in):**					
Other:	**Other:**					

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Sample Pen. (ft)	Sample Rec. (ft)	Sample Blows (per 6 in.)	Sample SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Stratum Depth (ft.)	Stratum Description	Stratum Elev. (ft.)
				12	9.25			0'-4': Black, mucky SILT & CLAY, trace shells				MUCKY SILT & CLAY	
											4'		'
5								4'-9'3": Dark gray-gray Organic SILT & CLAY, white paste-like material at 4'1"-4'2"	1			ORGANIC SILT & CLAY	
											9.25'		'
10													
								Bottom of core at 12 feet.					
15													
20													
25													
30													

REMARKS

1. White paste-like material at 4'1"-4'-2"

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Core No.: GZ-9

171521.02 WYNN EVERETT.GPJ; WYNN-CORE; 9/29/2015

SEDIMENT CORE LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Wynn Everett
Horizon Way
Everett, Massachusetts

CORE NO.: GZ-LC1
SHEET: 1 of 1
PROJECT NO: 171521.02
REVIEWED BY:

Drilling Co.: C.R. Environmental	**Type of Rig:** Vibracore	**Core Location:** See Plan	**H. Datum:**
Foreman: Ken Thompson	**Rig Model:** N/A	**Ground Surface Elev. (ft.):**	**V. Datum:**
Logged By: Daniel Scanlon	**Drilling Method:** Direct-Push	**Final Core Depth (ft.):** 9.6	
		Date Start - Finish: 8/5/2013 - 8/5/2013	

Auger/Casing Type:	**Sampler Type:** 12' Core Barrel	
I.D/O.D.(in):	**I.D./O.D. (in.):** 4"	
Hammer Weight (lb.):	**Sampler Hmr Wt (lb):**	
Hammer Fall (in.):	**Sampler Hmr Fall (in):**	
Other:	**Other:**	

Groundwater Depth (ft.)

Date	Time	Water Depth	Casing	Stab. Time

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Sample Pen. (ft)	Sample Rec. (ft)	Sample Blows (per 6 in.)	Sample SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Stratum Depth (ft.)	Stratum Description	Stratum Elev. (ft.)
				9.58	8			0'-0'6": Black, Organic SILT & fine SAND, trace shells 0'6"-8': Brown-gray, Clayey SILT, trace fine Sand, trace Organic fibers, moderate Hydrogen Sulfide odor			0.5	ORGANIC SILT & SAND	
5												CLAYEY SILT	
											8'		
10								Bottom of core at 9.6 feet.					
15													
20													
25													
30													

REMARKS

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Core No.: GZ-LC1

171521.02 WYNN EVERETT.GPJ; WYNN-CORE; 9/29/2015

SEDIMENT CORE LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Wynn Everett
Horizon Way
Everett, Massachusetts

CORE NO.: GZ-LC10
SHEET: 1 of 1
PROJECT NO: 171521.02
REVIEWED BY:

Drilling Co.: C.R. Environmental	**Type of Rig:** Vibracore	**Core Location:** See Plan	**H. Datum:**
Foreman: Ken Thompson	**Rig Model:** N/A	**Ground Surface Elev. (ft.):**	**V. Datum:**
Logged By: Daniel Scanlon	**Drilling Method:** Direct-Push	**Final Core Depth (ft.):** 5	
		Date Start - Finish: 8/5/2013 - 8/5/2013	

Auger/Casing Type:	**Sampler Type:** 12' Core Barrel	
I.D/O.D.(in):	**I.D./O.D. (in.):** 4"	
Hammer Weight (lb.):	**Sampler Hmr Wt (lb):**	
Hammer Fall (in.):	**Sampler Hmr Fall (in):**	
Other:	**Other:**	

Groundwater Depth (ft.)

Date	Time	Water Depth	Casing	Stab. Time

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Sample Pen. (ft)	Sample Rec. (ft)	Sample Blows (per 6 in.)	Sample SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Stratum Depth (ft.)	Stratum Description	Stratum Elev. (ft.)
				5	3.67			0'-1': Black, Mucky SILT, faint Hydrogen Sulfide odor 1'-1'8": Dark gray, Clayey SILT, trace fine-medium Sand 1'8"-3'8": Brownish gray, Silty fine SAND, trace shells, faint Hydrogen Sulfide odor			1'	MUCK	'
											1.67'	CLAYEY SILT	'
												SILTY SAND	
											3.67'		'
5								Bottom of core at 5 feet.					
10													
15													
20													
25													
30													

REMARKS

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Core No.: GZ-LC10

171521.02 WYNN EVERETT.GPJ; WYNN-CORE; 9/29/2015

SEDIMENT CORE LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Wynn Everett
Horizon Way
Everett, Massachusetts

CORE NO.: GZ-LC2
SHEET: 1 of 1
PROJECT NO: 171521.02
REVIEWED BY:

Drilling Co.: C.R. Environmental	**Type of Rig:** Vibracore	**Core Location:** See Plan	**H. Datum:**
Foreman: Ken Thompson	**Rig Model:** N/A	**Ground Surface Elev. (ft.):**	**V. Datum:**
Logged By: Daniel Scanlon	**Drilling Method:** Direct-Push	**Final Core Depth (ft.):** 8	
		Date Start - Finish: 8/5/2013 - 8/5/2013	

Auger/Casing Type:	**Sampler Type:** 12' Core Barrel	**Groundwater Depth (ft.)**			
I.D/O.D.(in):	**I.D./O.D. (in.):** 4"	**Date**	**Time**	**Water Depth**	**Casing**	**Stab. Time**
Hammer Weight (lb.):	**Sampler Hmr Wt (lb):**					
Hammer Fall (in.):	**Sampler Hmr Fall (in):**					
Other:	**Other:**					

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Sample Pen. (ft)	Sample Rec. (ft)	Sample Blows (per 6 in.)	Sample SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Stratum Depth (ft.)	Stratum Description	Stratum Elev. (ft.)
				8	3.83			0'-1': Light gray, Silty MUCK 1'-3'10": Dark gray, Silty MUCK, faint petroleum-like odor				MUCK	
5											3.83'		
								Bottom of core at 8 feet.					
10													
15													
20													
25													
30													

REMARKS

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Core No.: GZ-LC2

SEDIMENT CORE LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Wynn Everett
Horizon Way
Everett, Massachusetts

CORE NO.: GZ-LC3
SHEET: 1 of 1
PROJECT NO: 171521.02
REVIEWED BY:

Drilling Co.: C.R. Environmental	**Type of Rig:** Vibracore	**Core Location:** See Plan	**H. Datum:**
Foreman: Ken Thompson	**Rig Model:** N/A	**Ground Surface Elev. (ft.):**	**V. Datum:**
Logged By: Daniel Scanlon	**Drilling Method:** Direct-Push	**Final Core Depth (ft.):** 7	
		Date Start - Finish: 8/5/2013 - 8/5/2013	

Auger/Casing Type:	**Sampler Type:** 12' Core Barrel	**Groundwater Depth (ft.)**			
I.D/O.D.(in):	**I.D./O.D. (in.):** 4"	**Date**	**Time**	**Water Depth**	**Casing**	**Stab. Time**
Hammer Weight (lb.):	**Sampler Hmr Wt (lb):**					
Hammer Fall (in.):	**Sampler Hmr Fall (in):**					
Other:	**Other:**					

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Sample Pen. (ft)	Sample Rec. (ft)	Sample Blows (per 6 in.)	Sample SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Stratum Depth (ft.)	Stratum Description	Stratum Elev. (ft.)
				7	6			0'-1': Dark brown, Silty fine SAND, trace medium Sand, trace shells 1'-1'5": Dark brown, fine-medium SAND, some SIlt, faint petroleum-like odor 1'5"-3': Dark brown Organic SILT, little fine Sand, faint petroleum-like odor 3'-4': Dark brown fine-medium SAND, some Silt, trace shells, moderate petroleum-like odor 4'-5'3": Gray, Organic Clayey SILT, faint petroleum-like odor 5'3"-6': Gray-black, fine-medium SAND, little Silt, faint petroleum-like odor			1'	SILTY SAND	
											1.42'	SAND	
											3'	ORGANIC SILT	
											4'	SAND	
											5.25'	ORGANIC CLAYEY SILT	
											6'	SAND	
5													
10								Bottom of core at 7 feet.					
15													
20													
25													
30													

REMARKS

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Core No.: GZ-LC3

SEDIMENT CORE LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Wynn Everett
Horizon Way
Everett, Massachusetts

CORE NO.: GZ-LC4
SHEET: 1 of 1
PROJECT NO: 171521.02
REVIEWED BY:

Drilling Co.: C.R. Environmental	**Type of Rig:** Vibracore	**Core Location:** See Plan	**H. Datum:**
Foreman: Ken Thompson	**Rig Model:** N/A	**Ground Surface Elev. (ft.):**	**V. Datum:**
Logged By: Daniel Scanlon	**Drilling Method:** Direct-Push	**Final Core Depth (ft.):** 12	
		Date Start - Finish: 8/5/2013 - 8/5/2013	

Auger/Casing Type:	**Sampler Type:** 12' Core Barrel	
I.D/O.D.(in):	**I.D./O.D. (in.):** 4"	
Hammer Weight (lb.):	**Sampler Hmr Wt (lb):**	
Hammer Fall (in.):	**Sampler Hmr Fall (in):**	
Other:	**Other:**	

Groundwater Depth (ft.)

Date	Time	Water Depth	Casing	Stab. Time

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Sample Pen. (ft)	Sample Rec. (ft)	Sample Blows (per 6 in.)	Sample SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Stratum Depth (ft.)	Stratum Description	Stratum Elev. (ft.)
				12	5.83			0'-1'6": Dark brown, Silty MUCK, trace fine Sand, faint Hydrogen Sulfide odor 1'6"-2': Dark-brown-gray, Silty fine SAND, faint unknown odor 2'-2'2": Gray fine SAND with small sand-like grains of white granular material, very strong unknown odor 2'2"-5'10": Gray, Clayey SILT, very strong unknown chemical odor			1.5'	MUCK	
											2'	SILTY SAND	
											2.17'	SAND	
												CLAYEY SILT	
											5.83'		
								Bottom of core at 12 feet.					

5
10
15
20
25
30

REMARKS

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Core No.: GZ-LC4

171521.02 WYNN EVERETT.GPJ; WYNN-CORE; 9/29/2015

SEDIMENT CORE LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Wynn Everett
Horizon Way
Everett, Massachusetts

CORE NO.: GZ-LC5
SHEET: 1 of 1
PROJECT NO: 171521.02
REVIEWED BY:

Drilling Co.: C.R. Environmental	**Type of Rig:** Vibracore	**Core Location:** See Plan	**H. Datum:**
Foreman: Ken Thompson	**Rig Model:** N/A	**Ground Surface Elev. (ft.):**	**V. Datum:**
Logged By: Daniel Scanlon	**Drilling Method:** Direct-Push	**Final Core Depth (ft.):** 6.8	
		Date Start - Finish: 8/5/2013 - 8/5/2013	

		Groundwater Depth (ft.)				
Auger/Casing Type:	**Sampler Type:** 12' Core Barrel	**Date**	**Time**	**Water Depth**	**Casing**	**Stab. Time**
I.D/O.D.(in):	**I.D./O.D. (in.):** 4"					
Hammer Weight (lb.):	**Sampler Hmr Wt (lb):**					
Hammer Fall (in.):	**Sampler Hmr Fall (in):**					
Other:	**Other:**					

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Sample Pen. (ft)	Sample Rec. (ft)	Sample Blows (per 6 in.)	Sample SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Stratum Depth (ft.)	Stratum Description	Stratum Elev. (ft.)
				6.83	4			0'-4': Dark brown-black, Silty MUCK, trace fine Sand, slight-moderate petroleum-like odor				MUCK	
5											4'		
								Bottom of core at 6.8 feet.					
10													
15													
20													
25													
30													

REMARKS

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Core No.: GZ-LC5

171521.02 WYNN EVERETT.GPJ; WYNN-CORE; 9/29/2015

SEDIMENT CORE LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Wynn Everett
Horizon Way
Everett, Massachusetts

CORE NO.: GZ-LC6
SHEET: 1 of 1
PROJECT NO: 171521.02
REVIEWED BY:

Drilling Co.: C.R. Environmental	**Type of Rig:** Vibracore	**Core Location:** See Plan	**H. Datum:**
Foreman: Ken Thompson	**Rig Model:** N/A	**Ground Surface Elev. (ft.):**	**V. Datum:**
Logged By: Daniel Scanlon	**Drilling Method:** Direct-Push	**Final Core Depth (ft.):** 6	
		Date Start - Finish: 8/5/2013 - 8/5/2013	

Auger/Casing Type:	**Sampler Type:** 12' Core Barrel	
I.D/O.D.(in):	**I.D./O.D. (in.):** 4"	
Hammer Weight (lb.):	**Sampler Hmr Wt (lb):**	
Hammer Fall (in.):	**Sampler Hmr Fall (in):**	
Other:	**Other:**	

Groundwater Depth (ft.)

Date	Time	Water Depth	Casing	Stab. Time

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Sample Pen. (ft)	Sample Rec. (ft)	Sample Blows (per 6 in.)	Sample SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Stratum Depth (ft.)	Stratum Description	Stratum Elev. (ft.)
				6	5			0'-2': Black, Silty MUCK, trace fine Sand, slight Hydrogen Sulfide odor 2'-5': Dark gray, Silty MUCK, trace Clay, trace fine sand, moderate petroleum-like odor				MUCK	
5											5'		'
								Bottom of core at 6 feet.					
10													
15													
20													
25													
30													

REMARKS

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Core No.: GZ-LC6

SEDIMENT CORE LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Wynn Everett
Horizon Way
Everett, Massachusetts

CORE NO.: GZ-LC7
SHEET: 1 of 1
PROJECT NO: 171521.02
REVIEWED BY:

Drilling Co.: C.R. Environmental	**Type of Rig:** Vibracore	**Core Location:** See Plan	**H. Datum:**
Foreman: Ken Thompson	**Rig Model:** N/A	**Ground Surface Elev. (ft.):**	**V. Datum:**
Logged By: Daniel Scanlon	**Drilling Method:** Direct-Push	**Final Core Depth (ft.):** 8	
		Date Start - Finish: 8/5/2013 - 8/5/2013	

Auger/Casing Type:	**Sampler Type:** 12' Core Barrel	
I.D/O.D.(in):	**I.D./O.D. (in.):** 4"	
Hammer Weight (lb.):	**Sampler Hmr Wt (lb):**	
Hammer Fall (in.):	**Sampler Hmr Fall (in):**	
Other:	**Other:**	

Groundwater Depth (ft.)

Date	Time	Water Depth	Casing	Stab. Time

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Sample Pen. (ft)	Sample Rec. (ft)	Sample Blows (per 6 in.)	Sample SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Stratum Depth (ft.)	Stratum Description	Stratum Elev. (ft.)
				8	5.33			0'-4': Black, Silty MUCK				MUCK	
5								4'-5'4": Black, Silty MUCK, little fine-coarse sand, little shells			5.33'		
								Bottom of core at 8 feet.					
10													
15													
20													
25													
30													

REMARKS

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Core No.: GZ-LC7

171521.02 WYNN EVERETT.GPJ; WYNN-CORE; 9/29/2015

SEDIMENT CORE LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Wynn Everett
Horizon Way
Everett, Massachusetts

CORE NO.: GZ-LC8
SHEET: 1 of 1
PROJECT NO: 171521.02
REVIEWED BY:

Drilling Co.: C.R. Environmental	**Type of Rig:** Vibracore	**Core Location:** See Plan	**H. Datum:**
Foreman: Ken Thompson	**Rig Model:** N/A	**Ground Surface Elev. (ft.):**	**V. Datum:**
Logged By: Daniel Scanlon	**Drilling Method:** Direct-Push	**Final Core Depth (ft.):** 9	
		Date Start - Finish: 8/5/2013 - 8/5/2013	

		Groundwater Depth (ft.)				
Auger/Casing Type:	**Sampler Type:** 12' Core Barrel	**Date**	**Time**	**Water Depth**	**Casing**	**Stab. Time**
I.D/O.D.(in):	**I.D./O.D. (in.):** 4"					
Hammer Weight (lb.):	**Sampler Hmr Wt (lb):**					
Hammer Fall (in.):	**Sampler Hmr Fall (in):**					
Other:	**Other:**					

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Sample Pen. (ft)	Sample Rec. (ft)	Sample Blows (per 6 in.)	Sample SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Stratum Depth (ft.)	Stratum Description	Stratum Elev. (ft.)
				9	7			0'-4'10": Dark brown-black, Silty MUCK, trace fine sand, trace Organic fibers				MUCK	
5								4'10"-6'2": Dark gray, Organic SILT & CLAY, trace fine Sand, trace Organic fibers			4.83'		
								6'2"-7': Brown-gray, Silty fine SAND, trace shells, faint Hydrogen Sulfide odor			6.17'	ORGANIC SILT & CLAY	
											7'	SILTY SAND	
10								Bottom of core at 9 feet.					
15													
20													
25													
30													

REMARKS

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Core No.: GZ-LC8

171521.02 WYNN EVERETT.GPJ; WYNN-CORE; 9/29/2015

SEDIMENT CORE LOG

GZA GeoEnvironmental, Inc.
Engineers and Scientists

Wynn Everett
Horizon Way
Everett, Massachusetts

CORE NO.: GZ-LC9
SHEET: 1 of 1
PROJECT NO: 171521.02
REVIEWED BY:

Drilling Co.: C.R. Environmental	**Type of Rig:** Vibracore	**Core Location:** See Plan	**H. Datum:**
Foreman: Ken Thompson	**Rig Model:** N/A	**Ground Surface Elev. (ft.):**	**V. Datum:**
Logged By: Daniel Scanlon	**Drilling Method:** Direct-Push	**Final Core Depth (ft.):** 8.2	
		Date Start - Finish: 8/5/2013 - 8/5/2013	

		Groundwater Depth (ft.)				
Auger/Casing Type:	**Sampler Type:** 12' Core Barrel	**Date**	**Time**	**Water Depth**	**Casing**	**Stab. Time**
I.D/O.D.(in):	**I.D./O.D. (in.):** 4"					
Hammer Weight (lb.):	**Sampler Hmr Wt (lb):**					
Hammer Fall (in.):	**Sampler Hmr Fall (in):**					
Other:	**Other:**					

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Sample Pen. (ft)	Sample Rec. (ft)	Sample Blows (per 6 in.)	Sample SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remark	Field Test Data	Stratum Depth (ft.)	Stratum Description	Stratum Elev. (ft.)
				8.17	5.17			0'-2'6": Black, Silty MUCK, moderate Hydrogen Sulfide odor 2'6"-4'5": Dark brown, Silty MUCK, trace Clay, trace fine Sand, faint Hydrogen Sulfide odor 4'5"-5'2": Gray-brown, fine SAND & SILT, trace shells, moderate Hydrogen Sulfide odor				MUCK	
5											4.42'		'
											5.17'	SAND & SILT	'
								Bottom of core at 8.2 feet.					
10													
15													
20													
25													
30													

REMARKS

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Core No.: GZ-LC9

171521.02 WYNN EVERETT.GPJ; WYNN-CORE; 9/29/2015

APPENDIX C

SEDIMENT LABORATORY REPORTS

CERTIFICATE OF ANALYSIS

David E Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Avenue
Norwood, MA 02062

RE: Everett (01.0171521.02)
ESS Laboratory Work Order Number: 1308098

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.



Laurel Stoddard
Laboratory Director

REVIEWED
By ESS Laboratory at 3:56 pm, Aug 21, 2013

Analytical Summary
The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with NELAC Standards, A2LA and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibratins, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.

Subcontracted Analyses

Sterling Analytical Lab - West Springfield, MA	Total Organic Carbon

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308098

SAMPLE RECEIPT

The following samples were received on August 07, 2013 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has performed and reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Data Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

For EPH soil samples, the aromatic range results have been corrected for identified cartridge contaminant in accordance with the CAM protocol.

Question I: All samples for SVOA were analyzed for a subset of the required MCP list per the client's request.

Lab Number	SampleName	Matrix	Analysis
1308098-01	GZ-101 0-0.5ft	Solid	6010B, 6020A, 7471B, TOC-LK
1308098-02	GZ-101 2-4ft	Solid	6010B, 6020A, 7471B
1308098-03	GZ-101 4-6ft	Solid	6010B, 6020A, 7471B
1308098-04	GZ-101 8-9ft	Solid	6010B, 6020A, 7471B
1308098-05	GZ-102 2-4ft	Solid	6010B, 6020A, 7471B
1308098-06	GZ-102 4-6ft	Solid	6010B, 6020A, 7471B
1308098-07	GZ-102 6-8ft	Solid	6010B, 6020A, 7471B, 8082A, 8270D, EPH8270, MADEP-EPH, TOC-LK
1308098-08	GZ-102 8-10ft	Solid	6010B, 6020A, 7471B
1308098-09	GZ-103 2-4ft	Solid	6010B, 6020A, 7471B, TOC-LK
1308098-10	GZ-103 4-6ft	Solid	6010B, 6020A, 7471B, TOC-LK
1308098-11	GZ-103 6-7ft	Solid	6010B, 6020A, 7471B
1308098-12	GZ-104T 0-0.5ft	Solid	6010B, 6020A, 7471B, 8082A, 8270D, EPH8270, MADEP-EPH, TOC-LK
1308098-13	GZ-104 2-4ft	Solid	6010B, 6020A, 7471B, 8082A, 8270D, EPH8270, MADEP-EPH, TOC-LK
1308098-14	GZ-104 4-6ft	Solid	6010B, 6020A, 7471B, TOC-LK
1308098-15	GZ-104 6-8ft	Solid	6010B, 6020A, 7471B
1308098-16	GZ-105 2-4ft	Solid	6010B, 6020A, 7471B
1308098-17	GZ-105 4-6ft	Solid	6010B, 6020A, 7471B, 8082A, 8270D, EPH8270, MADEP-EPH, TOC-LK

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett ESS Laboratory Work Order: 1308098

1308098-18	GZ-105 6-9ft	Solid	6010B, 6020A, 7471B
1308098-19	GZ-106 2-4ft	Solid	6010B, 6020A, 7471B, TOC-LK
1308098-20	GZ-106 4-6ft	Solid	6010B, 6020A, 7471B

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308098

PROJECT NARRATIVE

8082A Polychlorinated Biphenyls (PCB)

1308098-12 **Percent difference between primary and confirmation results exceeds 40% (P).**
Aroclor 1260

8270D Semi-Volatile Organic Compounds

CWH0080-CCV1 **Calibration required quadratic regression (Q).**
2,4-Dinitrophenol (101% @ 80-120%), 4,6-Dinitro-2-Methylphenol (108% @ 70-130%), Benzoic Acid (97% @ 70-130%), Pentachlorophenol (101% @ 80-120%)

CWH0080-CCV1 **Initial Calibration Verification recovery is outside of control limit (ICV).**
Benzidine , Hexachlorocyclopentadiene

CWH0097-CCV1 **Calibration required quadratic regression (Q).**
2,4-Dinitrophenol (104% @ 80-120%), 4,6-Dinitro-2-Methylphenol (107% @ 70-130%), Benzoic Acid (87% @ 70-130%), Pentachlorophenol (98% @ 80-120%)

CWH0097-CCV1 **Continuing Calibration recovery is below lower control limit (C-).**
N-Nitrosodimethylamine (75% @ 80-120%)

CWH0097-CCV1 **Initial Calibration Verification recovery is outside of control limit (ICV).**
Benzidine , Hexachlorocyclopentadiene

CWH0106-CCV1 **Calibration required quadratic regression (Q).**
2,4-Dinitrophenol (110% @ 80-120%), 4,6-Dinitro-2-Methylphenol (114% @ 70-130%), Benzoic Acid (103% @ 70-130%), Pentachlorophenol (103% @ 80-120%)

CWH0106-CCV1 **Initial Calibration Verification recovery is outside of control limit (ICV).**
Benzidine , Hexachlorocyclopentadiene

8270D(SIM) Polynuclear Aromatic Hydrocarbons

1308098-07 **Internal Standard(s) outside of criteria due to matrix (UCM/coelution is present) (IM).**
Perylene-d12 (37% @ 50-200%)

MADEP-EPH Extractable Petroleum Hydrocarbons

CWH0135-CCV4 **Continuing Calibration recovery is above upper control limit (C+).**
Benzo(a)pyrene (121% @ 80-120%)

Total Metals Solid

CH30729-BSD1 **Blank Spike recovery is below lower control limit (B-).**
Arsenic (77% @ 80-120%), Barium (79% @ 80-120%), Cadmium (77% @ 80-120%), Zinc (76% @ 80-120%)

No other observations noted.

End of Project Narrative.

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308098

DATA USABILITY LINKS

Definitions of Quality Control Parameters

Semivolatile Organics Internal Standard Information

Semivolatile Organics Surrogate Information

Volatile Organics Internal Standard Information

Volatile Organics Surrogate Information

EPH and VPH Alkane Lists

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

1010A - Flashpoint
6010C - ICP
6020A - ICP MS
7010 - Graphite Furnace
7196A - Hexavalent Chromium
7470A - Aqueous Mercury
7471B - Solid Mercury
8011 - EDB/DBCP/TCP
8015C - GRO/DRO
8081B - Pesticides
8082A - PCB
8100M - TPH
8151A - Herbicides
8260B - VOA
8270D - SVOA
8270D SIM - SVOA Low Level
9014 - Cyanide
9038 - Sulfate
9040C - Aqueous pH
9045D - Solid pH (Corrosivity)
9050A - Specific Conductance
9056A - Anions (IC)
9060A - TOC
9095B - Paint Filter
MADEP 04-1.1 - EPH / VPH

Prep Methods

3005A - Aqueous ICP Digestion
3020A - Aqueous Graphite Furnace / ICP MS Digestion
3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
3060A - Solid Hexavalent Chromium Digestion
3510C - Separatory Funnel Extraction
3520C - Liquid / Liquid Extraction
3540C - Manual Soxhlet Extraction
3541 - Automated Soxhlet Extraction
3580A - Waste Dilution
5030B - Aqueous Purge and Trap
5035 - Solid Purge and Trap

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308098

MassDEP Analytical Protocol Certification Form

MADEP RTN: _____

This form provides certification for the following data set: **1308098-01 through 1308098-20**

Matrices: ( ) Ground Water/Surface Water (X) Soil/Sediment ( ) Drinking Water ( ) Air ( ) Other:_____

CAM Protocol (check all that apply below):

( ) 8260 VOC CAM II A	(X) 7470/7471 Hg CAM III B	( ) MassDEP VPH CAM IV A	( ) 8081 Pesticides CAM V B	( ) 7196 Hex Cr CAM VI B	( ) MassDEP APH CAM IX A
(X) 8270 SVOC CAM II B	( ) 7010 Metals CAM III C	(X) MassDEP EPH CAM IV B	( ) 8151 Herbicides CAM V C	( ) 8330 Explosives CAM VIII A	( ) TO-15 VOC CAM IX B
(X) 6010 Metals CAM III A	(X) 6020 Metals CAM III D	(X) 8082 PCB CAM V A	( ) 6860 Perchlorate CAM VIII B	( ) 9014 Total Cyanide/PAC CAM VI A	

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	Yes (X) No ( )
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	Yes (X) No ( )
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	Yes (X) No ( )
D	Does the laboratory report comply with all the reporting requirements specified in the CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	Yes (X) No ( )
E	a. VPH, EPH, APH and TO-15 only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	Yes (X) No ( )
	b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	Yes ( ) No ( )
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	Yes (X) No ( )

Responses to Questions G, H and I below are required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocols(s)?	Yes (X) No ( )*
	***Data User Note:* Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.**	
H	Were **all** QC performance standards specified in the CAM protocol(s) achieved?	Yes ( ) No (X)*
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	Yes (X) No ( )*

All negative responses must be addressed in an attached laboratory narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Laurel Stoddard

Date: August 21, 2013

Printed Name: Laurel Stoddard

Position: Laboratory Director

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-101 0-0.5ft
Date Sampled: 08/01/13 08:45
Percent Solids: 41

ESS Laboratory Work Order: 1308098
ESS Laboratory Sample ID: 1308098-01
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (2.4)		6020A		50	JP	08/09/13 0:26	5.13	100	CH30729
Arsenic	**48.2** (2.4)		6010B		1	SVD	08/08/13 1:58	5.13	100	CH30729
Barium	**50.2** (2.4)		6010B		1	SVD	08/08/13 1:58	5.13	100	CH30729
Beryllium	**0.48** (0.10)		6010B		1	SVD	08/08/13 1:58	5.13	100	CH30729
Cadmium	**1.90** (0.48)		6010B		1	SVD	08/08/13 1:58	5.13	100	CH30729
Chromium	**50.9** (1.0)		6010B		1	SVD	08/08/13 1:58	5.13	100	CH30729
Lead	**280** (4.8)		6010B		1	SVD	08/08/13 1:58	5.13	100	CH30729
Mercury	**1.20** (0.169)		7471B		5	KJK	08/07/13 20:35	1.43	40	CH30731
Nickel	**17.3** (2.4)		6010B		1	SVD	08/08/13 1:58	5.13	100	CH30729
Selenium	**2.74** (2.40)		6020A		50	JP	08/09/13 0:26	5.13	100	CH30729
Silver	**1.47** (0.48)		6010B		1	SVD	08/08/13 1:58	5.13	100	CH30729
Thallium	ND (2.40)		6020A		50	JP	08/09/13 0:26	5.13	100	CH30729
Vanadium	**63.7** (1.0)		6010B		1	SVD	08/08/13 1:58	5.13	100	CH30729
Zinc	**364** (2.4)		6010B		1	SVD	08/08/13 1:58	5.13	100	CH30729

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-101 0-0.5ft
Date Sampled: 08/01/13 08:45
Percent Solids: 41

ESS Laboratory Work Order: 1308098
ESS Laboratory Sample ID: 1308098-01
Sample Matrix: Solid

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**59200** (500)		TOC-LK		1	SUB	08/12/13 0:00	mg/kg	CH31340

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-101 2-4ft
Date Sampled: 08/01/13 08:45
Percent Solids: 43

ESS Laboratory Work Order: 1308098
ESS Laboratory Sample ID: 1308098-02
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (2.3)		6020A		50	JP	08/09/13 0:32	5.06	100	CH30729
Arsenic	**77.3** (2.3)		6010B		1	SVD	08/08/13 2:04	5.06	100	CH30729
Barium	**79.4** (2.3)		6010B		1	SVD	08/08/13 2:04	5.06	100	CH30729
Beryllium	**0.66** (0.10)		6010B		1	SVD	08/08/13 2:04	5.06	100	CH30729
Cadmium	**4.00** (0.46)		6010B		1	SVD	08/08/13 2:04	5.06	100	CH30729
Chromium	**70.7** (0.9)		6010B		1	SVD	08/08/13 2:04	5.06	100	CH30729
Lead	**435** (4.6)		6010B		1	SVD	08/08/13 2:04	5.06	100	CH30729
Mercury	**4.04** (0.696)		7471B		20	KJK	08/07/13 20:37	1.32	40	CH30731
Nickel	**28.5** (2.3)		6010B		1	SVD	08/08/13 2:04	5.06	100	CH30729
Selenium	**4.95** (2.31)		6020A		50	JP	08/09/13 0:32	5.06	100	CH30729
Silver	**2.66** (0.46)		6010B		1	SVD	08/08/13 2:04	5.06	100	CH30729
Thallium	ND (2.31)		6020A		50	JP	08/09/13 0:32	5.06	100	CH30729
Vanadium	**151** (0.9)		6010B		1	SVD	08/08/13 2:04	5.06	100	CH30729
Zinc	**506** (2.3)		6010B		1	SVD	08/08/13 2:04	5.06	100	CH30729

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-101 4-6ft
Date Sampled: 08/01/13 08:45
Percent Solids: 31

ESS Laboratory Work Order: 1308098
ESS Laboratory Sample ID: 1308098-03
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (3.1)		6020A		50	JP	08/09/13 0:38	5.25	100	CH30729
Arsenic	**65.4** (3.1)		6010B		1	SVD	08/08/13 2:09	5.25	100	CH30729
Barium	**67.8** (3.1)		6010B		1	SVD	08/08/13 2:09	5.25	100	CH30729
Beryllium	**0.49** (0.13)		6010B		1	SVD	08/08/13 2:09	5.25	100	CH30729
Cadmium	**1.66** (0.63)		6010B		1	SVD	08/08/13 2:09	5.25	100	CH30729
Chromium	**93.5** (1.2)		6010B		1	SVD	08/08/13 2:09	5.25	100	CH30729
Lead	**257** (6.2)		6010B		1	SVD	08/08/13 2:09	5.25	100	CH30729
Mercury	**2.33** (0.593)		7471B		10	KJK	08/07/13 22:15	1.09	40	CH30731
Nickel	**14.2** (3.1)		6010B		1	SVD	08/08/13 2:09	5.25	100	CH30729
Selenium	ND (3.13)		6020A		50	JP	08/09/13 0:38	5.25	100	CH30729
Silver	**2.84** (0.63)		6010B		1	SVD	08/08/13 2:09	5.25	100	CH30729
Thallium	ND (3.13)		6020A		50	JP	08/09/13 0:38	5.25	100	CH30729
Vanadium	**124** (1.2)		6010B		1	SVD	08/08/13 2:09	5.25	100	CH30729
Zinc	**193** (3.1)		6010B		1	SVD	08/08/13 2:09	5.25	100	CH30729

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-101 8-9ft
Date Sampled: 08/01/13 08:45
Percent Solids: 25

ESS Laboratory Work Order: 1308098
ESS Laboratory Sample ID: 1308098-04
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (3.8)		6020A		50	JP	08/09/13 0:44	5.39	100	CH30729
Arsenic	**30.3** (3.7)		6010B		1	SVD	08/08/13 2:14	5.39	100	CH30729
Barium	**133** (3.7)		6010B		1	SVD	08/08/13 2:14	5.39	100	CH30729
Beryllium	**0.72** (0.16)		6010B		1	SVD	08/08/13 2:14	5.39	100	CH30729
Cadmium	**4.91** (0.75)		6010B		1	SVD	08/08/13 2:14	5.39	100	CH30729
Chromium	**183** (1.5)		6010B		1	SVD	08/08/13 2:14	5.39	100	CH30729
Lead	**710** (7.5)		6010B		1	SVD	08/08/13 2:14	5.39	100	CH30729
Mercury	**5.21** (0.801)		7471B		10	KJK	08/07/13 20:46	1	40	CH30731
Nickel	**20.7** (3.7)		6010B		1	SVD	08/08/13 2:14	5.39	100	CH30729
Selenium	**5.57** (3.77)		6020A		50	JP	08/09/13 0:44	5.39	100	CH30729
Silver	**5.14** (0.75)		6010B		1	SVD	08/08/13 2:14	5.39	100	CH30729
Thallium	ND (3.77)		6020A		50	JP	08/09/13 0:44	5.39	100	CH30729
Vanadium	**192** (1.5)		6010B		1	SVD	08/08/13 2:14	5.39	100	CH30729
Zinc	**833** (3.7)		6010B		1	SVD	08/08/13 2:14	5.39	100	CH30729

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-102 2-4ft
Date Sampled: 08/01/13 08:55
Percent Solids: 32

ESS Laboratory Work Order: 1308098
ESS Laboratory Sample ID: 1308098-05
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (3.0)		6020A		50	JP	08/09/13 0:50	5.13	100	CH30729
Arsenic	**82.4** (3.0)		6010B		1	SVD	08/08/13 2:20	5.13	100	CH30729
Barium	**79.5** (3.0)		6010B		1	SVD	08/08/13 2:20	5.13	100	CH30729
Beryllium	**0.95** (0.13)		6010B		1	SVD	08/08/13 2:20	5.13	100	CH30729
Cadmium	**4.57** (0.60)		6010B		1	SVD	08/08/13 2:20	5.13	100	CH30729
Chromium	**85.4** (1.2)		6010B		1	SVD	08/08/13 2:20	5.13	100	CH30729
Lead	**486** (6.0)		6010B		1	SVD	08/08/13 2:20	5.13	100	CH30729
Mercury	**1.86** (0.290)		7471B		5	KJK	08/07/13 20:48	1.05	40	CH30731
Nickel	**30.5** (3.0)		6010B		1	SVD	08/08/13 2:20	5.13	100	CH30729
Selenium	**6.32** (3.01)		6020A		50	JP	08/09/13 0:50	5.13	100	CH30729
Silver	**2.56** (0.60)		6010B		1	SVD	08/08/13 2:20	5.13	100	CH30729
Thallium	ND (3.01)		6020A		50	JP	08/09/13 0:50	5.13	100	CH30729
Vanadium	**153** (1.2)		6010B		1	SVD	08/08/13 2:20	5.13	100	CH30729
Zinc	**612** (3.0)		6010B		1	SVD	08/08/13 2:20	5.13	100	CH30729

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-102 4-6ft
Date Sampled: 08/01/13 08:55
Percent Solids: 35

ESS Laboratory Work Order: 1308098
ESS Laboratory Sample ID: 1308098-06
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (2.7)		6020A		50	JP	08/09/13 0:56	5.26	100	CH30729
Arsenic	**37.6** (2.7)		6010B		1	SVD	08/08/13 2:25	5.26	100	CH30729
Barium	**90.1** (2.7)		6010B		1	SVD	08/08/13 2:25	5.26	100	CH30729
Beryllium	**0.26** (0.11)		6010B		1	SVD	08/08/13 2:25	5.26	100	CH30729
Cadmium	**0.99** (0.55)		6010B		1	SVD	08/08/13 2:25	5.26	100	CH30729
Chromium	**97.8** (1.1)		6010B		1	SVD	08/08/13 2:25	5.26	100	CH30729
Lead	**215** (5.5)		6010B		1	SVD	08/08/13 2:25	5.26	100	CH30729
Mercury	**2.97** (0.276)		7471B		5	KJK	08/07/13 20:51	1.03	40	CH30731
Nickel	**9.9** (2.7)		6010B		1	SVD	08/08/13 2:25	5.26	100	CH30729
Selenium	**3.03** (2.74)		6020A		50	JP	08/09/13 0:56	5.26	100	CH30729
Silver	**4.95** (0.55)		6010B		1	SVD	08/08/13 2:25	5.26	100	CH30729
Thallium	ND (2.74)		6020A		50	JP	08/09/13 0:56	5.26	100	CH30729
Vanadium	**122** (1.1)		6010B		1	SVD	08/08/13 2:25	5.26	100	CH30729
Zinc	**104** (2.7)		6010B		1	SVD	08/08/13 2:25	5.26	100	CH30729

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-102 6-8ft
Date Sampled: 08/01/13 08:55
Percent Solids: 37

ESS Laboratory Work Order: 1308098
ESS Laboratory Sample ID: 1308098-07
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	**2.9** (2.6)		6020A		50	JP	08/09/13 1:14	5.21	100	CH30729
Arsenic	**9.1** (2.6)		6010B		1	SVD	08/08/13 2:31	5.21	100	CH30729
Barium	**50.0** (2.6)		6010B		1	SVD	08/08/13 2:31	5.21	100	CH30729
Beryllium	**0.18** (0.11)		6010B		1	SVD	08/08/13 2:31	5.21	100	CH30729
Cadmium	ND (0.53)		6010B		1	SVD	08/08/13 2:31	5.21	100	CH30729
Chromium	**66.4** (1.0)		6010B		1	SVD	08/08/13 2:31	5.21	100	CH30729
Lead	**226** (5.2)		6010B		1	SVD	08/08/13 2:31	5.21	100	CH30729
Mercury	**1.28** (0.209)		7471B		5	KJK	08/07/13 20:54	1.29	40	CH30731
Nickel	**4.0** (2.6)		6010B		1	SVD	08/08/13 2:31	5.21	100	CH30729
Selenium	ND (2.63)		6020A		50	JP	08/09/13 1:14	5.21	100	CH30729
Silver	**1.12** (0.53)		6010B		1	SVD	08/08/13 2:31	5.21	100	CH30729
Thallium	ND (2.63)		6020A		50	JP	08/09/13 1:14	5.21	100	CH30729
Vanadium	**82.3** (1.0)		6010B		1	SVD	08/08/13 2:31	5.21	100	CH30729
Zinc	**40.4** (2.6)		6010B		1	SVD	08/08/13 2:31	5.21	100	CH30729

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-102 6-8ft
Date Sampled: 08/01/13 08:55
Percent Solids: 37
Initial Volume: 20.2
Final Volume: 5
Extraction Method: 3540

ESS Laboratory Work Order: 1308098
ESS Laboratory Sample ID: 1308098-07
Sample Matrix: Solid
Units: mg/kg dry
Analyst: TJ
Prepared: 8/8/13 17:00
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0675)		8082A		1	08/10/13 17:39		CH30812
Aroclor 1221	ND (0.0675)		8082A		1	08/10/13 17:39		CH30812
Aroclor 1232	ND (0.0675)		8082A		1	08/10/13 17:39		CH30812
Aroclor 1242	ND (0.0675)		8082A		1	08/10/13 17:39		CH30812
Aroclor 1248	**2.45** (0.338)		8082A		5	08/12/13 12:43		CH30812
Aroclor 1254	**1.11** (0.0675)		8082A		1	08/10/13 17:39		CH30812
Aroclor 1260	**0.685** (0.0675)		8082A		1	08/10/13 17:39		CH30812
Aroclor 1262	ND (0.0675)		8082A		1	08/10/13 17:39		CH30812
Aroclor 1268	ND (0.0675)		8082A		1	08/10/13 17:39		CH30812

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*113 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*76 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*88 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*72 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-102 6-8ft
Date Sampled: 08/01/13 08:55
Percent Solids: 37
Initial Volume: 30.4
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308098
ESS Laboratory Sample ID: 1308098-07
Sample Matrix: Solid
Units: mg/kg dry
Analyst: IBM
Prepared: 8/7/13 16:46

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.448)		8270D		1	08/08/13 13:12	CWH0097	CH30632
1,2-Dichlorobenzene	ND (0.448)		8270D		1	08/08/13 13:12	CWH0097	CH30632
1,3-Dichlorobenzene	ND (0.448)		8270D		1	08/08/13 13:12	CWH0097	CH30632
1,4-Dichlorobenzene	ND (0.448)		8270D		1	08/08/13 13:12	CWH0097	CH30632
2-Methylnaphthalene	ND (0.448)		8270D		1	08/08/13 13:12	CWH0097	CH30632
2-Methylphenol	ND (0.448)		8270D		1	08/08/13 13:12	CWH0097	CH30632
Acenaphthene	ND (0.448)		8270D		1	08/08/13 13:12	CWH0097	CH30632
Acenaphthylene	ND (0.448)		8270D		1	08/08/13 13:12	CWH0097	CH30632
Anthracene	ND (0.448)		8270D		1	08/08/13 13:12	CWH0097	CH30632
Benzo(a)anthracene	ND (0.448)		8270D		1	08/08/13 13:12	CWH0097	CH30632
Benzo(a)pyrene	ND (0.225)		8270D		1	08/08/13 13:12	CWH0097	CH30632
Benzo(b)fluoranthene	ND (0.448)		8270D		1	08/08/13 13:12	CWH0097	CH30632
Benzo(g,h,i)perylene	ND (0.448)		8270D		1	08/08/13 13:12	CWH0097	CH30632
Benzo(k)fluoranthene	ND (0.448)		8270D		1	08/08/13 13:12	CWH0097	CH30632
bis(2-Ethylhexyl)phthalate	**498** (44.8)		8270D		100	08/09/13 17:32	CWH0097	CH30632
Butylbenzylphthalate	**0.748** (0.448)		8270D		1	08/08/13 13:12	CWH0097	CH30632
Carbazole	ND (0.448)		8270D		1	08/08/13 13:12	CWH0097	CH30632
Chrysene	ND (0.225)		8270D		1	08/08/13 13:12	CWH0097	CH30632
Dibenzo(a,h)Anthracene	ND (0.225)		8270D		1	08/08/13 13:12	CWH0097	CH30632
Dibenzofuran	ND (0.448)		8270D		1	08/08/13 13:12	CWH0097	CH30632
Diethylphthalate	ND (0.448)		8270D		1	08/08/13 13:12	CWH0097	CH30632
Dimethylphthalate	ND (0.448)		8270D		1	08/08/13 13:12	CWH0097	CH30632
Di-n-butylphthalate	ND (0.448)		8270D		1	08/08/13 13:12	CWH0097	CH30632
Di-n-octylphthalate	**36.2** (4.48)		8270D		10	08/09/13 16:58	CWH0097	CH30632
Fluoranthene	ND (0.448)		8270D		1	08/08/13 13:12	CWH0097	CH30632
Fluorene	ND (0.448)		8270D		1	08/08/13 13:12	CWH0097	CH30632
Hexachlorobenzene	ND (0.448)		8270D		1	08/08/13 13:12	CWH0097	CH30632
Hexachlorocyclopentadiene	ND (2.25)		8270D		1	08/08/13 13:12	CWH0097	CH30632
Indeno(1,2,3-cd)Pyrene	ND (0.448)		8270D		1	08/08/13 13:12	CWH0097	CH30632
Naphthalene	ND (0.448)		8270D		1	08/08/13 13:12	CWH0097	CH30632
Phenanthrene	ND (0.448)		8270D		1	08/08/13 13:12	CWH0097	CH30632

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-102 6-8ft
Date Sampled: 08/01/13 08:55
Percent Solids: 37
Initial Volume: 30.4
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308098
ESS Laboratory Sample ID: 1308098-07
Sample Matrix: Solid
Units: mg/kg dry
Analyst: IBM
Prepared: 8/7/13 16:46

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Phenol	ND (0.448)		8270D		1	08/08/13 13:12	CWH0097	CH30632
Pyrene	ND (0.448)		8270D		1	08/08/13 13:12	CWH0097	CH30632

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*60 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*75 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*63 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*67 %*		*30-130*
Surrogate: 2-Fluorophenol	*59 %*		*30-130*
Surrogate: Nitrobenzene-d5	*64 %*		*30-130*
Surrogate: Phenol-d6	*65 %*		*30-130*
Surrogate: p-Terphenyl-d14	*80 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-102 6-8ft
Date Sampled: 08/01/13 08:55
Percent Solids: 37
Initial Volume: 15.4
Final Volume: 0.5
Extraction Method: 3541

ESS Laboratory Work Order: 1308098
ESS Laboratory Sample ID: 1308098-07
Sample Matrix: Solid
Units: mg/kg dry
Analyst: IBM
Prepared: 8/8/13 9:05

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.022)		8270D		1	08/10/13 0:51	CWH0104	CH30811
Acenaphthene	ND (0.022)		8270D		1	08/10/13 0:51	CWH0104	CH30811
Acenaphthylene	ND (0.022)		8270D		1	08/10/13 0:51	CWH0104	CH30811
Anthracene	ND (0.022)		8270D		1	08/10/13 0:51	CWH0104	CH30811
Benzo(a)anthracene	ND (0.022)		8270D		1	08/10/13 0:51	CWH0104	CH30811
Benzo(a)pyrene	ND (0.022)		8270D		1	08/10/13 0:51	CWH0104	CH30811
Benzo(b)fluoranthene	**0.036** (0.022)		8270D		1	08/10/13 0:51	CWH0104	CH30811
Benzo(g,h,i)perylene	**0.036** (0.022)		8270D		1	08/10/13 0:51	CWH0104	CH30811
Benzo(k)fluoranthene	**0.027** (0.022)		8270D		1	08/10/13 0:51	CWH0104	CH30811
Chrysene	**0.024** (0.022)		8270D		1	08/10/13 0:51	CWH0104	CH30811
Dibenzo(a,h)Anthracene	ND (0.022)		8270D		1	08/10/13 0:51	CWH0104	CH30811
Fluoranthene	**0.030** (0.022)		8270D		1	08/10/13 0:51	CWH0104	CH30811
Fluorene	ND (0.022)		8270D		1	08/10/13 0:51	CWH0104	CH30811
Indeno(1,2,3-cd)Pyrene	**0.036** (0.022)		8270D		1	08/10/13 0:51	CWH0104	CH30811
Naphthalene	ND (0.022)		8270D		1	08/10/13 0:51	CWH0104	CH30811
Phenanthrene	**0.030** (0.022)		8270D		1	08/10/13 0:51	CWH0104	CH30811
Pyrene	**0.033** (0.022)		8270D		1	08/10/13 0:51	CWH0104	CH30811

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*54 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*56 %*		*30-130*
Surrogate: Nitrobenzene-d5	*63 %*		*30-130*
Surrogate: p-Terphenyl-d14	*69 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-102 6-8ft
Date Sampled: 08/01/13 08:55
Percent Solids: 37

ESS Laboratory Work Order: 1308098
ESS Laboratory Sample ID: 1308098-07
Sample Matrix: Solid

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**71000** (500)		TOC-LK		1	SUB	08/12/13 0:00	mg/kg	CH31340

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-102 6-8ft
Date Sampled: 08/01/13 08:55
Percent Solids: 37
Initial Volume: 14.8
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1308098
ESS Laboratory Sample ID: 1308098-07
Sample Matrix: Solid
Units: mg/kg dry

Prepared: 8/8/13 11:00

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	**143** (69.1)		MADEP-EPH		1	IBM	08/09/13 6:57	CWH0117	CH30813
C19-C36 Aliphatics1	**405** (69.1)		MADEP-EPH		1	IBM	08/09/13 6:57	CWH0117	CH30813
C11-C22 Unadjusted Aromatics1	**1540** (277)		EPH8270		4	SEP	08/10/13 20:52	CWH0135	CH30813
C11-C22 Aromatics1,2	**1540** (277)		EPH8270			SEP	08/10/13 20:52		[CALC]

	%Recovery	*Qualifier*	*Limits*
Surrogate: 1-Chlorooctadecane	*98 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*118 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*121 %*		*40-140*
Surrogate: O-Terphenyl	*107 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-102 8-10ft
Date Sampled: 08/01/13 08:55
Percent Solids: 24

ESS Laboratory Work Order: 1308098
ESS Laboratory Sample ID: 1308098-08
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (3.9)		6020A		50	JP	08/09/13 1:20	5.33	100	CH30729
Arsenic	**76.6** (3.9)		6010B		1	SVD	08/08/13 2:43	5.33	100	CH30729
Barium	**58.0** (3.9)		6010B		1	SVD	08/08/13 2:43	5.33	100	CH30729
Beryllium	**0.40** (0.16)		6010B		1	SVD	08/08/13 2:43	5.33	100	CH30729
Cadmium	**1.39** (0.78)		6010B		1	SVD	08/08/13 2:43	5.33	100	CH30729
Chromium	**115** (1.5)		6010B		1	SVD	08/08/13 2:43	5.33	100	CH30729
Lead	**251** (7.7)		6010B		1	SVD	08/08/13 2:43	5.33	100	CH30729
Mercury	**3.14** (0.319)		7471B		5	KJK	08/07/13 20:56	1.28	40	CH30731
Nickel	**10.2** (3.9)		6010B		1	SVD	08/08/13 2:43	5.33	100	CH30729
Selenium	ND (3.89)		6020A		50	JP	08/09/13 1:20	5.33	100	CH30729
Silver	**2.73** (0.78)		6010B		1	SVD	08/08/13 2:43	5.33	100	CH30729
Thallium	ND (3.89)		6020A		50	JP	08/09/13 1:20	5.33	100	CH30729
Vanadium	**169** (1.5)		6010B		1	SVD	08/08/13 2:43	5.33	100	CH30729
Zinc	**153** (3.9)		6010B		1	SVD	08/08/13 2:43	5.33	100	CH30729

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-103 2-4ft
Date Sampled: 08/01/13 09:05
Percent Solids: 25

ESS Laboratory Work Order: 1308098
ESS Laboratory Sample ID: 1308098-09
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (3.8)		6020A		50	JP	08/09/13 1:26	5.28	100	CH30729
Arsenic	**146** (3.7)		6010B		1	SVD	08/08/13 2:49	5.28	100	CH30729
Barium	**89.4** (3.7)		6010B		1	SVD	08/08/13 2:49	5.28	100	CH30729
Beryllium	**0.94** (0.16)		6010B		1	SVD	08/08/13 2:49	5.28	100	CH30729
Cadmium	**4.66** (0.75)		6010B		1	SVD	08/08/13 2:49	5.28	100	CH30729
Chromium	**157** (1.5)		6010B		1	SVD	08/08/13 2:49	5.28	100	CH30729
Lead	**495** (7.5)		6010B		1	SVD	08/08/13 2:49	5.28	100	CH30729
Mercury	**3.30** (0.368)		7471B		5	KJK	08/07/13 21:05	1.06	40	CH30731
Nickel	**33.8** (3.7)		6010B		1	SVD	08/08/13 2:49	5.28	100	CH30729
Selenium	**6.60** (3.75)		6020A		50	JP	08/09/13 1:26	5.28	100	CH30729
Silver	**4.54** (0.75)		6010B		1	SVD	08/08/13 2:49	5.28	100	CH30729
Thallium	ND (3.75)		6020A		50	JP	08/09/13 1:26	5.28	100	CH30729
Vanadium	**244** (1.5)		6010B		1	SVD	08/08/13 2:49	5.28	100	CH30729
Zinc	**575** (3.7)		6010B		1	SVD	08/08/13 2:49	5.28	100	CH30729

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-103 2-4ft
Date Sampled: 08/01/13 09:05
Percent Solids: 25

ESS Laboratory Work Order: 1308098
ESS Laboratory Sample ID: 1308098-09
Sample Matrix: Solid

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**70100** (500)		TOC-LK		1	SUB	08/12/13 0:00	mg/kg	CH31340

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-103 4-6ft
Date Sampled: 08/01/13 09:05
Percent Solids: 77

ESS Laboratory Work Order: 1308098
ESS Laboratory Sample ID: 1308098-10
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.2)		6020A		50	JP	08/09/13 1:32	5.23	100	CH30729
Arsenic	**26.2** (1.2)		6010B		1	SVD	08/08/13 2:54	5.23	100	CH30729
Barium	**22.6** (1.2)		6010B		1	SVD	08/08/13 2:54	5.23	100	CH30729
Beryllium	**0.23** (0.05)		6010B		1	SVD	08/08/13 2:54	5.23	100	CH30729
Cadmium	**0.61** (0.25)		6010B		1	SVD	08/08/13 2:54	5.23	100	CH30729
Chromium	**44.4** (0.5)		6010B		1	SVD	08/08/13 2:54	5.23	100	CH30729
Lead	**65.6** (2.5)		6010B		1	SVD	08/08/13 2:54	5.23	100	CH30729
Mercury	**0.509** (0.109)		7471B		5	KJK	08/07/13 21:07	1.17	40	CH30731
Nickel	**6.6** (1.2)		6010B		1	SVD	08/08/13 2:54	5.23	100	CH30729
Selenium	ND (1.24)		6020A		50	JP	08/09/13 1:32	5.23	100	CH30729
Silver	**0.67** (0.25)		6010B		1	SVD	08/08/13 2:54	5.23	100	CH30729
Thallium	ND (1.24)		6020A		50	JP	08/09/13 1:32	5.23	100	CH30729
Vanadium	**52.3** (0.5)		6010B		1	SVD	08/08/13 2:54	5.23	100	CH30729
Zinc	**64.3** (1.2)		6010B		1	SVD	08/08/13 2:54	5.23	100	CH30729

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-103 4-6ft
Date Sampled: 08/01/13 09:05
Percent Solids: 77

ESS Laboratory Work Order: 1308098
ESS Laboratory Sample ID: 1308098-10
Sample Matrix: Solid

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**58300** (500)		TOC-LK		1	SUB	08/12/13 0:00	mg/kg	CH31340

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-103 6-7ft
Date Sampled: 08/01/13 09:05
Percent Solids: 30

ESS Laboratory Work Order: 1308098
ESS Laboratory Sample ID: 1308098-11
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (3.2)		6020A		50	JP	08/09/13 2:02	5.28	100	CH30729
Arsenic	**59.4** (3.2)		6010B		1	SVD	08/08/13 3:19	5.28	100	CH30729
Barium	**66.1** (3.2)		6010B		1	SVD	08/08/13 3:19	5.28	100	CH30729
Beryllium	**0.47** (0.13)		6010B		1	SVD	08/08/13 3:19	5.28	100	CH30729
Cadmium	**1.51** (0.63)		6010B		1	SVD	08/08/13 3:19	5.28	100	CH30729
Chromium	**116** (1.3)		6010B		1	SVD	08/08/13 3:19	5.28	100	CH30729
Lead	**238** (6.3)		6010B		1	SVD	08/08/13 3:19	5.28	100	CH30729
Mercury	**1.62** (0.292)		7471B		5	KJK	08/07/13 21:21	1.13	40	CH30731
Nickel	**10.0** (3.2)		6010B		1	SVD	08/08/13 3:19	5.28	100	CH30729
Selenium	ND (3.17)		6020A		50	JP	08/09/13 2:02	5.28	100	CH30729
Silver	**1.74** (0.63)		6010B		1	SVD	08/08/13 3:19	5.28	100	CH30729
Thallium	ND (3.17)		6020A		50	JP	08/09/13 2:02	5.28	100	CH30729
Vanadium	**123** (1.3)		6010B		1	SVD	08/08/13 3:19	5.28	100	CH30729
Zinc	**160** (3.2)		6010B		1	SVD	08/08/13 3:19	5.28	100	CH30729

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-104T 0-0.5ft
Date Sampled: 08/06/13 09:12
Percent Solids: 22

ESS Laboratory Work Order: 1308098
ESS Laboratory Sample ID: 1308098-12
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (4.5)		6020A		50	JP	08/09/13 2:08	5.09	100	CH30729
Arsenic	**182** (22.3)		6010B		5	SVD	08/08/13 18:37	5.09	100	CH30729
Barium	**190** (22.3)		6010B		5	SVD	08/08/13 18:37	5.09	100	CH30729
Beryllium	**1.50** (0.94)		6010B		5	SVD	08/08/13 18:37	5.09	100	CH30729
Cadmium	**8.98** (4.49)		6010B		5	SVD	08/08/13 18:37	5.09	100	CH30729
Chromium	**169** (8.9)		6010B		5	SVD	08/08/13 18:37	5.09	100	CH30729
Lead	**1070** (44.7)		6010B		5	SVD	08/08/13 18:37	5.09	100	CH30729
Mercury	**2.51** (0.315)		7471B		5	KJK	08/07/13 21:23	1.43	40	CH30731
Nickel	**65.9** (4.5)		6010B		1	SVD	08/08/13 3:24	5.09	100	CH30729
Selenium	**9.54** (4.49)		6020A		50	JP	08/09/13 2:08	5.09	100	CH30729
Silver	**5.11** (4.49)		6010B		5	SVD	08/08/13 18:37	5.09	100	CH30729
Thallium	ND (4.49)		6020A		50	JP	08/09/13 2:08	5.09	100	CH30729
Vanadium	**354** (8.9)		6010B		5	SVD	08/08/13 18:37	5.09	100	CH30729
Zinc	**1230** (22.3)		6010B		5	SVD	08/08/13 18:37	5.09	100	CH30729

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-104T 0-0.5ft
Date Sampled: 08/06/13 09:12
Percent Solids: 22
Initial Volume: 20.7
Final Volume: 5
Extraction Method: 3540

ESS Laboratory Work Order: 1308098
ESS Laboratory Sample ID: 1308098-12
Sample Matrix: Solid
Units: mg/kg dry
Analyst: TJ
Prepared: 8/8/13 17:00
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.110)		8082A		1	08/14/13 11:34		CH30812
Aroclor 1221	ND (0.110)		8082A		1	08/14/13 11:34		CH30812
Aroclor 1232	ND (0.110)		8082A		1	08/14/13 11:34		CH30812
Aroclor 1242	ND (0.110)		8082A		1	08/14/13 11:34		CH30812
Aroclor 1248	**1.14** (0.110)		8082A		1	08/14/13 11:34		CH30812
Aroclor 1254	**1.64** (0.110)		8082A		1	08/14/13 11:34		CH30812
Aroclor 1260	**P 0.498** (0.110)		8082A		1	08/14/13 11:34		CH30812
Aroclor 1262	ND (0.110)		8082A		1	08/14/13 11:34		CH30812
Aroclor 1268	ND (0.110)		8082A		1	08/14/13 11:34		CH30812

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*92 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*88 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*79 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*71 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-104T 0-0.5ft
Date Sampled: 08/06/13 09:12
Percent Solids: 22
Initial Volume: 30.4
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308098
ESS Laboratory Sample ID: 1308098-12
Sample Matrix: Solid
Units: mg/kg dry
Analyst: IBM
Prepared: 8/7/13 16:46

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.747)		8270D		1	08/08/13 13:45	CWH0097	CH30632
1,2-Dichlorobenzene	ND (0.747)		8270D		1	08/08/13 13:45	CWH0097	CH30632
1,3-Dichlorobenzene	ND (0.747)		8270D		1	08/08/13 13:45	CWH0097	CH30632
1,4-Dichlorobenzene	ND (0.747)		8270D		1	08/08/13 13:45	CWH0097	CH30632
2-Methylnaphthalene	ND (0.747)		8270D		1	08/08/13 13:45	CWH0097	CH30632
2-Methylphenol	ND (0.747)		8270D		1	08/08/13 13:45	CWH0097	CH30632
Acenaphthene	ND (0.747)		8270D		1	08/08/13 13:45	CWH0097	CH30632
Acenaphthylene	ND (0.747)		8270D		1	08/08/13 13:45	CWH0097	CH30632
Anthracene	ND (0.747)		8270D		1	08/08/13 13:45	CWH0097	CH30632
Benzo(a)anthracene	**1.86** (0.747)		8270D		1	08/08/13 13:45	CWH0097	CH30632
Benzo(a)pyrene	**1.72** (0.375)		8270D		1	08/08/13 13:45	CWH0097	CH30632
Benzo(b)fluoranthene	**2.03** (0.747)		8270D		1	08/08/13 13:45	CWH0097	CH30632
Benzo(g,h,i)perylene	**0.826** (0.747)		8270D		1	08/08/13 13:45	CWH0097	CH30632
Benzo(k)fluoranthene	**1.16** (0.747)		8270D		1	08/08/13 13:45	CWH0097	CH30632
bis(2-Ethylhexyl)phthalate	**7.00** (0.747)		8270D		1	08/08/13 13:45	CWH0097	CH30632
Butylbenzylphthalate	ND (0.747)		8270D		1	08/08/13 13:45	CWH0097	CH30632
Carbazole	ND (0.747)		8270D		1	08/08/13 13:45	CWH0097	CH30632
Chrysene	**2.09** (0.375)		8270D		1	08/08/13 13:45	CWH0097	CH30632
Dibenzo(a,h)Anthracene	ND (0.375)		8270D		1	08/08/13 13:45	CWH0097	CH30632
Dibenzofuran	ND (0.747)		8270D		1	08/08/13 13:45	CWH0097	CH30632
Diethylphthalate	ND (0.747)		8270D		1	08/08/13 13:45	CWH0097	CH30632
Dimethylphthalate	ND (0.747)		8270D		1	08/08/13 13:45	CWH0097	CH30632
Di-n-butylphthalate	ND (0.747)		8270D		1	08/08/13 13:45	CWH0097	CH30632
Di-n-octylphthalate	ND (0.747)		8270D		1	08/08/13 13:45	CWH0097	CH30632
Fluoranthene	**3.53** (0.747)		8270D		1	08/08/13 13:45	CWH0097	CH30632
Fluorene	ND (0.747)		8270D		1	08/08/13 13:45	CWH0097	CH30632
Hexachlorobenzene	ND (0.747)		8270D		1	08/08/13 13:45	CWH0097	CH30632
Hexachlorocyclopentadiene	ND (3.75)		8270D		1	08/08/13 13:45	CWH0097	CH30632
Indeno(1,2,3-cd)Pyrene	ND (0.747)		8270D		1	08/08/13 13:45	CWH0097	CH30632
Naphthalene	ND (0.747)		8270D		1	08/08/13 13:45	CWH0097	CH30632
Phenanthrene	**0.952** (0.747)		8270D		1	08/08/13 13:45	CWH0097	CH30632

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-104T 0-0.5ft
Date Sampled: 08/06/13 09:12
Percent Solids: 22
Initial Volume: 30.4
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308098
ESS Laboratory Sample ID: 1308098-12
Sample Matrix: Solid
Units: mg/kg dry
Analyst: IBM
Prepared: 8/7/13 16:46

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Phenol	ND (0.747)		8270D		1	08/08/13 13:45	CWH0097	CH30632
Pyrene	**3.19** (0.747)		8270D		1	08/08/13 13:45	CWH0097	CH30632

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*45 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*75 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*49 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*57 %*		*30-130*
Surrogate: 2-Fluorophenol	*45 %*		*30-130*
Surrogate: Nitrobenzene-d5	*46 %*		*30-130*
Surrogate: Phenol-d6	*52 %*		*30-130*
Surrogate: p-Terphenyl-d14	*75 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-104T 0-0.5ft
Date Sampled: 08/06/13 09:12
Percent Solids: 22
Initial Volume: 15.1
Final Volume: 0.5
Extraction Method: 3541

ESS Laboratory Work Order: 1308098
ESS Laboratory Sample ID: 1308098-12
Sample Matrix: Solid
Units: mg/kg dry
Analyst: IBM
Prepared: 8/8/13 9:05

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.188)		8270D		5	08/10/13 6:31	CWH0128	CH30811
Acenaphthene	ND (0.188)		8270D		5	08/10/13 6:31	CWH0128	CH30811
Acenaphthylene	**0.324** (0.188)		8270D		5	08/10/13 6:31	CWH0128	CH30811
Anthracene	**0.467** (0.188)		8270D		5	08/10/13 6:31	CWH0128	CH30811
Benzo(a)anthracene	**1.59** (0.188)		8270D		5	08/10/13 6:31	CWH0128	CH30811
Benzo(a)pyrene	**1.83** (0.188)		8270D		5	08/10/13 6:31	CWH0128	CH30811
Benzo(b)fluoranthene	**2.55** (0.188)		8270D		5	08/10/13 6:31	CWH0128	CH30811
Benzo(g,h,i)perylene	**1.38** (0.188)		8270D		5	08/10/13 6:31	CWH0128	CH30811
Benzo(k)fluoranthene	**0.715** (0.188)		8270D		5	08/10/13 6:31	CWH0128	CH30811
Chrysene	**1.97** (0.188)		8270D		5	08/10/13 6:31	CWH0128	CH30811
Dibenzo(a,h)Anthracene	**0.361** (0.188)		8270D		5	08/10/13 6:31	CWH0128	CH30811
Fluoranthene	**3.61** (0.188)		8270D		5	08/10/13 6:31	CWH0128	CH30811
Fluorene	ND (0.188)		8270D		5	08/10/13 6:31	CWH0128	CH30811
Indeno(1,2,3-cd)Pyrene	**1.54** (0.188)		8270D		5	08/10/13 6:31	CWH0128	CH30811
Naphthalene	**0.226** (0.188)		8270D		5	08/10/13 6:31	CWH0128	CH30811
Phenanthrene	**2.14** (0.188)		8270D		5	08/10/13 6:31	CWH0128	CH30811
Pyrene	**3.28** (0.188)		8270D		5	08/10/13 6:31	CWH0128	CH30811

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*38 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*46 %*		*30-130*
Surrogate: Nitrobenzene-d5	*43 %*		*30-130*
Surrogate: p-Terphenyl-d14	*73 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-104T 0-0.5ft
Date Sampled: 08/06/13 09:12
Percent Solids: 22

ESS Laboratory Work Order: 1308098
ESS Laboratory Sample ID: 1308098-12
Sample Matrix: Solid

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**37800** (500)		TOC-LK		1	SUB	08/12/13 0:00	mg/kg	CH31340

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-104T 0-0.5ft
Date Sampled: 08/06/13 09:12
Percent Solids: 22
Initial Volume: 15.5
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1308098
ESS Laboratory Sample ID: 1308098-12
Sample Matrix: Solid
Units: mg/kg dry

Prepared: 8/8/13 11:00

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	**114** (110)		MADEP-EPH		1	IBM	08/09/13 7:47	CWH0117	CH30813
C19-C36 Aliphatics1	**688** (110)		MADEP-EPH		1	IBM	08/09/13 7:47	CWH0117	CH30813
C11-C22 Unadjusted Aromatics1	**488** (110)		EPH8270		1	IBM	08/09/13 7:44	CWH0116	CH30813
C11-C22 Aromatics1,2	**472** (110)		EPH8270			IBM	08/09/13 7:44		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*97 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*99 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*95 %*		*40-140*
Surrogate: O-Terphenyl	*86 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-104 2-4ft
Date Sampled: 08/06/13 09:50
Percent Solids: 35

ESS Laboratory Work Order: 1308098
ESS Laboratory Sample ID: 1308098-13
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (2.6)		6020A		50	JP	08/09/13 2:26	5.5	100	CH30729
Arsenic	**78.7** (2.6)		6010B		1	SVD	08/08/13 3:30	5.5	100	CH30729
Barium	**67.2** (2.6)		6010B		1	SVD	08/08/13 3:30	5.5	100	CH30729
Beryllium	**0.67** (0.11)		6010B		1	SVD	08/08/13 3:30	5.5	100	CH30729
Cadmium	**2.51** (0.52)		6010B		1	SVD	08/08/13 3:30	5.5	100	CH30729
Chromium	**82.0** (1.0)		6010B		1	SVD	08/08/13 3:30	5.5	100	CH30729
Lead	**439** (5.2)		6010B		1	SVD	08/08/13 3:30	5.5	100	CH30729
Mercury	**2.99** (0.384)		7471B		10	KJK	08/07/13 21:26	1.48	40	CH30731
Nickel	**25.4** (2.6)		6010B		1	SVD	08/08/13 3:30	5.5	100	CH30729
Selenium	**7.55** (2.62)		6020A		50	JP	08/09/13 2:26	5.5	100	CH30729
Silver	**2.52** (0.52)		6010B		1	SVD	08/08/13 3:30	5.5	100	CH30729
Thallium	ND (2.62)		6020A		50	JP	08/09/13 2:26	5.5	100	CH30729
Vanadium	**120** (1.0)		6010B		1	SVD	08/08/13 3:30	5.5	100	CH30729
Zinc	**414** (2.6)		6010B		1	SVD	08/08/13 3:30	5.5	100	CH30729

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-104 2-4ft
Date Sampled: 08/06/13 09:50
Percent Solids: 35
Initial Volume: 20.2
Final Volume: 5
Extraction Method: 3540

ESS Laboratory Work Order: 1308098
ESS Laboratory Sample ID: 1308098-13
Sample Matrix: Solid
Units: mg/kg dry
Analyst: TJ
Prepared: 8/8/13 17:00
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0710)		8082A		1	08/12/13 14:17		CH30812
Aroclor 1221	ND (0.0710)		8082A		1	08/12/13 14:17		CH30812
Aroclor 1232	ND (0.0710)		8082A		1	08/12/13 14:17		CH30812
Aroclor 1242	ND (0.0710)		8082A		1	08/12/13 14:17		CH30812
Aroclor 1248	**2.51** (0.355)		8082A		5	08/15/13 11:19		CH30812
Aroclor 1254	**2.81** (0.355)		8082A		5	08/15/13 11:19		CH30812
Aroclor 1260	**1.24** (0.355)		8082A		5	08/15/13 11:19		CH30812
Aroclor 1262	ND (0.0710)		8082A		1	08/12/13 14:17		CH30812
Aroclor 1268	ND (0.0710)		8082A		1	08/12/13 14:17		CH30812

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*109 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*126 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*114 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*111 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-104 2-4ft
Date Sampled: 08/06/13 09:50
Percent Solids: 35
Initial Volume: 30.3
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308098
ESS Laboratory Sample ID: 1308098-13
Sample Matrix: Solid
Units: mg/kg dry
Analyst: IBM
Prepared: 8/7/13 16:46

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.473)		8270D		1	08/08/13 14:19	CWH0097	CH30632
1,2-Dichlorobenzene	**0.564** (0.473)		8270D		1	08/08/13 14:19	CWH0097	CH30632
1,3-Dichlorobenzene	ND (0.473)		8270D		1	08/08/13 14:19	CWH0097	CH30632
1,4-Dichlorobenzene	ND (0.473)		8270D		1	08/08/13 14:19	CWH0097	CH30632
2-Methylnaphthalene	ND (0.473)		8270D		1	08/08/13 14:19	CWH0097	CH30632
2-Methylphenol	ND (0.473)		8270D		1	08/08/13 14:19	CWH0097	CH30632
Acenaphthene	ND (0.473)		8270D		1	08/08/13 14:19	CWH0097	CH30632
Acenaphthylene	ND (0.473)		8270D		1	08/08/13 14:19	CWH0097	CH30632
Anthracene	ND (0.473)		8270D		1	08/08/13 14:19	CWH0097	CH30632
Benzo(a)anthracene	**0.577** (0.473)		8270D		1	08/08/13 14:19	CWH0097	CH30632
Benzo(a)pyrene	**0.602** (0.237)		8270D		1	08/08/13 14:19	CWH0097	CH30632
Benzo(b)fluoranthene	**0.811** (0.473)		8270D		1	08/08/13 14:19	CWH0097	CH30632
Benzo(g,h,i)perylene	ND (0.473)		8270D		1	08/08/13 14:19	CWH0097	CH30632
Benzo(k)fluoranthene	ND (0.473)		8270D		1	08/08/13 14:19	CWH0097	CH30632
bis(2-Ethylhexyl)phthalate	**357** (47.3)		8270D		100	08/09/13 18:39	CWH0097	CH30632
Butylbenzylphthalate	**0.598** (0.473)		8270D		1	08/08/13 14:19	CWH0097	CH30632
Carbazole	ND (0.473)		8270D		1	08/08/13 14:19	CWH0097	CH30632
Chrysene	**0.840** (0.237)		8270D		1	08/08/13 14:19	CWH0097	CH30632
Dibenzo(a,h)Anthracene	ND (0.237)		8270D		1	08/08/13 14:19	CWH0097	CH30632
Dibenzofuran	ND (0.473)		8270D		1	08/08/13 14:19	CWH0097	CH30632
Diethylphthalate	ND (0.473)		8270D		1	08/08/13 14:19	CWH0097	CH30632
Dimethylphthalate	ND (0.473)		8270D		1	08/08/13 14:19	CWH0097	CH30632
Di-n-butylphthalate	ND (0.473)		8270D		1	08/08/13 14:19	CWH0097	CH30632
Di-n-octylphthalate	**28.2** (4.73)		8270D		10	08/09/13 18:06	CWH0097	CH30632
Fluoranthene	**1.39** (0.473)		8270D		1	08/08/13 14:19	CWH0097	CH30632
Fluorene	ND (0.473)		8270D		1	08/08/13 14:19	CWH0097	CH30632
Hexachlorobenzene	ND (0.473)		8270D		1	08/08/13 14:19	CWH0097	CH30632
Hexachlorocyclopentadiene	ND (2.37)		8270D		1	08/08/13 14:19	CWH0097	CH30632
Indeno(1,2,3-cd)Pyrene	ND (0.473)		8270D		1	08/08/13 14:19	CWH0097	CH30632
Naphthalene	ND (0.473)		8270D		1	08/08/13 14:19	CWH0097	CH30632
Phenanthrene	**0.497** (0.473)		8270D		1	08/08/13 14:19	CWH0097	CH30632

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-104 2-4ft
Date Sampled: 08/06/13 09:50
Percent Solids: 35
Initial Volume: 30.3
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308098
ESS Laboratory Sample ID: 1308098-13
Sample Matrix: Solid
Units: mg/kg dry
Analyst: IBM
Prepared: 8/7/13 16:46

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Phenol	ND (0.473)		8270D		1	08/08/13 14:19	CWH0097	CH30632
Pyrene	**1.11** (0.473)		8270D		1	08/08/13 14:19	CWH0097	CH30632

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*67 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*78 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*72 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*70 %*		*30-130*
Surrogate: 2-Fluorophenol	*65 %*		*30-130*
Surrogate: Nitrobenzene-d5	*69 %*		*30-130*
Surrogate: Phenol-d6	*73 %*		*30-130*
Surrogate: p-Terphenyl-d14	*75 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-104 2-4ft
Date Sampled: 08/06/13 09:50
Percent Solids: 35
Initial Volume: 15.6
Final Volume: 0.5
Extraction Method: 3541

ESS Laboratory Work Order: 1308098
ESS Laboratory Sample ID: 1308098-13
Sample Matrix: Solid
Units: mg/kg dry
Analyst: IBM
Prepared: 8/8/13 9:05

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.115)		8270D		5	08/10/13 9:48	CWH0128	CH30811
Acenaphthene	ND (0.115)		8270D		5	08/10/13 9:48	CWH0128	CH30811
Acenaphthylene	**0.119** (0.115)		8270D		5	08/10/13 9:48	CWH0128	CH30811
Anthracene	**0.156** (0.115)		8270D		5	08/10/13 9:48	CWH0128	CH30811
Benzo(a)anthracene	**0.326** (0.115)		8270D		5	08/10/13 9:48	CWH0128	CH30811
Benzo(a)pyrene	**0.368** (0.115)		8270D		5	08/10/13 9:48	CWH0128	CH30811
Benzo(b)fluoranthene	**0.506** (0.115)		8270D		5	08/10/13 9:48	CWH0128	CH30811
Benzo(g,h,i)perylene	**0.303** (0.115)		8270D		5	08/10/13 9:48	CWH0128	CH30811
Benzo(k)fluoranthene	**0.175** (0.115)		8270D		5	08/10/13 9:48	CWH0128	CH30811
Chrysene	**0.414** (0.115)		8270D		5	08/10/13 9:48	CWH0128	CH30811
Dibenzo(a,h)Anthracene	ND (0.115)		8270D		5	08/10/13 9:48	CWH0128	CH30811
Fluoranthene	**0.726** (0.115)		8270D		5	08/10/13 9:48	CWH0128	CH30811
Fluorene	ND (0.115)		8270D		5	08/10/13 9:48	CWH0128	CH30811
Indeno(1,2,3-cd)Pyrene	**0.317** (0.115)		8270D		5	08/10/13 9:48	CWH0128	CH30811
Naphthalene	ND (0.115)		8270D		5	08/10/13 9:48	CWH0128	CH30811
Phenanthrene	**0.368** (0.115)		8270D		5	08/10/13 9:48	CWH0128	CH30811
Pyrene	**0.749** (0.115)		8270D		5	08/10/13 9:48	CWH0128	CH30811

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*36 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*42 %*		*30-130*
Surrogate: Nitrobenzene-d5	*35 %*		*30-130*
Surrogate: p-Terphenyl-d14	*65 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-104 2-4ft
Date Sampled: 08/06/13 09:50
Percent Solids: 35

ESS Laboratory Work Order: 1308098
ESS Laboratory Sample ID: 1308098-13
Sample Matrix: Solid

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**56500** (500)		TOC-LK		1	SUB	08/12/13 0:00	mg/kg	CH31340

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-104 2-4ft
Date Sampled: 08/06/13 09:50
Percent Solids: 35
Initial Volume: 15.5
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1308098
ESS Laboratory Sample ID: 1308098-13
Sample Matrix: Solid
Units: mg/kg dry

Prepared: 8/8/13 11:00

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	**228** (69.4)		MADEP-EPH		1	IBM	08/09/13 8:38	CWH0117	CH30813
C19-C36 Aliphatics1	**1170** (69.4)		MADEP-EPH		1	IBM	08/09/13 8:38	CWH0117	CH30813
C11-C22 Unadjusted Aromatics1	**993** (69.4)		EPH8270		1	IBM	08/09/13 8:30	CWH0116	CH30813
C11-C22 Aromatics1,2	**988** (69.4)		EPH8270			IBM	08/09/13 8:30		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*71 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*102 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*97 %*		*40-140*
Surrogate: O-Terphenyl	*94 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-104 4-6ft
Date Sampled: 08/01/13 09:50
Percent Solids: 77

ESS Laboratory Work Order: 1308098
ESS Laboratory Sample ID: 1308098-14
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.3)		6020A		50	JP	08/09/13 2:32	5.08	100	CH30729
Arsenic	**1.9** (1.3)		6010B		1	SVD	08/08/13 3:43	5.08	100	CH30729
Barium	**9.9** (1.3)		6010B		1	SVD	08/08/13 3:43	5.08	100	CH30729
Beryllium	**0.20** (0.05)		6010B		1	SVD	08/08/13 3:43	5.08	100	CH30729
Cadmium	ND (0.26)		6010B		1	SVD	08/08/13 3:43	5.08	100	CH30729
Chromium	**10.1** (0.5)		6010B		1	SVD	08/08/13 3:43	5.08	100	CH30729
Lead	ND (2.6)		6010B		1	SVD	08/08/13 3:43	5.08	100	CH30729
Mercury	ND (0.024)		7471B		1	KJK	08/07/13 19:39	1.07	40	CH30731
Nickel	**6.3** (1.3)		6010B		1	SVD	08/08/13 3:43	5.08	100	CH30729
Selenium	ND (1.29)		6020A		50	JP	08/09/13 2:32	5.08	100	CH30729
Silver	ND (0.26)		6010B		1	SVD	08/08/13 3:43	5.08	100	CH30729
Thallium	ND (1.29)		6020A		50	JP	08/09/13 2:32	5.08	100	CH30729
Vanadium	**12.9** (0.5)		6010B		1	SVD	08/08/13 3:43	5.08	100	CH30729
Zinc	**17.1** (1.3)		6010B		1	SVD	08/08/13 3:43	5.08	100	CH30729

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-104 4-6ft
Date Sampled: 08/01/13 09:50
Percent Solids: 77

ESS Laboratory Work Order: 1308098
ESS Laboratory Sample ID: 1308098-14
Sample Matrix: Solid

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**10700** (500)		TOC-LK		1	SUB	08/12/13 0:00	mg/kg	CH31340

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-104 6-8ft
Date Sampled: 08/01/13 09:50
Percent Solids: 72

ESS Laboratory Work Order: 1308098
ESS Laboratory Sample ID: 1308098-15
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.3)		6020A		50	JP	08/09/13 2:38	5.35	100	CH30729
Arsenic	**2.9** (1.3)		6010B		1	SVD	08/08/13 3:49	5.35	100	CH30729
Barium	**17.2** (1.3)		6010B		1	SVD	08/08/13 3:49	5.35	100	CH30729
Beryllium	**0.33** (0.05)		6010B		1	SVD	08/08/13 3:49	5.35	100	CH30729
Cadmium	**0.31** (0.26)		6010B		1	SVD	08/08/13 3:49	5.35	100	CH30729
Chromium	**16.4** (0.5)		6010B		1	SVD	08/08/13 3:49	5.35	100	CH30729
Lead	**3.7** (2.6)		6010B		1	SVD	08/08/13 3:49	5.35	100	CH30729
Mercury	ND (0.025)		7471B		1	KJK	08/07/13 19:42	1.12	40	CH30731
Nickel	**9.6** (1.3)		6010B		1	SVD	08/08/13 3:49	5.35	100	CH30729
Selenium	ND (1.31)		6020A		50	JP	08/09/13 2:38	5.35	100	CH30729
Silver	ND (0.26)		6010B		1	SVD	08/08/13 3:49	5.35	100	CH30729
Thallium	ND (1.31)		6020A		50	JP	08/09/13 2:38	5.35	100	CH30729
Vanadium	**20.9** (0.5)		6010B		1	SVD	08/08/13 3:49	5.35	100	CH30729
Zinc	**26.3** (1.3)		6010B		1	SVD	08/08/13 3:49	5.35	100	CH30729

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-105 2-4ft
Date Sampled: 08/01/13 10:06
Percent Solids: 39

ESS Laboratory Work Order: 1308098
ESS Laboratory Sample ID: 1308098-16
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (2.5)		6020A		50	JP	08/09/13 2:44	5.22	100	CH30729
Arsenic	**110** (2.5)		6010B		1	SVD	08/08/13 3:55	5.22	100	CH30729
Barium	**64.6** (2.5)		6010B		1	SVD	08/08/13 3:55	5.22	100	CH30729
Beryllium	**0.62** (0.10)		6010B		1	SVD	08/08/13 3:55	5.22	100	CH30729
Cadmium	**3.17** (0.50)		6010B		1	SVD	08/08/13 3:55	5.22	100	CH30729
Chromium	**99.3** (1.0)		6010B		1	SVD	08/08/13 3:55	5.22	100	CH30729
Lead	**455** (5.0)		6010B		1	SVD	08/08/13 3:55	5.22	100	CH30729
Mercury	**2.57** (0.221)		7471B		5	KJK	08/07/13 21:29	1.16	40	CH30731
Nickel	**25.9** (2.5)		6010B		1	SVD	08/08/13 3:55	5.22	100	CH30729
Selenium	**8.23** (2.49)		6020A		50	JP	08/09/13 2:44	5.22	100	CH30729
Silver	**2.51** (0.50)		6010B		1	SVD	08/08/13 3:55	5.22	100	CH30729
Thallium	ND (2.49)		6020A		50	JP	08/09/13 2:44	5.22	100	CH30729
Vanadium	**173** (1.0)		6010B		1	SVD	08/08/13 3:55	5.22	100	CH30729
Zinc	**489** (2.5)		6010B		1	SVD	08/08/13 3:55	5.22	100	CH30729

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-105 4-6ft
Date Sampled: 08/01/13 10:06
Percent Solids: 45

ESS Laboratory Work Order: 1308098
ESS Laboratory Sample ID: 1308098-17
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (2.2)		6020A		50	JP	08/09/13 2:50	5.04	100	CH30729
Arsenic	**93.0** (2.2)		6010B		1	SVD	08/08/13 4:00	5.04	100	CH30729
Barium	**63.5** (2.2)		6010B		1	SVD	08/08/13 4:00	5.04	100	CH30729
Beryllium	**0.61** (0.09)		6010B		1	SVD	08/08/13 4:00	5.04	100	CH30729
Cadmium	**2.68** (0.44)		6010B		1	SVD	08/08/13 4:00	5.04	100	CH30729
Chromium	**86.5** (0.9)		6010B		1	SVD	08/08/13 4:00	5.04	100	CH30729
Lead	**452** (4.4)		6010B		1	SVD	08/08/13 4:00	5.04	100	CH30729
Mercury	**2.10** (0.198)		7471B		5	KJK	08/07/13 21:37	1.1	40	CH30731
Nickel	**28.9** (2.2)		6010B		1	SVD	08/08/13 4:00	5.04	100	CH30729
Selenium	**8.29** (2.19)		6020A		50	JP	08/09/13 2:50	5.04	100	CH30729
Silver	**2.28** (0.44)		6010B		1	SVD	08/08/13 4:00	5.04	100	CH30729
Thallium	ND (2.19)		6020A		50	JP	08/09/13 2:50	5.04	100	CH30729
Vanadium	**151** (0.9)		6010B		1	SVD	08/08/13 4:00	5.04	100	CH30729
Zinc	**427** (2.2)		6010B		1	SVD	08/08/13 4:00	5.04	100	CH30729

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-105 4-6ft
Date Sampled: 08/01/13 10:06
Percent Solids: 45
Initial Volume: 20.1
Final Volume: 5
Extraction Method: 3540

ESS Laboratory Work Order: 1308098
ESS Laboratory Sample ID: 1308098-17
Sample Matrix: Solid
Units: mg/kg dry
Analyst: TJ
Prepared: 8/8/13 17:00
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0547)		8082A		1	08/10/13 18:18		CH30812
Aroclor 1221	ND (0.0547)		8082A		1	08/10/13 18:18		CH30812
Aroclor 1232	ND (0.0547)		8082A		1	08/10/13 18:18		CH30812
Aroclor 1242	ND (0.0547)		8082A		1	08/10/13 18:18		CH30812
Aroclor 1248	**2.08** (0.274)		8082A		5	08/12/13 13:00		CH30812
Aroclor 1254	**2.63** (0.274)		8082A		5	08/12/13 13:00		CH30812
Aroclor 1260	**1.77** (0.274)		8082A		5	08/12/13 13:00		CH30812
Aroclor 1262	ND (0.0547)		8082A		1	08/10/13 18:18		CH30812
Aroclor 1268	ND (0.0547)		8082A		1	08/10/13 18:18		CH30812

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*89 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*115 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*56 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*58 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-105 4-6ft
Date Sampled: 08/01/13 10:06
Percent Solids: 45
Initial Volume: 30
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308098
ESS Laboratory Sample ID: 1308098-17
Sample Matrix: Solid
Units: mg/kg dry
Analyst: IBM
Prepared: 8/7/13 16:46

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.366)		8270D		1	08/08/13 18:10	CWH0106	CH30632
1,2-Dichlorobenzene	ND (0.366)		8270D		1	08/08/13 18:10	CWH0106	CH30632
1,3-Dichlorobenzene	ND (0.366)		8270D		1	08/08/13 18:10	CWH0106	CH30632
1,4-Dichlorobenzene	ND (0.366)		8270D		1	08/08/13 18:10	CWH0106	CH30632
2-Methylnaphthalene	ND (0.366)		8270D		1	08/08/13 18:10	CWH0106	CH30632
2-Methylphenol	ND (0.366)		8270D		1	08/08/13 18:10	CWH0106	CH30632
Acenaphthene	ND (0.366)		8270D		1	08/08/13 18:10	CWH0106	CH30632
Acenaphthylene	ND (0.366)		8270D		1	08/08/13 18:10	CWH0106	CH30632
Anthracene	ND (0.366)		8270D		1	08/08/13 18:10	CWH0106	CH30632
Benzo(a)anthracene	**0.567** (0.366)		8270D		1	08/08/13 18:10	CWH0106	CH30632
Benzo(a)pyrene	**0.579** (0.184)		8270D		1	08/08/13 18:10	CWH0106	CH30632
Benzo(b)fluoranthene	**0.706** (0.366)		8270D		1	08/08/13 18:10	CWH0106	CH30632
Benzo(g,h,i)perylene	ND (0.366)		8270D		1	08/08/13 18:10	CWH0106	CH30632
Benzo(k)fluoranthene	ND (0.366)		8270D		1	08/08/13 18:10	CWH0106	CH30632
bis(2-Ethylhexyl)phthalate	**74.0** (3.66)		8270D		10	08/09/13 19:12	CWH0106	CH30632
Butylbenzylphthalate	ND (0.366)		8270D		1	08/08/13 18:10	CWH0106	CH30632
Carbazole	ND (0.366)		8270D		1	08/08/13 18:10	CWH0106	CH30632
Chrysene	**0.656** (0.184)		8270D		1	08/08/13 18:10	CWH0106	CH30632
Dibenzo(a,h)Anthracene	ND (0.184)		8270D		1	08/08/13 18:10	CWH0106	CH30632
Dibenzofuran	ND (0.366)		8270D		1	08/08/13 18:10	CWH0106	CH30632
Diethylphthalate	ND (0.366)		8270D		1	08/08/13 18:10	CWH0106	CH30632
Dimethylphthalate	ND (0.366)		8270D		1	08/08/13 18:10	CWH0106	CH30632
Di-n-butylphthalate	ND (0.366)		8270D		1	08/08/13 18:10	CWH0106	CH30632
Di-n-octylphthalate	ND (0.366)		8270D		1	08/08/13 18:10	CWH0106	CH30632
Fluoranthene	**1.00** (0.366)		8270D		1	08/08/13 18:10	CWH0106	CH30632
Fluorene	ND (0.366)		8270D		1	08/08/13 18:10	CWH0106	CH30632
Hexachlorobenzene	ND (0.366)		8270D		1	08/08/13 18:10	CWH0106	CH30632
Hexachlorocyclopentadiene	ND (1.84)		8270D		1	08/08/13 18:10	CWH0106	CH30632
Indeno(1,2,3-cd)Pyrene	ND (0.366)		8270D		1	08/08/13 18:10	CWH0106	CH30632
Naphthalene	ND (0.366)		8270D		1	08/08/13 18:10	CWH0106	CH30632
Phenanthrene	**0.422** (0.366)		8270D		1	08/08/13 18:10	CWH0106	CH30632

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-105 4-6ft
Date Sampled: 08/01/13 10:06
Percent Solids: 45
Initial Volume: 30
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308098
ESS Laboratory Sample ID: 1308098-17
Sample Matrix: Solid
Units: mg/kg dry
Analyst: IBM
Prepared: 8/7/13 16:46

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Phenol	ND (0.366)		8270D		1	08/08/13 18:10	CWH0106	CH30632
Pyrene	**1.06** (0.366)		8270D		1	08/08/13 18:10	CWH0106	CH30632

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*51 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*74 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*55 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*64 %*		*30-130*
Surrogate: 2-Fluorophenol	*51 %*		*30-130*
Surrogate: Nitrobenzene-d5	*56 %*		*30-130*
Surrogate: Phenol-d6	*58 %*		*30-130*
Surrogate: p-Terphenyl-d14	*72 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-105 4-6ft
Date Sampled: 08/01/13 10:06
Percent Solids: 45
Initial Volume: 15.3
Final Volume: 0.5
Extraction Method: 3541

ESS Laboratory Work Order: 1308098
ESS Laboratory Sample ID: 1308098-17
Sample Matrix: Solid
Units: mg/kg dry
Analyst: IBM
Prepared: 8/8/13 9:05

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.090)		8270D		5	08/10/13 10:37	CWH0128	CH30811
Acenaphthene	ND (0.090)		8270D		5	08/10/13 10:37	CWH0128	CH30811
Acenaphthylene	**0.147** (0.090)		8270D		5	08/10/13 10:37	CWH0128	CH30811
Anthracene	**0.144** (0.090)		8270D		5	08/10/13 10:37	CWH0128	CH30811
Benzo(a)anthracene	**0.291** (0.090)		8270D		5	08/10/13 10:37	CWH0128	CH30811
Benzo(a)pyrene	**0.349** (0.090)		8270D		5	08/10/13 10:37	CWH0128	CH30811
Benzo(b)fluoranthene	**0.478** (0.090)		8270D		5	08/10/13 10:37	CWH0128	CH30811
Benzo(g,h,i)perylene	**0.288** (0.090)		8270D		5	08/10/13 10:37	CWH0128	CH30811
Benzo(k)fluoranthene	**0.144** (0.090)		8270D		5	08/10/13 10:37	CWH0128	CH30811
Chrysene	**0.349** (0.090)		8270D		5	08/10/13 10:37	CWH0128	CH30811
Dibenzo(a,h)Anthracene	ND (0.090)		8270D		5	08/10/13 10:37	CWH0128	CH30811
Fluoranthene	**0.507** (0.090)		8270D		5	08/10/13 10:37	CWH0128	CH30811
Fluorene	ND (0.090)		8270D		5	08/10/13 10:37	CWH0128	CH30811
Indeno(1,2,3-cd)Pyrene	**0.288** (0.090)		8270D		5	08/10/13 10:37	CWH0128	CH30811
Naphthalene	ND (0.090)		8270D		5	08/10/13 10:37	CWH0128	CH30811
Phenanthrene	**0.237** (0.090)		8270D		5	08/10/13 10:37	CWH0128	CH30811
Pyrene	**0.644** (0.090)		8270D		5	08/10/13 10:37	CWH0128	CH30811

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*40 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*46 %*		*30-130*
Surrogate: Nitrobenzene-d5	*42 %*		*30-130*
Surrogate: p-Terphenyl-d14	*67 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-105 4-6ft
Date Sampled: 08/01/13 10:06
Percent Solids: 45

ESS Laboratory Work Order: 1308098
ESS Laboratory Sample ID: 1308098-17
Sample Matrix: Solid

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**40000** (500)		TOC-LK		1	SUB	08/12/13 0:00	mg/kg	CH31340

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-105 4-6ft
Date Sampled: 08/01/13 10:06
Percent Solids: 45
Initial Volume: 14.9
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1308098
ESS Laboratory Sample ID: 1308098-17
Sample Matrix: Solid
Units: mg/kg dry

Prepared: 8/8/13 11:00

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	**169** (55.4)		MADEP-EPH		1	IBM	08/09/13 9:28	CWH0117	CH30813
C19-C36 Aliphatics1	**944** (55.4)		MADEP-EPH		1	IBM	08/09/13 9:28	CWH0117	CH30813
C11-C22 Unadjusted Aromatics1	**947** (55.4)		EPH8270		1	IBM	08/09/13 9:17	CWH0116	CH30813
C11-C22 Aromatics1,2	**947** (55.4)		EPH8270			IBM	08/09/13 9:17		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*65 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*113 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*109 %*		*40-140*
Surrogate: O-Terphenyl	*94 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-105 6-9ft
Date Sampled: 08/01/13 10:06
Percent Solids: 24

ESS Laboratory Work Order: 1308098
ESS Laboratory Sample ID: 1308098-18
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (3.9)		6020A		50	JP	08/09/13 2:56	5.48	100	CH30729
Arsenic	**204** (3.9)		6010B		1	SVD	08/08/13 4:05	5.48	100	CH30729
Barium	**55.7** (3.9)		6010B		1	SVD	08/08/13 4:05	5.48	100	CH30729
Beryllium	**0.56** (0.16)		6010B		1	SVD	08/08/13 4:05	5.48	100	CH30729
Cadmium	**2.45** (0.77)		6010B		1	SVD	08/08/13 4:05	5.48	100	CH30729
Chromium	**134** (1.5)		6010B		1	SVD	08/08/13 4:05	5.48	100	CH30729
Lead	**289** (7.7)		6010B		1	SVD	08/08/13 4:05	5.48	100	CH30729
Mercury	**2.22** (0.319)		7471B		5	KJK	08/07/13 21:39	1.31	40	CH30731
Nickel	**14.5** (3.9)		6010B		1	SVD	08/08/13 4:05	5.48	100	CH30729
Selenium	ND (3.87)		6020A		50	JP	08/09/13 2:56	5.48	100	CH30729
Silver	**1.95** (0.77)		6010B		1	SVD	08/08/13 4:05	5.48	100	CH30729
Thallium	ND (3.87)		6020A		50	JP	08/09/13 2:56	5.48	100	CH30729
Vanadium	**135** (1.5)		6010B		1	SVD	08/08/13 4:05	5.48	100	CH30729
Zinc	**275** (3.9)		6010B		1	SVD	08/08/13 4:05	5.48	100	CH30729

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-106 2-4ft
Date Sampled: 08/01/13 10:41
Percent Solids: 34

ESS Laboratory Work Order: 1308098
ESS Laboratory Sample ID: 1308098-19
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (2.8)		6020A		50	JP	08/09/13 3:02	5.23	100	CH30729
Arsenic	**87.5** (2.8)		6010B		1	SVD	08/08/13 4:11	5.23	100	CH30729
Barium	**64.9** (2.8)		6010B		1	SVD	08/08/13 4:11	5.23	100	CH30729
Beryllium	**0.91** (0.12)		6010B		1	SVD	08/08/13 4:11	5.23	100	CH30729
Cadmium	**4.28** (0.57)		6010B		1	SVD	08/08/13 4:11	5.23	100	CH30729
Chromium	**132** (1.1)		6010B		1	SVD	08/08/13 4:11	5.23	100	CH30729
Lead	**479** (5.7)		6010B		1	SVD	08/08/13 4:11	5.23	100	CH30729
Mercury	**2.18** (0.282)		7471B		5	KJK	08/07/13 21:42	1.04	40	CH30731
Nickel	**33.8** (2.8)		6010B		1	SVD	08/08/13 4:11	5.23	100	CH30729
Selenium	**4.80** (2.85)		6020A		50	JP	08/09/13 3:02	5.23	100	CH30729
Silver	**3.37** (0.57)		6010B		1	SVD	08/08/13 4:11	5.23	100	CH30729
Thallium	ND (2.85)		6020A		50	JP	08/09/13 3:02	5.23	100	CH30729
Vanadium	**206** (1.1)		6010B		1	SVD	08/08/13 4:11	5.23	100	CH30729
Zinc	**607** (2.8)		6010B		1	SVD	08/08/13 4:11	5.23	100	CH30729

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-106 2-4ft
Date Sampled: 08/01/13 10:41
Percent Solids: 34

ESS Laboratory Work Order: 1308098
ESS Laboratory Sample ID: 1308098-19
Sample Matrix: Solid

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**61600** (500)		TOC-LK		1	SUB	08/12/13 0:00	mg/kg	CH31340

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-106 4-6ft
Date Sampled: 08/01/13 10:41
Percent Solids: 25

ESS Laboratory Work Order: 1308098
ESS Laboratory Sample ID: 1308098-20
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (3.7)		6020A		50	JP	08/09/13 3:09	5.34	100	CH30729
Arsenic	**108** (3.7)		6010B		1	SVD	08/08/13 4:16	5.34	100	CH30729
Barium	**40.2** (3.7)		6010B		1	SVD	08/08/13 4:16	5.34	100	CH30729
Beryllium	**0.53** (0.15)		6010B		1	SVD	08/08/13 4:16	5.34	100	CH30729
Cadmium	**1.79** (0.74)		6010B		1	SVD	08/08/13 4:16	5.34	100	CH30729
Chromium	**120** (1.5)		6010B		1	SVD	08/08/13 4:16	5.34	100	CH30729
Lead	**216** (7.4)		6010B		1	SVD	08/08/13 4:16	5.34	100	CH30729
Mercury	**2.13** (0.278)		7471B		5	KJK	08/07/13 21:45	1.4	40	CH30731
Nickel	**16.1** (3.7)		6010B		1	SVD	08/08/13 4:16	5.34	100	CH30729
Selenium	ND (3.70)		6020A		50	JP	08/09/13 3:09	5.34	100	CH30729
Silver	**3.41** (0.74)		6010B		1	SVD	08/08/13 4:16	5.34	100	CH30729
Thallium	ND (3.70)		6020A		50	JP	08/09/13 3:09	5.34	100	CH30729
Vanadium	**231** (1.5)		6010B		1	SVD	08/08/13 4:16	5.34	100	CH30729
Zinc	**251** (3.7)		6010B		1	SVD	08/08/13 4:16	5.34	100	CH30729

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308098

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Total Metals Solid										
Batch CH30729 - 3050B										
Blank										
Antimony	ND	2.5	mg/kg wet							
Arsenic	ND	2.5	mg/kg wet							
Barium	ND	2.5	mg/kg wet							
Beryllium	ND	0.10	mg/kg wet							
Cadmium	ND	0.50	mg/kg wet							
Chromium	ND	1.0	mg/kg wet							
Lead	ND	5.0	mg/kg wet							
Nickel	ND	2.5	mg/kg wet							
Selenium	ND	2.51	mg/kg wet							
Silver	ND	0.50	mg/kg wet							
Thallium	ND	2.51	mg/kg wet							
Vanadium	ND	1.0	mg/kg wet							
Zinc	ND	2.5	mg/kg wet							
LCS										
Antimony	94.4	9.9	mg/kg wet	106.0		89	80-120			
Arsenic	149	9.8	mg/kg wet	182.0		82	80-120			
Barium	122	9.8	mg/kg wet	143.0		85	80-120			
Beryllium	82.5	0.41	mg/kg wet	98.30		84	80-120			
Cadmium	49.5	1.97	mg/kg wet	60.40		82	80-120			
Chromium	107	3.9	mg/kg wet	125.0		85	80-120			
Lead	117	19.6	mg/kg wet	136.0		86	80-120			
Nickel	109	9.8	mg/kg wet	128.0		86	80-120			
Selenium	88.2	9.85	mg/kg wet	85.90		103	80-120			
Silver	53.0	1.97	mg/kg wet	61.30		86	80-120			
Thallium	135	9.85	mg/kg wet	144.0		94	80-120			
Vanadium	89.9	3.9	mg/kg wet	104.0		86	80-120			
Zinc	165	9.8	mg/kg wet	204.0		81	80-120			
LCS Dup										
Antimony	86.5	9.5	mg/kg wet	106.0		82	80-120	9	20	
Arsenic	141	9.4	mg/kg wet	182.0		77	80-120	6	20	B-
Barium	113	9.4	mg/kg wet	143.0		79	80-120	8	20	B-
Beryllium	79.1	0.40	mg/kg wet	98.30		80	80-120	4	20	
Cadmium	46.5	1.90	mg/kg wet	60.40		77	80-120	6	20	B-
Chromium	101	3.8	mg/kg wet	125.0		81	80-120	6	20	
Lead	114	18.9	mg/kg wet	136.0		83	80-120	3	20	
Nickel	104	9.4	mg/kg wet	128.0		81	80-120	5	20	
Selenium	79.8	9.48	mg/kg wet	85.90		93	80-120	10	20	
Silver	50.5	1.90	mg/kg wet	61.30		82	80-120	5	20	
Thallium	131	9.48	mg/kg wet	144.0		91	80-120	3	20	
Vanadium	85.0	3.8	mg/kg wet	104.0		82	80-120	6	20	
Zinc	154	9.4	mg/kg wet	204.0		76	80-120	7	20	B-
Batch CH30731 - 7471A										
Blank										

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308098

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Total Metals Solid										
Batch CH30731 - 7471A										
Mercury	ND	0.033	mg/kg wet							
LCS										
Mercury	9.67	0.798	mg/kg wet	9.250		105	80-120			
LCS Dup										
Mercury	9.47	0.825	mg/kg wet	9.250		102	80-120	2	20	
8082A Polychlorinated Biphenyls (PCB)										
Batch CH30812 - 3540										
Blank										
Aroclor 1016	ND	0.0250	mg/kg wet							
Aroclor 1016 (1)	ND	0.0250	mg/kg wet							
Aroclor 1016 (1) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1016 (2)	ND	0.0250	mg/kg wet							
Aroclor 1016 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1016 (3)	ND	0.0250	mg/kg wet							
Aroclor 1016 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1016 (4)	ND	0.0250	mg/kg wet							
Aroclor 1016 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1016 (5)	ND	0.0250	mg/kg wet							
Aroclor 1016 (5) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1221	ND	0.0250	mg/kg wet							
Aroclor 1221 (1)	ND	0.0250	mg/kg wet							
Aroclor 1221 (1) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1221 (2)	ND	0.0250	mg/kg wet							
Aroclor 1221 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1221 (3)	ND	0.0250	mg/kg wet							
Aroclor 1221 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1221 (4)	ND	0.0250	mg/kg wet							
Aroclor 1221 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1221 (5)	ND	0.0250	mg/kg wet							
Aroclor 1221 (5) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1232	ND	0.0250	mg/kg wet							
Aroclor 1232 (1)	ND	0.0250	mg/kg wet							
Aroclor 1232 (1) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1232 (2)	ND	0.0250	mg/kg wet							
Aroclor 1232 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1232 (3)	ND	0.0250	mg/kg wet							
Aroclor 1232 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1232 (4)	ND	0.0250	mg/kg wet							
Aroclor 1232 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1232 (5)	ND	0.0250	mg/kg wet							
Aroclor 1232 (5) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1242	ND	0.0250	mg/kg wet							
Aroclor 1242 (1)	ND	0.0250	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308098

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch CH30812 - 3540										
Aroclor 1242 (1) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1242 (2)	ND	0.0250	mg/kg wet							
Aroclor 1242 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1242 (3)	ND	0.0250	mg/kg wet							
Aroclor 1242 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1242 (4)	ND	0.0250	mg/kg wet							
Aroclor 1242 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1242 (5)	ND	0.0250	mg/kg wet							
Aroclor 1242 (5) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1248	ND	0.0250	mg/kg wet							
Aroclor 1248 (1)	ND	0.0250	mg/kg wet							
Aroclor 1248 (1) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1248 (2)	ND	0.0250	mg/kg wet							
Aroclor 1248 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1248 (3)	ND	0.0250	mg/kg wet							
Aroclor 1248 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1248 (4)	ND	0.0250	mg/kg wet							
Aroclor 1248 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1248 (5)	ND	0.0250	mg/kg wet							
Aroclor 1248 (5) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1254	ND	0.0250	mg/kg wet							
Aroclor 1254 (1)	ND	0.0250	mg/kg wet							
Aroclor 1254 (1) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1254 (2)	ND	0.0250	mg/kg wet							
Aroclor 1254 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1254 (3)	ND	0.0250	mg/kg wet							
Aroclor 1254 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1254 (4)	ND	0.0250	mg/kg wet							
Aroclor 1254 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1254 (5)	ND	0.0250	mg/kg wet							
Aroclor 1254 (5) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1260	ND	0.0250	mg/kg wet							
Aroclor 1260 (1)	ND	0.0250	mg/kg wet							
Aroclor 1260 (1) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1260 (2)	ND	0.0250	mg/kg wet							
Aroclor 1260 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1260 (3)	ND	0.0250	mg/kg wet							
Aroclor 1260 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1260 (4)	ND	0.0250	mg/kg wet							
Aroclor 1260 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1260 (5)	ND	0.0250	mg/kg wet							
Aroclor 1260 (5) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1262	ND	0.0250	mg/kg wet							
Aroclor 1262 (1)	ND	0.0250	mg/kg wet							
Aroclor 1262 (1) [2C]	ND	0.0250	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308098

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch CH30812 - 3540										
Aroclor 1262 (2)	ND	0.0250	mg/kg wet							
Aroclor 1262 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1262 (3)	ND	0.0250	mg/kg wet							
Aroclor 1262 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1262 (4)	ND	0.0250	mg/kg wet							
Aroclor 1262 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1262 (5)	ND	0.0250	mg/kg wet							
Aroclor 1262 (5) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1268	ND	0.0250	mg/kg wet							
Aroclor 1268 (1)	ND	0.0250	mg/kg wet							
Aroclor 1268 (1) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1268 (2)	ND	0.0250	mg/kg wet							
Aroclor 1268 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1268 (3)	ND	0.0250	mg/kg wet							
Aroclor 1268 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1268 (4)	ND	0.0250	mg/kg wet							
Aroclor 1268 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1268 (5)	ND	0.0250	mg/kg wet							
Aroclor 1268 (5) [2C]	ND	0.0250	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0130*		mg/kg wet	*0.01250*		*104*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.00992*		mg/kg wet	*0.01250*		*79*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0104*		mg/kg wet	*0.01250*		*83*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.00936*		mg/kg wet	*0.01250*		*75*	*30-150*			
LCS										
Aroclor 1016	0.260	0.0250	mg/kg wet	0.2500		104	40-140			
Aroclor 1260	0.263	0.0250	mg/kg wet	0.2500		105	40-140			
Surrogate: Decachlorobiphenyl	*0.0135*		mg/kg wet	*0.01250*		*108*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0104*		mg/kg wet	*0.01250*		*83*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0112*		mg/kg wet	*0.01250*		*90*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.00989*		mg/kg wet	*0.01250*		*79*	*30-150*			
LCS Dup										
Aroclor 1016	0.261	0.0250	mg/kg wet	0.2500		104	40-140	0.5	30	
Aroclor 1260	0.268	0.0250	mg/kg wet	0.2500		107	40-140	2	30	
Surrogate: Decachlorobiphenyl	*0.0139*		mg/kg wet	*0.01250*		*111*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0106*		mg/kg wet	*0.01250*		*85*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0115*		mg/kg wet	*0.01250*		*92*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.00996*		mg/kg wet	*0.01250*		*80*	*30-150*			
8270D Semi-Volatile Organic Compounds										
Batch CH30632 - 3546										
Blank										
1,2,4-Trichlorobenzene	ND	0.333	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308098

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch CH30632 - 3546										
1,2-Dichlorobenzene	ND	0.333	mg/kg wet							
1,3-Dichlorobenzene	ND	0.333	mg/kg wet							
1,4-Dichlorobenzene	ND	0.333	mg/kg wet							
2-Methylnaphthalene	ND	0.333	mg/kg wet							
2-Methylphenol	ND	0.333	mg/kg wet							
Acenaphthene	ND	0.333	mg/kg wet							
Acenaphthylene	ND	0.333	mg/kg wet							
Anthracene	ND	0.333	mg/kg wet							
Benzo(a)anthracene	ND	0.333	mg/kg wet							
Benzo(a)pyrene	ND	0.167	mg/kg wet							
Benzo(b)fluoranthene	ND	0.333	mg/kg wet							
Benzo(g,h,i)perylene	ND	0.333	mg/kg wet							
Benzo(k)fluoranthene	ND	0.333	mg/kg wet							
bis(2-Ethylhexyl)phthalate	ND	0.333	mg/kg wet							
Butylbenzylphthalate	ND	0.333	mg/kg wet							
Carbazole	ND	0.333	mg/kg wet							
Chrysene	ND	0.167	mg/kg wet							
Dibenzo(a,h)Anthracene	ND	0.167	mg/kg wet							
Dibenzofuran	ND	0.333	mg/kg wet							
Diethylphthalate	ND	0.333	mg/kg wet							
Dimethylphthalate	ND	0.333	mg/kg wet							
Di-n-butylphthalate	ND	0.333	mg/kg wet							
Di-n-octylphthalate	ND	0.333	mg/kg wet							
Fluoranthene	ND	0.333	mg/kg wet							
Fluorene	ND	0.333	mg/kg wet							
Hexachlorobenzene	ND	0.333	mg/kg wet							
Hexachlorocyclopentadiene	ND	1.67	mg/kg wet							
Indeno(1,2,3-cd)Pyrene	ND	0.333	mg/kg wet							
Naphthalene	ND	0.333	mg/kg wet							
Phenanthrene	ND	0.333	mg/kg wet							
Phenol	ND	0.333	mg/kg wet							
Pyrene	ND	0.333	mg/kg wet							
Surrogate: 1,2-Dichlorobenzene-d4	*2.99*		mg/kg wet	*3.333*		*90*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*4.10*		mg/kg wet	*5.000*		*82*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*4.69*		mg/kg wet	*5.000*		*94*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*3.01*		mg/kg wet	*3.333*		*90*	*30-130*			
Surrogate: 2-Fluorophenol	*4.45*		mg/kg wet	*5.000*		*89*	*30-130*			
Surrogate: Nitrobenzene-d5	*3.01*		mg/kg wet	*3.333*		*90*	*30-130*			
Surrogate: Phenol-d6	*4.71*		mg/kg wet	*5.000*		*94*	*30-130*			
Surrogate: p-Terphenyl-d14	*3.63*		mg/kg wet	*3.333*		*109*	*30-130*			
LCS										
1,2,4-Trichlorobenzene	2.58	0.333	mg/kg wet	3.333		78	40-140			
1,2-Dichlorobenzene	2.58	0.333	mg/kg wet	3.333		77	40-140			
1,3-Dichlorobenzene	2.52	0.333	mg/kg wet	3.333		76	40-140			
1,4-Dichlorobenzene	2.59	0.333	mg/kg wet	3.333		78	40-140			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch CH30632 - 3546										
2-Methylnaphthalene	2.75	0.333	mg/kg wet	3.333		83	40-140			
2-Methylphenol	2.64	0.333	mg/kg wet	3.333		79	30-130			
Acenaphthene	2.75	0.333	mg/kg wet	3.333		82	40-140			
Acenaphthylene	2.62	0.333	mg/kg wet	3.333		78	40-140			
Anthracene	2.95	0.333	mg/kg wet	3.333		89	40-140			
Benzo(a)anthracene	2.73	0.333	mg/kg wet	3.333		82	40-140			
Benzo(a)pyrene	2.62	0.167	mg/kg wet	3.333		79	40-140			
Benzo(b)fluoranthene	2.98	0.333	mg/kg wet	3.333		89	40-140			
Benzo(g,h,i)perylene	2.80	0.333	mg/kg wet	3.333		84	40-140			
Benzo(k)fluoranthene	3.10	0.333	mg/kg wet	3.333		93	40-140			
bis(2-Ethylhexyl)phthalate	3.25	0.333	mg/kg wet	3.333		98	40-140			
Butylbenzylphthalate	3.16	0.333	mg/kg wet	3.333		95	40-140			
Carbazole	2.99	0.333	mg/kg wet	3.333		90	40-140			
Chrysene	2.99	0.167	mg/kg wet	3.333		90	40-140			
Dibenzo(a,h)Anthracene	3.18	0.167	mg/kg wet	3.333		95	40-140			
Dibenzofuran	2.72	0.333	mg/kg wet	3.333		82	40-140			
Diethylphthalate	2.89	0.333	mg/kg wet	3.333		87	40-140			
Dimethylphthalate	2.77	0.333	mg/kg wet	3.333		83	40-140			
Di-n-butylphthalate	3.17	0.333	mg/kg wet	3.333		95	40-140			
Di-n-octylphthalate	3.13	0.333	mg/kg wet	3.333		94	40-140			
Fluoranthene	2.96	0.333	mg/kg wet	3.333		89	40-140			
Fluorene	2.84	0.333	mg/kg wet	3.333		85	40-140			
Hexachlorobenzene	2.62	0.333	mg/kg wet	3.333		79	40-140			
Hexachlorocyclopentadiene	1.90	1.67	mg/kg wet	3.333		57	40-140			
Indeno(1,2,3-cd)Pyrene	2.74	0.333	mg/kg wet	3.333		82	40-140			
Naphthalene	2.78	0.333	mg/kg wet	3.333		83	40-140			
Phenanthrene	2.94	0.333	mg/kg wet	3.333		88	40-140			
Phenol	2.60	0.333	mg/kg wet	3.333		78	30-130			
Pyrene	3.01	0.333	mg/kg wet	3.333		90	40-140			
Surrogate: 1,2-Dichlorobenzene-d4	*2.99*		mg/kg wet	*3.333*		*90*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*4.59*		mg/kg wet	*5.000*		*92*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*4.70*		mg/kg wet	*5.000*		*94*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*3.13*		mg/kg wet	*3.333*		*94*	*30-130*			
Surrogate: 2-Fluorophenol	*4.53*		mg/kg wet	*5.000*		*91*	*30-130*			
Surrogate: Nitrobenzene-d5	*3.30*		mg/kg wet	*3.333*		*99*	*30-130*			
Surrogate: Phenol-d6	*4.65*		mg/kg wet	*5.000*		*93*	*30-130*			
Surrogate: p-Terphenyl-d14	*3.37*		mg/kg wet	*3.333*		*101*	*30-130*			
LCS Dup										
1,2,4-Trichlorobenzene	2.57	0.333	mg/kg wet	3.333		77	40-140	0.7	30	
1,2-Dichlorobenzene	2.57	0.333	mg/kg wet	3.333		77	40-140	0.06	30	
1,3-Dichlorobenzene	2.52	0.333	mg/kg wet	3.333		76	40-140	0.1	30	
1,4-Dichlorobenzene	2.58	0.333	mg/kg wet	3.333		77	40-140	0.4	30	
2-Methylnaphthalene	2.78	0.333	mg/kg wet	3.333		84	40-140	1	30	
2-Methylphenol	2.75	0.333	mg/kg wet	3.333		83	30-130	4	30	
Acenaphthene	2.76	0.333	mg/kg wet	3.333		83	40-140	0.7	30	

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Client Name: GZA GeoEnvironmental, Inc.
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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch CH30632 - 3546										
Acenaphthylene	2.65	0.333	mg/kg wet	3.333		79	40-140	1	30	
Anthracene	2.96	0.333	mg/kg wet	3.333		89	40-140	0.2	30	
Benzo(a)anthracene	2.87	0.333	mg/kg wet	3.333		86	40-140	5	30	
Benzo(a)pyrene	2.71	0.167	mg/kg wet	3.333		81	40-140	3	30	
Benzo(b)fluoranthene	2.97	0.333	mg/kg wet	3.333		89	40-140	0.5	30	
Benzo(g,h,i)perylene	2.81	0.333	mg/kg wet	3.333		84	40-140	0.3	30	
Benzo(k)fluoranthene	3.05	0.333	mg/kg wet	3.333		92	40-140	1	30	
bis(2-Ethylhexyl)phthalate	3.19	0.333	mg/kg wet	3.333		96	40-140	2	30	
Butylbenzylphthalate	3.14	0.333	mg/kg wet	3.333		94	40-140	0.7	30	
Carbazole	2.97	0.333	mg/kg wet	3.333		89	40-140	0.6	30	
Chrysene	2.82	0.167	mg/kg wet	3.333		85	40-140	6	30	
Dibenzo(a,h)Anthracene	3.28	0.167	mg/kg wet	3.333		98	40-140	3	30	
Dibenzofuran	2.74	0.333	mg/kg wet	3.333		82	40-140	0.7	30	
Diethylphthalate	2.86	0.333	mg/kg wet	3.333		86	40-140	0.8	30	
Dimethylphthalate	2.77	0.333	mg/kg wet	3.333		83	40-140	0.1	30	
Di-n-butylphthalate	3.11	0.333	mg/kg wet	3.333		93	40-140	2	30	
Di-n-octylphthalate	3.02	0.333	mg/kg wet	3.333		91	40-140	4	30	
Fluoranthene	2.93	0.333	mg/kg wet	3.333		88	40-140	1	30	
Fluorene	2.85	0.333	mg/kg wet	3.333		86	40-140	0.3	30	
Hexachlorobenzene	2.72	0.333	mg/kg wet	3.333		82	40-140	4	30	
Hexachlorocyclopentadiene	1.93	1.67	mg/kg wet	3.333		58	40-140	2	30	
Indeno(1,2,3-cd)Pyrene	2.67	0.333	mg/kg wet	3.333		80	40-140	2	30	
Naphthalene	2.77	0.333	mg/kg wet	3.333		83	40-140	0.4	30	
Phenanthrene	2.97	0.333	mg/kg wet	3.333		89	40-140	0.9	30	
Phenol	2.68	0.333	mg/kg wet	3.333		80	30-130	3	30	
Pyrene	3.05	0.333	mg/kg wet	3.333		91	40-140	1	30	
Surrogate: 1,2-Dichlorobenzene-d4	*2.93*		mg/kg wet	*3.333*		*88*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*4.59*		mg/kg wet	*5.000*		*92*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*4.69*		mg/kg wet	*5.000*		*94*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*3.06*		mg/kg wet	*3.333*		*92*	*30-130*			
Surrogate: 2-Fluorophenol	*4.46*		mg/kg wet	*5.000*		*89*	*30-130*			
Surrogate: Nitrobenzene-d5	*3.16*		mg/kg wet	*3.333*		*95*	*30-130*			
Surrogate: Phenol-d6	*4.68*		mg/kg wet	*5.000*		*94*	*30-130*			
Surrogate: p-Terphenyl-d14	*3.07*		mg/kg wet	*3.333*		*92*	*30-130*			
8270D(SIM) Polynuclear Aromatic Hydrocarbons										
Batch CH30811 - 3541										
Blank										
2-Methylnaphthalene	ND	0.017	mg/kg wet							
Acenaphthene	ND	0.017	mg/kg wet							
Acenaphthylene	ND	0.017	mg/kg wet							
Anthracene	ND	0.017	mg/kg wet							
Benzo(a)anthracene	ND	0.017	mg/kg wet							
Benzo(a)pyrene	ND	0.017	mg/kg wet							
Benzo(b)fluoranthene	ND	0.017	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D(SIM) Polynuclear Aromatic Hydrocarbons										
Batch CH30811 - 3541										
Benzo(g,h,i)perylene	ND	0.017	mg/kg wet							
Benzo(k)fluoranthene	ND	0.017	mg/kg wet							
Chrysene	ND	0.017	mg/kg wet							
Dibenzo(a,h)Anthracene	ND	0.017	mg/kg wet							
Fluoranthene	ND	0.017	mg/kg wet							
Fluorene	ND	0.017	mg/kg wet							
Indeno(1,2,3-cd)Pyrene	ND	0.017	mg/kg wet							
Naphthalene	ND	0.017	mg/kg wet							
Phenanthrene	ND	0.017	mg/kg wet							
Pyrene	ND	0.017	mg/kg wet							
Surrogate: 1,2-Dichlorobenzene-d4	*0.119*		mg/kg wet	*0.3333*		*36*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*0.125*		mg/kg wet	*0.3333*		*38*	*30-130*			
Surrogate: Nitrobenzene-d5	*0.128*		mg/kg wet	*0.3333*		*38*	*30-130*			
Surrogate: p-Terphenyl-d14	*0.183*		mg/kg wet	*0.3333*		*55*	*30-130*			
LCS										
2-Methylnaphthalene	0.252	0.017	mg/kg wet	0.2667		95	40-140			
Acenaphthene	0.233	0.017	mg/kg wet	0.2667		87	40-140			
Acenaphthylene	0.211	0.017	mg/kg wet	0.2667		79	40-140			
Anthracene	0.254	0.017	mg/kg wet	0.2667		95	40-140			
Benzo(a)anthracene	0.263	0.017	mg/kg wet	0.2667		98	40-140			
Benzo(a)pyrene	0.242	0.017	mg/kg wet	0.2667		91	40-140			
Benzo(b)fluoranthene	0.243	0.017	mg/kg wet	0.2667		91	40-140			
Benzo(g,h,i)perylene	0.281	0.017	mg/kg wet	0.2667		105	40-140			
Benzo(k)fluoranthene	0.243	0.017	mg/kg wet	0.2667		91	40-140			
Chrysene	0.259	0.017	mg/kg wet	0.2667		97	40-140			
Dibenzo(a,h)Anthracene	0.310	0.017	mg/kg wet	0.2667		116	40-140			
Fluoranthene	0.234	0.017	mg/kg wet	0.2667		88	40-140			
Fluorene	0.243	0.017	mg/kg wet	0.2667		91	40-140			
Indeno(1,2,3-cd)Pyrene	0.290	0.017	mg/kg wet	0.2667		109	40-140			
Naphthalene	0.236	0.017	mg/kg wet	0.2667		88	40-140			
Phenanthrene	0.251	0.017	mg/kg wet	0.2667		94	40-140			
Pyrene	0.260	0.017	mg/kg wet	0.2667		97	40-140			
Surrogate: 1,2-Dichlorobenzene-d4	*0.240*		mg/kg wet	*0.3333*		*72*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*0.233*		mg/kg wet	*0.3333*		*70*	*30-130*			
Surrogate: Nitrobenzene-d5	*0.246*		mg/kg wet	*0.3333*		*74*	*30-130*			
Surrogate: p-Terphenyl-d14	*0.322*		mg/kg wet	*0.3333*		*97*	*30-130*			
LCS Dup										
2-Methylnaphthalene	0.206	0.017	mg/kg wet	0.2667		77	40-140	20	30	
Acenaphthene	0.199	0.017	mg/kg wet	0.2667		74	40-140	16	30	
Acenaphthylene	0.177	0.017	mg/kg wet	0.2667		66	40-140	17	30	
Anthracene	0.217	0.017	mg/kg wet	0.2667		81	40-140	16	30	
Benzo(a)anthracene	0.244	0.017	mg/kg wet	0.2667		91	40-140	7	30	
Benzo(a)pyrene	0.226	0.017	mg/kg wet	0.2667		85	40-140	7	30	
Benzo(b)fluoranthene	0.238	0.017	mg/kg wet	0.2667		89	40-140	2	30	
Benzo(g,h,i)perylene	0.260	0.017	mg/kg wet	0.2667		97	40-140	8	30	

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Client Name: GZA GeoEnvironmental, Inc.
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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D(SIM) Polynuclear Aromatic Hydrocarbons										
Batch CH30811 - 3541										
Benzo(k)fluoranthene	0.229	0.017	mg/kg wet	0.2667		86	40-140	6	30	
Chrysene	0.238	0.017	mg/kg wet	0.2667		89	40-140	8	30	
Dibenzo(a,h)Anthracene	0.286	0.017	mg/kg wet	0.2667		107	40-140	8	30	
Fluoranthene	0.211	0.017	mg/kg wet	0.2667		79	40-140	10	30	
Fluorene	0.207	0.017	mg/kg wet	0.2667		78	40-140	16	30	
Indeno(1,2,3-cd)Pyrene	0.272	0.017	mg/kg wet	0.2667		102	40-140	7	30	
Naphthalene	0.190	0.017	mg/kg wet	0.2667		71	40-140	21	30	
Phenanthrene	0.212	0.017	mg/kg wet	0.2667		79	40-140	17	30	
Pyrene	0.235	0.017	mg/kg wet	0.2667		88	40-140	10	30	
Surrogate: 1,2-Dichlorobenzene-d4	*0.181*		mg/kg wet	*0.3333*		*54*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*0.186*		mg/kg wet	*0.3333*		*56*	*30-130*			
Surrogate: Nitrobenzene-d5	*0.189*		mg/kg wet	*0.3333*		*57*	*30-130*			
Surrogate: p-Terphenyl-d14	*0.283*		mg/kg wet	*0.3333*		*85*	*30-130*			
MADEP-EPH Extractable Petroleum Hydrocarbons										
Batch CH30813 - 3546										
Blank										
C19-C36 Aliphatics1	ND	15.0	mg/kg wet							
C9-C18 Aliphatics1	ND	15.0	mg/kg wet							
Decane (C10)	ND	0.5	mg/kg wet							
Docosane (C22)	ND	0.5	mg/kg wet							
Dodecane (C12)	ND	0.5	mg/kg wet							
Eicosane (C20)	ND	0.5	mg/kg wet							
Hexacosane (C26)	ND	0.5	mg/kg wet							
Hexadecane (C16)	ND	0.5	mg/kg wet							
Hexatriacontane (C36)	ND	0.5	mg/kg wet							
Nonadecane (C19)	ND	0.5	mg/kg wet							
Nonane (C9)	ND	0.5	mg/kg wet							
Octacosane (C28)	ND	0.5	mg/kg wet							
Octadecane (C18)	ND	0.5	mg/kg wet							
Tetracosane (C24)	ND	0.5	mg/kg wet							
Tetradecane (C14)	ND	0.5	mg/kg wet							
Triacontane (C30)	ND	0.5	mg/kg wet							
Surrogate: 1-Chlorooctadecane	*1.52*		mg/kg wet	*2.000*		*76*	*40-140*			
Blank										
2-Methylnaphthalene	ND	0.20	mg/kg wet							
Acenaphthene	ND	0.40	mg/kg wet							
Acenaphthylene	ND	0.20	mg/kg wet							
Anthracene	ND	0.40	mg/kg wet							
Benzo(a)anthracene	ND	0.40	mg/kg wet							
Benzo(a)pyrene	ND	0.40	mg/kg wet							
Benzo(b)fluoranthene	ND	0.40	mg/kg wet							
Benzo(g,h,i)perylene	ND	0.40	mg/kg wet							
Benzo(k)fluoranthene	ND	0.40	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
MADEP-EPH Extractable Petroleum Hydrocarbons										
Batch CH30813 - 3546										
C11-C22 Unadjusted Aromatics1	ND	15.0	mg/kg wet							
Chrysene	ND	0.40	mg/kg wet							
Dibenzo(a,h)Anthracene	ND	0.20	mg/kg wet							
Fluoranthene	ND	0.40	mg/kg wet							
Fluorene	ND	0.40	mg/kg wet							
Indeno(1,2,3-cd)Pyrene	ND	0.40	mg/kg wet							
Naphthalene	ND	0.40	mg/kg wet							
Phenanthrene	ND	0.40	mg/kg wet							
Pyrene	ND	0.40	mg/kg wet							
Surrogate: 2-Bromonaphthalene	*2.15*		mg/kg wet	*2.000*		*107*	*40-140*			
Surrogate: 2-Fluorobiphenyl	*2.07*		mg/kg wet	*2.000*		*104*	*40-140*			
Surrogate: O-Terphenyl	*1.75*		mg/kg wet	*2.000*		*88*	*40-140*			
LCS										
C19-C36 Aliphatics1	15.0	15.0	mg/kg wet	16.00		94	40-140			
C9-C18 Aliphatics1	9.2	15.0	mg/kg wet	12.00		76	40-140			
Decane (C10)	1.1	0.5	mg/kg wet	2.000		54	40-140			
Docosane (C22)	1.6	0.5	mg/kg wet	2.000		81	40-140			
Dodecane (C12)	1.2	0.5	mg/kg wet	2.000		59	40-140			
Eicosane (C20)	1.6	0.5	mg/kg wet	2.000		78	40-140			
Hexacosane (C26)	1.6	0.5	mg/kg wet	2.000		80	40-140			
Hexadecane (C16)	1.5	0.5	mg/kg wet	2.000		73	40-140			
Hexatriacontane (C36)	1.6	0.5	mg/kg wet	2.000		82	40-140			
Nonadecane (C19)	1.6	0.5	mg/kg wet	2.000		78	40-140			
Nonane (C9)	0.8	0.5	mg/kg wet	2.000		40	30-140			
Octacosane (C28)	1.6	0.5	mg/kg wet	2.000		80	40-140			
Octadecane (C18)	1.5	0.5	mg/kg wet	2.000		77	40-140			
Tetracosane (C24)	1.6	0.5	mg/kg wet	2.000		79	40-140			
Tetradecane (C14)	1.3	0.5	mg/kg wet	2.000		67	40-140			
Triacontane (C30)	1.6	0.5	mg/kg wet	2.000		81	40-140			
Surrogate: 1-Chlorooctadecane	*1.63*		mg/kg wet	*2.000*		*81*	*40-140*			
LCS										
2-Methylnaphthalene	1.30	0.20	mg/kg wet	2.000		65	40-140			
Acenaphthene	1.33	0.40	mg/kg wet	2.000		66	40-140			
Acenaphthylene	1.33	0.20	mg/kg wet	2.000		67	40-140			
Anthracene	1.35	0.40	mg/kg wet	2.000		68	40-140			
Benzo(a)anthracene	1.37	0.40	mg/kg wet	2.000		68	40-140			
Benzo(a)pyrene	1.68	0.40	mg/kg wet	2.000		84	40-140			
Benzo(b)fluoranthene	1.40	0.40	mg/kg wet	2.000		70	40-140			
Benzo(g,h,i)perylene	1.45	0.40	mg/kg wet	2.000		73	40-140			
Benzo(k)fluoranthene	1.59	0.40	mg/kg wet	2.000		79	40-140			
C11-C22 Unadjusted Aromatics1	27.6	15.0	mg/kg wet	34.00		81	40-140			
Chrysene	1.46	0.40	mg/kg wet	2.000		73	40-140			
Dibenzo(a,h)Anthracene	1.58	0.20	mg/kg wet	2.000		79	40-140			
Fluoranthene	1.43	0.40	mg/kg wet	2.000		71	40-140			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308098

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
MADEP-EPH Extractable Petroleum Hydrocarbons										
Batch CH30813 - 3546										
Fluorene	1.39	0.40	mg/kg wet	2.000		69	40-140			
Indeno(1,2,3-cd)Pyrene	1.43	0.40	mg/kg wet	2.000		71	40-140			
Naphthalene	1.19	0.40	mg/kg wet	2.000		59	40-140			
Phenanthrene	1.40	0.40	mg/kg wet	2.000		70	40-140			
Pyrene	1.44	0.40	mg/kg wet	2.000		72	40-140			
Surrogate: 2-Bromonaphthalene	*1.94*		mg/kg wet	*2.000*		*97*	*40-140*			
Surrogate: 2-Fluorobiphenyl	*2.09*		mg/kg wet	*2.000*		*105*	*40-140*			
Surrogate: O-Terphenyl	*1.72*		mg/kg wet	*2.000*		*86*	*40-140*			
LCS										
2-Methylnaphthalene Breakthrough	0.0		%				0-5			
Naphthalene Breakthrough	0.0		%				0-5			
LCS Dup										
C19-C36 Aliphatics1	14.9	15.0	mg/kg wet	16.00		93	40-140	0.6	25	
C9-C18 Aliphatics1	8.6	15.0	mg/kg wet	12.00		72	40-140	6	25	
Decane (C10)	1.0	0.5	mg/kg wet	2.000		51	40-140	6	25	
Docosane (C22)	1.6	0.5	mg/kg wet	2.000		80	40-140	0.7	25	
Dodecane (C12)	1.1	0.5	mg/kg wet	2.000		57	40-140	4	25	
Eicosane (C20)	1.5	0.5	mg/kg wet	2.000		76	40-140	2	25	
Hexacosane (C26)	1.6	0.5	mg/kg wet	2.000		80	40-140	0.2	25	
Hexadecane (C16)	1.4	0.5	mg/kg wet	2.000		68	40-140	7	25	
Hexatriacontane (C36)	1.6	0.5	mg/kg wet	2.000		81	40-140	0.6	25	
Nonadecane (C19)	1.5	0.5	mg/kg wet	2.000		75	40-140	4	25	
Nonane (C9)	0.8	0.5	mg/kg wet	2.000		40	30-140	2	25	
Octacosane (C28)	1.6	0.5	mg/kg wet	2.000		81	40-140	0.2	25	
Octadecane (C18)	1.4	0.5	mg/kg wet	2.000		72	40-140	6	25	
Tetracosane (C24)	1.6	0.5	mg/kg wet	2.000		80	40-140	0.2	25	
Tetradecane (C14)	1.3	0.5	mg/kg wet	2.000		63	40-140	6	25	
Triacontane (C30)	1.6	0.5	mg/kg wet	2.000		80	40-140	0.3	25	
Surrogate: 1-Chlorooctadecane	*1.58*		mg/kg wet	*2.000*		*79*	*40-140*			
LCS Dup										
2-Methylnaphthalene	1.25	0.20	mg/kg wet	2.000		62	40-140	4	20	
Acenaphthene	1.26	0.40	mg/kg wet	2.000		63	40-140	6	20	
Acenaphthylene	1.30	0.20	mg/kg wet	2.000		65	40-140	3	20	
Anthracene	1.36	0.40	mg/kg wet	2.000		68	40-140	0.4	20	
Benzo(a)anthracene	1.43	0.40	mg/kg wet	2.000		71	40-140	4	20	
Benzo(a)pyrene	1.73	0.40	mg/kg wet	2.000		86	40-140	3	20	
Benzo(b)fluoranthene	1.49	0.40	mg/kg wet	2.000		74	40-140	6	20	
Benzo(g,h,i)perylene	1.50	0.40	mg/kg wet	2.000		75	40-140	3	20	
Benzo(k)fluoranthene	1.63	0.40	mg/kg wet	2.000		82	40-140	3	20	
C11-C22 Unadjusted Aromatics1	27.4	15.0	mg/kg wet	34.00		81	40-140	0.7	25	
Chrysene	1.51	0.40	mg/kg wet	2.000		76	40-140	4	20	
Dibenzo(a,h)Anthracene	1.61	0.20	mg/kg wet	2.000		80	40-140	2	20	
Fluoranthene	1.46	0.40	mg/kg wet	2.000		73	40-140	2	20	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308098

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
MADEP-EPH Extractable Petroleum Hydrocarbons										
Batch CH30813 - 3546										
Fluorene	1.38	0.40	mg/kg wet	2.000		69	40-140	0.7	20	
Indeno(1,2,3-cd)Pyrene	1.48	0.40	mg/kg wet	2.000		74	40-140	3	20	
Naphthalene	1.18	0.40	mg/kg wet	2.000		59	40-140	0.7	20	
Phenanthrene	1.35	0.40	mg/kg wet	2.000		67	40-140	4	20	
Pyrene	1.45	0.40	mg/kg wet	2.000		72	40-140	0.7	20	
Surrogate: 2-Bromonaphthalene	*1.86*		mg/kg wet	*2.000*		*93*	*40-140*			
Surrogate: 2-Fluorobiphenyl	*2.00*		mg/kg wet	*2.000*		*100*	*40-140*			
Surrogate: O-Terphenyl	*1.69*		mg/kg wet	*2.000*		*85*	*40-140*			
LCS Dup										
2-Methylnaphthalene Breakthrough	0.0		%				0-5		200	
Naphthalene Breakthrough	0.0		%				0-5		200	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308098

Notes and Definitions

U	Analyte included in the analysis, but not detected
Q	Calibration required quadratic regression (Q).
P	Percent difference between primary and confirmation results exceeds 40% (P).
IM	Internal Standard(s) outside of criteria due to matrix (UCM/coelution is present) (IM).
ICV	Initial Calibration Verification recovery is outside of control limit (ICV).
D	Diluted.
C+	Continuing Calibration recovery is above upper control limit (C+).
C-	Continuing Calibration recovery is below lower control limit (C-).
B-	Blank Spike recovery is below lower control limit (B-).
ND	Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
I/V	Initial Volume
F/V	Final Volume
§	Subcontracted analysis; see attached report
1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of target analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.
Avg	Results reported as a mathematical average.
NR	No Recovery
[CALC]	Calculated Analyte
SUB	Subcontracted analysis; see attached report

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308098

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Department of Defense (DoD) Environmental Laboratory Accreditation Program (ELAP)
A2LA Accredited: Testing Cert# 2864.01
http://www.a2la.org/scopepdf/2864-01.pdf

Rhode Island Potable and Non Potable Water: LAI00179
http://www.health.ri.gov/labs/waterlabs-instate.php

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750
http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutofStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI0002
http://www.maine.gov/dep/blwq/topic/vessel/lab_list.pdf

Massachusetts Potable and Non Potable Water: M-RI002
http://public.dep.state.ma.us/labcert/labcert.aspx

New Hampshire (NELAP accredited) Potable and Non PotableWater, Solid and Hazardous Waste: 2424
http://www4.egov.nh.gov/des/nhelap/namesearch.asp

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313
http://www.wadsworth.org/labcert/elap/comm.html

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006
http://datamine2.state.nj.us/dep/DEP_OPRA/

United States Department of Agriculture Soil Permit: S-54210

Maryland Potable Water: 301
http://www.mde.state.md.us/assets/document/WSP_labs-2009apr20.pdf

CHEMISTRY

A2LA Accredited: Testing Cert # 2864.01
Lead in Paint, Phthalates, Lead in Children's Metals Products (Including Jewelry)
http://www.A2LA.org/dirsearchnew/newsearch.cfm

CPSC ID# 1141
Lead Paint, Lead in Children's Metals Jewelry
http://www.cpsc.gov/cgi-bin/labapplist.aspx

Sterling Analytical, Inc.
15 Agawam Avenue
West Springfield, MA 01089
Phone (413) 214-6541 Fax (413) 214-6842
email-madhu@sterlinganalytical.com

Visit our website: www.sterlinganalytical.com

Mass Certification - MA-00071
Conn Certification - PH-0520

Report Date August 13, 2013

Customer	Contact	Laboratory Supervisor	eMail
ESS Laboratory	C. Taylor	Madhu Shah	madhu@sterlinganalytical.com

Sample Description
Analysis of Solid Samples

Samples Analyzed

Enclosed are Report No(s): 39702 to 39710

ICV 10,000 = 10,375mg/kg
CCV 50,000 = 45,127mg/kg

Thank you for your business

Madhu Shah, Laboratory Supervisor **Date**

ALL the information contained in this report has been reviewed for accuracy and checked against all quality control requirements outlined in each applicable method.
This report may not be reproduced, except in full, without written approval from Sterling Analytical, Inc.

Sample	Description	Source	Taken/Time	Received
39702	1308098-1	ESS Laboratory	8/1/13	8/9/13

Parameter	Results		MDL	Method	Analyzed/Time	Tech
Total Organic Carbon Lloyd Kah	59,160	mg/kg	500.00	Lloyd Kahn	08/12/13	sjr

Sample	Description	Source	Taken/Time	Received
39703	1308098-7	ESS Laboratory	8/1/13	8/9/13

Parameter	Results		MDL	Method	Analyzed/Time	Tech
Total Organic Carbon Lloyd Kah	71,000	mg/kg	500.00	Lloyd Kahn	08/12/13	sjr

Sample	Description	Source	Taken/Time	Received
39704	1308098-9	ESS Laboratory	8/1/13	8/9/13

Parameter	Results		MDL	Method	Analyzed/Time	Tech
Total Organic Carbon Lloyd Kah	70,100	mg/kg	500.00	Lloyd Kahn	08/12/13	sjr

Sample	Description	Source	Taken/Time	Received
39705	1308098-10	ESS Laboratory	8/1/13	8/9/13

Parameter	Results		MDL	Method	Analyzed/Time	Tech
Total Organic Carbon Lloyd Kah	58,320	mg/kg	500.00	Lloyd Kahn	08/12/13	sjr

Sample	Description	Source	Taken/Time	Received
39706	1308098-12	ESS Laboratory	8/1/13	8/9/13

Parameter	Results		MDL	Method	Analyzed/Time	Tech
Total Organic Carbon Lloyd Kah	37,790	mg/kg	500.00	Lloyd Kahn	08/12/13	sjr

Sample	Description	Source	Taken/Time	Received
39707	1308098-13	ESS Laboratory	8/1/13	8/9/13

Parameter	Results		MDL	Method	Analyzed/Time	Tech
Total Organic Carbon Lloyd Kah	56,480	mg/kg	500.00	Lloyd Kahn	08/12/13	sjr

Sample	Description	Source	Taken/Time	Received
39708	1308098-14	ESS Laboratory	8/1/13	8/9/13

Parameter	Results		MDL	Method	Analyzed/Time	Tech
Total Organic Carbon Lloyd Kah	10,680	mg/kg	500.00	Lloyd Kahn	08/12/13	sjr

Sample	Description	Source	Taken/Time	Received
39709	1308098-17	ESS Laboratory	8/1/13	8/9/13

Parameter	Results		MDL	Method	Analyzed/Time	Tech
Total Organic Carbon Lloyd Kah	40,020	mg/kg	500.00	Lloyd Kahn	08/12/13	sjr

Sample	Description	Source	Taken/Time	Received
39710	1308098-19	ESS Laboratory	8/1/13	8/9/13

Parameter	Results		MDL	Method	Analyzed/Time	Tech
Total Organic Carbon Lloyd Kah	61,560	mg/kg	500.00	Lloyd Kahn	08/12/13	sjr

ESS Laboratory

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185 Frances Avenue, Cranston, RI 02910-2211
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www.esslaboratory.com

CHAIN OF CUSTODY

Page_____ of_____

Turn Time ___ Standard Other _____
If faster than 5 days, prior approval by laboratory is required #

Reporting Limits

ESS LAB PROJECT ID

State where samples were collected from:
MA RI CT NH NJ NY ME Other _____

Electronic Deliverable Yes ✓ No ___
Format: Excel __ Access __ PDF ✓ Other _____

Is this project for any of the following:
MA-MCP Navy USACE Other _____

Co. Name	Project #	Project Name (20 Char. or less)
Contact Person	Address	
City State Zip	PO#	
Telephone #	Fax #	Email Address

ESS LAB Sample #	Date	Collection Time	COMP	GRAB	MATRIX	Sample Identification (20 Char. or less)	Pres Code	Number of Containers	Type of Containers	Write Required Analysis

Container Type: P-Poly G-Glass S-Sterile V-VOA | Matrix: S-Soil SD-Solid D-Sludge WW-Waste Water GW-Ground Water SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filters

Cooler Present ___ Yes ___ No Internal Use Only

Seals Intact ___ Yes ___ No NA: ___ [ ] Pickup

Cooler Temp: _____ [ ] Technicians _____

Preservation Code 1- NP, 2- HCl, 3- H_2SO_4, 4- HNO_3, 5- NaOH, 6- MeOH, 7- Asorbic Acid, 8- ZnAct, 9-_____

Sampled by:

Comments:

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time

*By circling MA-MCP, client acknowledges samples were collected in accordance with MADEP CAM VII A

Please fax all changes to Chain of Custody in writing.

1 (White) Lab Copy 2 (Yellow) Client Receipt

10/26/04 A

Sample and Cooler Receipt Checklist

Client: GZA GeoEnvironmental, Inc.
Client Project ID: _____
Shipped/Delivered Via: ESS Courier

ESS Project ID: 13080098
Date Project Due: 8/14/13
Days For Project: 5 Day

Items to be checked upon receipt:

1. Air Bill Manifest Present?	* No	10. Are the samples properly preserved?	Yes
Air No.:		11. Proper sample containers used?	Yes
2. Were Custody Seals Present?	No	12. Any air bubbles in the VOA vials?	N/A
3. Were Custody Seals Intact?	N/A	13. Holding times exceeded?	No
4. Is Radiation count < 100 CPM?	Yes	14. Sufficient sample volumes?	Yes
5. Is a cooler present?	Yes	15. Any Subcontracting needed?	~~No~~ Yes
Cooler Temp: **4.8**		16. Are ESS labels on correct containers?	Yes|No
Iced With: **Ice**		17. Were samples received intact?	Yes|No
6. Was COC included with samples?	Yes	ESS Sample IDs:	1,7,9,10,13,14,19,17-
7. Was COC signed and dated by client?	Yes	Sub Lab:	Stl, ~~Test America~~
8. Does the COC match the sample	Yes	Analysis:	TOC
9. Is COC complete and correct?	Yes	TAT:	5td.

18. Was there need to call project manager to discuss status? If yes, please explain.

_____

_____

_____

Who was called?:_____ By whom? _____

Sample Number	Properly Preserved	Container Type	# of Containers	Preservative
1	Yes	2 oz Soil Jar	1	NP
1	Yes	4 oz Soil Jar	1	NP
1	Yes	8 oz Soil Jar	1	NP
2	Yes	4 oz Soil Jar	1	NP
2	Yes	8 oz Soil Jar	1	NP
3	Yes	4 oz Soil Jar	1	NP
3	Yes	8 oz Soil Jar	1	NP
4	Yes	4 oz Soil Jar	1	NP
4	Yes	8 oz Soil Jar	1	NP
5	Yes	4 oz Soil Jar	1	NP
5	Yes	8 oz Soil Jar	1	NP
6	Yes	4 oz Soil Jar	1	NP
6	Yes	8 oz Soil Jar	1	NP
7	Yes	2 oz Soil Jar	1	NP
7	Yes	4 oz Soil Jar	1	NP
7	Yes	8 oz Soil Jar	1	NP
8	Yes	4 oz Soil Jar	1	NP
8	Yes	8 oz Soil Jar	1	NP
9	Yes	2 oz Soil Jar	1	NP
9	Yes	4 oz Soil Jar	1	NP
9	Yes	8 oz Soil Jar	1	NP
10	Yes	2 oz Soil Jar	1	NP
10	Yes	4 oz Soil Jar	1	NP
10	Yes	8 oz Soil Jar	1	NP
11	Yes	4 oz Soil Jar	1	NP

Sample and Cooler Receipt Checklist

Client: GZA GeoEnvironmental, Inc. ESS Project ID: 13080098

11	Yes	8 oz Soil Jar	1	NP
12	Yes	2 oz Soil Jar	1	NP
12	Yes	4 oz Soil Jar	1	NP
12	Yes	8 oz Soil Jar	1	NP
13	Yes	2 oz Soil Jar	1	NP
13	Yes	4 oz Soil Jar	1	NP
13	Yes	8 oz Soil Jar	1	NP
14	Yes	2 oz Soil Jar	1	NP
14	Yes	4 oz Soil Jar	1	NP
14	Yes	8 oz Soil Jar	1	NP
15	Yes	4 oz Soil Jar	1	NP
15	Yes	8 oz Soil Jar	1	NP
16	Yes	4 oz Soil Jar	1	NP
16	Yes	8 oz Soil Jar	1	NP
17	Yes	2 oz Soil Jar	1	NP
17	Yes	4 oz Soil Jar	1	NP
17	Yes	8 oz Soil Jar	1	NP
18	Yes	4 oz Soil Jar	1	NP
18	Yes	8 oz Soil Jar	1	NP
19	Yes	2 oz Soil Jar	1	NP
19	Yes	4 oz Soil Jar	1	NP
19	Yes	8 oz Soil Jar	1	NP
20	Yes	4 oz Soil Jar	1	NP
20	Yes	8 oz Soil Jar	1	NP

Completed By: _____ Date/Time: 8/7/13 1330

Reviewed By: _____ Date/Time: 8/7/13 1332



Custody Seal 4/

Job # 171521-02

Signature _____

Date 8/6/13 **Time** 22:00

ESS Laboratory
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www.esslaboratory.com

CHAIN OF CUSTODY

ESS LAB PROJECT ID: 1308098

Turn Time ___x___ Standard Rush_____ Approved By: _____

Reporting Limits - see prev. email correspondence

State where samples were collected: **MA RI CT NH NJ NY ME** Other_____

Is this project for any of the following: (please circle)
MA-MCP CT-RCP RGP DOD Other_____

Electonic Deliverable Yes__x__ No____
Format: Excel_x__ Access___ PDF___ Other_____

GZA Project Manager: David E. Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Avenue
Norwood, MA 02062
(781) 278-3700
PRESUMPTIVE CERTAINTY REQUIRED

Project # 171521.02
Project Name: Former Everett Staging Yard
Contract Pricing _____
Special Pricing WO#: _____

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	MCP 14 metals	B/N Phthalates Esters 8270	PAH 8270 SIM	EPH Fractions	PCBs	TOC by Lloyd Kahn					Comment #
					Analysis												
1	8/1/13	8:45	G	Sed	GZ-101 0-0.5'	2	X					X					
2	8/1/13	8:45	G	Sed	GZ-101 2-4'	2	X										
3	8/1/13	8:45	G	Sed	GZ-101 4-6'	2	X										
4	8/1/13	8:45	G	Sed	GZ-101 8-9'	2	X										
5	8/1/13	8:55	G	Sed	GZ-102 2-4'	2	X										
6	8/1/13	8:55	G	Sed	GZ-102 4-6'	2	X										
7	8/1/13	8:55	G	Sed	GZ-102 6-8'	2	X	X	X	X	X	X					
8	8/1/13	8:55	G	Sed	GZ-102 8-10'	2	X										
9	8/1/13	9:05	G	Sed	GZ-103 2-4'	2	X					X					
10	8/1/13	9:05	G	Sed	GZ-103 4-6'	2	X					X					

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-_____

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA — AG AG AG AG AG AG

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present ✓ Yes _____ No
Seals Intact ✓ Yes _____ No NA: _____
Cooler Temperature: 4.1 3.6 4.8 2.6 3.2 (5 Coolers)

Sampled by : Dan Scanlon

Comments: Contract Price - 10%

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
[signature]	8/6/13 2000	[signature] 8/7/13 1030	[signature] 1120	8/7/13	[signature] 8/7/13 1130
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)

Please E-mail all changes to Chain of Custody in writing.

2 of 2

ESS Laboratory

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www.esslaboratory.com

CHAIN OF CUSTODY

ESS LAB PROJECT ID: 1308098

Turn Time ___x___ Standard Rush_____ Approved By: _____

Reporting Limits - see prev. email correspondence

State where samples were collected: MA RI CT NH NJ NY ME Other_____

Is this project for any of the following: (please circle)
MA-MCP CT-RCP RGP DOD Other_____

Electonic Deliverable Yes__x__ No____
Format: Excel_x__ Access___ PDF___ Other_____

GZA Project Manager: David E. Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Avenue
Norwood, MA 02062
(781) 278-3700
PRESUMPTIVE CERTAINTY REQUIRED

Project # 171521.02

Project Name: Former Everett Staging Yard

Contract Pricing ____
Special Pricing WO#: _____

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	MCP 14 metals	B/N Phthalates Esters 8270	PAH 8270 SIM	EPH Fractions	PCBs	TOC by Lloyd Kahn						Comment #
						Analysis												
11	8/1/13	9:05	G	Sed	GZ-103 6-7'	2	X											
12	8/6/13	9:12	G	Sed	GZ-104 T 0-0.5'	2	X	X	X	X	X	X						
13	8/1/13	9:50	G	Sed	GZ-104 2-4'	2	X	X	X	X	X	X						
14	8/1/13	9:50	G	Sed	GZ-104 4-6'	2	X					X						
15	8/1/13	9:50	G	Sed	GZ-104 6-8'	2	X											
16	8/1/13	10:06	G	Sed	GZ-105 2-4'	2	X											
17	8/1/13	10:06	G	Sed	GZ-105 4-6'	2	X	X	X	X	X	X						
18	8/1/13	10:06	G	Sed	GZ-105 6-9'	2	X											
19	8/1/13	10:41	G	Sed	GZ-106 2-4'	2	X					X						
20	8/1/13	10:41	G	Sed	GZ-106 4-6'	2	X											
Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-_____																		
Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA							AG	AG	AG	AG	AG	AG						
Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter																		

Cooler Present ✓ Yes _____ No
Seals Intact Yes ✓ No NA: _____
5 Coolers
Cooler Temperature: 4.1-3.6-4.8-2.6 3.2

Sampled by : Dan Scanlon

Comments: Contract Price - 10%

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
[signature]	8/6/13 20	[signature] 8/7/13 1030	[signature] 1120	8/7/13	[signature] 8/7/13 11:30
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)

Please E-mail all changes to Chain of Custody in writing.

Page 1 of 16

CERTIFICATE OF ANALYSIS

David E Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Avenue
Norwood, MA 02062

RE: Everett (01.0171521.02)
ESS Laboratory Work Order Number: 1308104

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.



Laurel Stoddard
Laboratory Director

REVIEWED
By ESS Laboratory at 4:20 pm, Aug 19, 2013

Analytical Summary
The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with NELAC Standards, A2LA and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibratins, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.

Subcontracted Analyses

Sterling Analytical Lab - West Springfield, MA	Total Organic Carbon

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308104

SAMPLE RECEIPT

The following samples were received on August 07, 2013 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has performed and reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Data Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

For EPH soil samples, the aromatic range results have been corrected for identified cartridge contaminant in accordance with the CAM protocol.

Question I: All samples for SVOA were analyzed for a subset of the required MCP list per the client's request.

Lab Number	SampleName	Matrix	Analysis
1308104-01	GZ-106 6-9ft	Solid	6010B, 6020A, 7471B
1308104-02	GZ-107 0-0.5ft	Solid	6010B, 6020A, 7471B, TOC-LK
1308104-03	GZ-107 2-4ft	Solid	6010B, 6020A, 7471B
1308104-04	GZ-108T 0-0.5ft	Solid	6010B, 6020A, 7471B, 8082A, 8270D, EPH8270, MADEP-EPH, TOC-LK
1308104-05	GZ-108 2-4ft	Solid	6010B, 6020A, 7471B, 8082A, 8270D, EPH8270, MADEP-EPH, TOC-LK
1308104-06	GZ-108 4-6ft	Solid	6010B, 6020A, 7471B, TOC-LK
1308104-07	GZ-108 8-10ft	Solid	6010B, 6020A, 7471B
1308104-08	GZ-109T 0-0.5ft	Solid	6010B, 6020A, 7471B
1308104-09	GZ-109 0.5-2.5ft	Solid	6010B, 6020A, 7471B, 8082A, 8270D, EPH8270, MADEP-EPH, TOC-LK
1308104-10	GZ-110B 0-0.5ft	Solid	6010B, 6020A, 7471B, TOC-LK
1308104-11	GZ-110B 2-4ft	Solid	6010B, 6020A, 7471B
1308104-12	GZ-111 0-0.5ft	Solid	6010B, 6020A, 7471B
1308104-13	GZ-111 2-4ft	Solid	6010B, 6020A, 7471B
1308104-14	GZ-111 7-8ft	Solid	6010B, 6020A, 7471B, 8082A, 8270D, EPH8270, MADEP-EPH, TOC-LK
1308104-15	GZ-112T 0-0.5ft	Solid	6010B, 6020A, 7471B, TOC-LK
1308104-16	GZ-112 2-4ft	Solid	6010B, 6020A, 7471B
1308104-17	GZ-112 6-8ft	Solid	6010B, 6020A, 7471B

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
ESS Laboratory Work Order: 1308104

1308104-18	GZ-113T 0-0.5ft	Solid	6010B, 6020A, 7471B, 8082A, 8270D, EPH8270, MADEP-EPH, TOC-LK
1308104-19	GZ-113 2-4ft	Solid	6010B, 6020A, 7471B, 8082A, 8270D, EPH8270, MADEP-EPH, TOC-LK
1308104-20	GZ-113 4-6ft	Solid	6010B, 6020A, 7471B

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308104

PROJECT NARRATIVE

8270D Semi-Volatile Organic Compounds

CWH0080-CCV1 **Calibration required quadratic regression (Q).**
2,4-Dinitrophenol (101% @ 80-120%), 4,6-Dinitro-2-Methylphenol (108% @ 70-130%), Benzoic Acid (97% @ 70-130%), Pentachlorophenol (101% @ 80-120%)

CWH0080-CCV1 **Initial Calibration Verification recovery is outside of control limit (ICV).**
Benzidine , Hexachlorocyclopentadiene

CWH0106-CCV1 **Calibration required quadratic regression (Q).**
2,4-Dinitrophenol (110% @ 80-120%), 4,6-Dinitro-2-Methylphenol (114% @ 70-130%), Benzoic Acid (103% @ 70-130%), Pentachlorophenol (103% @ 80-120%)

CWH0106-CCV1 **Initial Calibration Verification recovery is outside of control limit (ICV).**
Benzidine , Hexachlorocyclopentadiene

MADEP-EPH Extractable Petroleum Hydrocarbons

CWH0135-CCV4 **Continuing Calibration recovery is above upper control limit (C+).**
Benzo(a)pyrene (121% @ 80-120%)

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

Definitions of Quality Control Parameters

Semivolatile Organics Internal Standard Information

Semivolatile Organics Surrogate Information

Volatile Organics Internal Standard Information

Volatile Organics Surrogate Information

EPH and VPH Alkane Lists

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308104

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

1010A - Flashpoint
6010C - ICP
6020A - ICP MS
7010 - Graphite Furnace
7196A - Hexavalent Chromium
7470A - Aqueous Mercury
7471B - Solid Mercury
8011 - EDB/DBCP/TCP
8015C - GRO/DRO
8081B - Pesticides
8082A - PCB
8100M - TPH
8151A - Herbicides
8260B - VOA
8270D - SVOA
8270D SIM - SVOA Low Level
9014 - Cyanide
9038 - Sulfate
9040C - Aqueous pH
9045D - Solid pH (Corrosivity)
9050A - Specific Conductance
9056A - Anions (IC)
9060A - TOC
9095B - Paint Filter
MADEP 04-1.1 - EPH / VPH

Prep Methods

3005A - Aqueous ICP Digestion
3020A - Aqueous Graphite Furnace / ICP MS Digestion
3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
3060A - Solid Hexavalent Chromium Digestion
3510C - Separatory Funnel Extraction
3520C - Liquid / Liquid Extraction
3540C - Manual Soxhlet Extraction
3541 - Automated Soxhlet Extraction
3580A - Waste Dilution
5030B - Aqueous Purge and Trap
5035 - Solid Purge and Trap

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308104

MassDEP Analytical Protocol Certification Form

MADEP RTN: _____

This form provides certification for the following data set: **1308104-01 through 1308104-20**

Matrices: ( ) Ground Water/Surface Water (X) Soil/Sediment ( ) Drinking Water ( ) Air ( ) Other:_____

CAM Protocol (check all that apply below):

( ) 8260 VOC CAM II A	(X) 7470/7471 Hg CAM III B	( ) MassDEP VPH CAM IV A	( ) 8081 Pesticides CAM V B	( ) 7196 Hex Cr CAM VI B	( ) MassDEP APH CAM IX A
(X) 8270 SVOC CAM II B	( ) 7010 Metals CAM III C	(X) MassDEP EPH CAM IV B	( ) 8151 Herbicides CAM V C	( ) 8330 Explosives CAM VIII A	( ) TO-15 VOC CAM IX B
(X) 6010 Metals CAM III A	(X) 6020 Metals CAM III D	(X) 8082 PCB CAM V A	( ) 6860 Perchlorate CAM VIII B	( ) 9014 Total Cyanide/PAC CAM VI A	

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	Yes (X) No ( )
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	Yes (X) No ( )
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	Yes (X) No ( )
D	Does the laboratory report comply with all the reporting requirements specified in the CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	Yes (X) No ( )
E	a. VPH, EPH, APH and TO-15 only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	Yes (X) No ( )
	b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	Yes ( ) No ( )
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	Yes (X) No ( )

Responses to Questions G, H and I below are required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocols(s)?	Yes (X) No ( )*
	***Data User Note:* Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.**	
H	Were **all** QC performance standards specified in the CAM protocol(s) achieved?	Yes ( ) No (X)*
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	Yes ( ) No (X)*

All negative responses must be addressed in an attached laboratory narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: _____ Date: August 19, 2013

Printed Name: Laurel Stoddard Position: Laboratory Director

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-106 6-9ft
Date Sampled: 08/01/13 10:41
Percent Solids: 30

ESS Laboratory Work Order: 1308104
ESS Laboratory Sample ID: 1308104-01
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (3.3)		6020A		50	JP	08/09/13 4:09	5.13	100	CH30730
Arsenic	**39.5** (3.3)		6010B		1	SVD	08/08/13 5:02	5.13	100	CH30730
Barium	**50.4** (3.3)		6010B		1	SVD	08/08/13 5:02	5.13	100	CH30730
Beryllium	**0.57** (0.14)		6010B		1	SVD	08/08/13 5:02	5.13	100	CH30730
Cadmium	**1.25** (0.65)		6010B		1	SVD	08/08/13 5:02	5.13	100	CH30730
Chromium	**94.4** (1.3)		6010B		1	SVD	08/08/13 5:02	5.13	100	CH30730
Lead	**158** (6.5)		6010B		1	SVD	08/08/13 5:02	5.13	100	CH30730
Mercury	**1.34** (0.306)		7471B		5	KJK	08/08/13 17:56	1.08	40	CH30732
Nickel	**10.6** (3.3)		6010B		1	SVD	08/08/13 5:02	5.13	100	CH30730
Selenium	ND (3.27)		6020A		50	JP	08/09/13 4:09	5.13	100	CH30730
Silver	**1.28** (0.65)		6010B		1	SVD	08/08/13 5:02	5.13	100	CH30730
Thallium	ND (3.27)		6020A		50	JP	08/09/13 4:09	5.13	100	CH30730
Vanadium	**101** (1.3)		6010B		1	SVD	08/08/13 5:02	5.13	100	CH30730
Zinc	**141** (3.3)		6010B		1	SVD	08/08/13 5:02	5.13	100	CH30730

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-107 0-0.5ft
Date Sampled: 08/01/13 11:13
Percent Solids: 35

ESS Laboratory Work Order: 1308104
ESS Laboratory Sample ID: 1308104-02
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (2.8)		6020A		50	JP	08/09/13 4:15	5.1	100	CH30730
Arsenic	**33.4** (2.8)		6010B		1	SVD	08/08/13 5:08	5.1	100	CH30730
Barium	**46.4** (2.8)		6010B		1	SVD	08/08/13 5:08	5.1	100	CH30730
Beryllium	**0.50** (0.12)		6010B		1	SVD	08/08/13 5:08	5.1	100	CH30730
Cadmium	**1.51** (0.56)		6010B		1	SVD	08/08/13 5:08	5.1	100	CH30730
Chromium	**60.6** (1.1)		6010B		1	SVD	08/08/13 5:08	5.1	100	CH30730
Lead	**224** (5.6)		6010B		1	SVD	08/08/13 5:08	5.1	100	CH30730
Mercury	**1.12** (0.238)		7471B		5	KJK	08/08/13 17:59	1.18	40	CH30732
Nickel	**18.8** (2.8)		6010B		1	SVD	08/08/13 5:08	5.1	100	CH30730
Selenium	**3.32** (2.80)		6020A		50	JP	08/09/13 4:15	5.1	100	CH30730
Silver	**1.52** (0.56)		6010B		1	SVD	08/08/13 5:08	5.1	100	CH30730
Thallium	ND (2.80)		6020A		50	JP	08/09/13 4:15	5.1	100	CH30730
Vanadium	**64.9** (1.1)		6010B		1	SVD	08/08/13 5:08	5.1	100	CH30730
Zinc	**283** (2.8)		6010B		1	SVD	08/08/13 5:08	5.1	100	CH30730

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-107 0-0.5ft
Date Sampled: 08/01/13 11:13
Percent Solids: 35

ESS Laboratory Work Order: 1308104
ESS Laboratory Sample ID: 1308104-02
Sample Matrix: Solid

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**45300** (500)		TOC-LK		1	SUB	08/12/13 0:00	mg/kg	CH31340

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-107 2-4ft
Date Sampled: 08/01/13 11:13
Percent Solids: 22

ESS Laboratory Work Order: 1308104
ESS Laboratory Sample ID: 1308104-03
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (4.4)		6020A		50	JP	08/09/13 4:21	5.23	100	CH30730
Arsenic	**117** (4.3)		6010B		1	SVD	08/08/13 5:14	5.23	100	CH30730
Barium	**121** (4.3)		6010B		1	SVD	08/08/13 5:14	5.23	100	CH30730
Beryllium	**0.81** (0.18)		6010B		1	SVD	08/08/13 5:14	5.23	100	CH30730
Cadmium	**2.53** (0.87)		6010B		1	SVD	08/08/13 5:14	5.23	100	CH30730
Chromium	**135** (1.7)		6010B		1	SVD	08/08/13 5:14	5.23	100	CH30730
Lead	**442** (8.7)		6010B		1	SVD	08/08/13 5:14	5.23	100	CH30730
Mercury	**1.70** (0.412)		7471B		5	KJK	08/08/13 18:02	1.09	40	CH30732
Nickel	**21.2** (4.3)		6010B		1	SVD	08/08/13 5:14	5.23	100	CH30730
Selenium	ND (4.35)		6020A		50	JP	08/09/13 4:21	5.23	100	CH30730
Silver	**2.42** (0.87)		6010B		1	SVD	08/08/13 5:14	5.23	100	CH30730
Thallium	ND (4.35)		6020A		50	JP	08/09/13 4:21	5.23	100	CH30730
Vanadium	**182** (1.7)		6010B		1	SVD	08/08/13 5:14	5.23	100	CH30730
Zinc	**374** (4.3)		6010B		1	SVD	08/08/13 5:14	5.23	100	CH30730

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-108T 0-0.5ft
Date Sampled: 08/06/13 10:28
Percent Solids: 24

ESS Laboratory Work Order: 1308104
ESS Laboratory Sample ID: 1308104-04
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (4.2)		6020A		50	JP	08/09/13 4:27	5.08	100	CH30730
Arsenic	**51.5** (4.1)		6010B		1	SVD	08/08/13 5:19	5.08	100	CH30730
Barium	**66.9** (4.1)		6010B		1	SVD	08/08/13 5:19	5.08	100	CH30730
Beryllium	**0.75** (0.17)		6010B		1	SVD	08/08/13 5:19	5.08	100	CH30730
Cadmium	**2.19** (0.83)		6010B		1	SVD	08/08/13 5:19	5.08	100	CH30730
Chromium	**88.2** (1.7)		6010B		1	SVD	08/08/13 5:19	5.08	100	CH30730
Lead	**286** (8.3)		6010B		1	SVD	08/08/13 5:19	5.08	100	CH30730
Mercury	**1.88** (0.289)		7471B		5	KJK	08/08/13 18:05	1.44	40	CH30732
Nickel	**25.3** (4.1)		6010B		1	SVD	08/08/13 5:19	5.08	100	CH30730
Selenium	ND (4.16)		6020A		50	JP	08/09/13 4:27	5.08	100	CH30730
Silver	**2.17** (0.83)		6010B		1	SVD	08/08/13 5:19	5.08	100	CH30730
Thallium	ND (4.16)		6020A		50	JP	08/09/13 4:27	5.08	100	CH30730
Vanadium	**90.6** (1.7)		6010B		1	SVD	08/08/13 5:19	5.08	100	CH30730
Zinc	**387** (4.1)		6010B		1	SVD	08/08/13 5:19	5.08	100	CH30730

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-108T 0-0.5ft
Date Sampled: 08/06/13 10:28
Percent Solids: 24
Initial Volume: 19.8
Final Volume: 5
Extraction Method: 3540

ESS Laboratory Work Order: 1308104
ESS Laboratory Sample ID: 1308104-04
Sample Matrix: Solid
Units: mg/kg dry
Analyst: TJ
Prepared: 8/8/13 17:00
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.106)		8082A		1	08/10/13 15:06		CH30812
Aroclor 1221	ND (0.106)		8082A		1	08/10/13 15:06		CH30812
Aroclor 1232	ND (0.106)		8082A		1	08/10/13 15:06		CH30812
Aroclor 1242	ND (0.106)		8082A		1	08/10/13 15:06		CH30812
Aroclor 1248	**0.399** (0.106)		8082A		1	08/10/13 15:06		CH30812
Aroclor 1254	**0.594** (0.106)		8082A		1	08/10/13 15:06		CH30812
Aroclor 1260	**0.320** (0.106)		8082A		1	08/10/13 15:06		CH30812
Aroclor 1262	ND (0.106)		8082A		1	08/10/13 15:06		CH30812
Aroclor 1268	ND (0.106)		8082A		1	08/10/13 15:06		CH30812

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*52 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*47 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*43 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*32 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-108T 0-0.5ft
Date Sampled: 08/06/13 10:28
Percent Solids: 24
Initial Volume: 30.4
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308104
ESS Laboratory Sample ID: 1308104-04
Sample Matrix: Solid
Units: mg/kg dry
Analyst: IBM
Prepared: 8/7/13 16:46

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.691)		8270D		1	08/08/13 18:43	CWH0106	CH30632
1,2-Dichlorobenzene	ND (0.691)		8270D		1	08/08/13 18:43	CWH0106	CH30632
1,3-Dichlorobenzene	ND (0.691)		8270D		1	08/08/13 18:43	CWH0106	CH30632
1,4-Dichlorobenzene	ND (0.691)		8270D		1	08/08/13 18:43	CWH0106	CH30632
2-Methylnaphthalene	ND (0.691)		8270D		1	08/08/13 18:43	CWH0106	CH30632
2-Methylphenol	ND (0.691)		8270D		1	08/08/13 18:43	CWH0106	CH30632
Acenaphthene	ND (0.691)		8270D		1	08/08/13 18:43	CWH0106	CH30632
Acenaphthylene	ND (0.691)		8270D		1	08/08/13 18:43	CWH0106	CH30632
Anthracene	ND (0.691)		8270D		1	08/08/13 18:43	CWH0106	CH30632
Benzo(a)anthracene	ND (0.691)		8270D		1	08/08/13 18:43	CWH0106	CH30632
Benzo(a)pyrene	**0.580** (0.347)		8270D		1	08/08/13 18:43	CWH0106	CH30632
Benzo(b)fluoranthene	**0.767** (0.691)		8270D		1	08/08/13 18:43	CWH0106	CH30632
Benzo(g,h,i)perylene	ND (0.691)		8270D		1	08/08/13 18:43	CWH0106	CH30632
Benzo(k)fluoranthene	ND (0.691)		8270D		1	08/08/13 18:43	CWH0106	CH30632
bis(2-Ethylhexyl)phthalate	**4.27** (0.691)		8270D		1	08/08/13 18:43	CWH0106	CH30632
Butylbenzylphthalate	ND (0.691)		8270D		1	08/08/13 18:43	CWH0106	CH30632
Carbazole	ND (0.691)		8270D		1	08/08/13 18:43	CWH0106	CH30632
Chrysene	**0.630** (0.347)		8270D		1	08/08/13 18:43	CWH0106	CH30632
Dibenzo(a,h)Anthracene	ND (0.347)		8270D		1	08/08/13 18:43	CWH0106	CH30632
Dibenzofuran	ND (0.691)		8270D		1	08/08/13 18:43	CWH0106	CH30632
Diethylphthalate	ND (0.691)		8270D		1	08/08/13 18:43	CWH0106	CH30632
Dimethylphthalate	ND (0.691)		8270D		1	08/08/13 18:43	CWH0106	CH30632
Di-n-butylphthalate	ND (0.691)		8270D		1	08/08/13 18:43	CWH0106	CH30632
Di-n-octylphthalate	ND (0.691)		8270D		1	08/08/13 18:43	CWH0106	CH30632
Fluoranthene	**1.02** (0.691)		8270D		1	08/08/13 18:43	CWH0106	CH30632
Fluorene	ND (0.691)		8270D		1	08/08/13 18:43	CWH0106	CH30632
Hexachlorobenzene	ND (0.691)		8270D		1	08/08/13 18:43	CWH0106	CH30632
Hexachlorocyclopentadiene	ND (3.47)		8270D		1	08/08/13 18:43	CWH0106	CH30632
Indeno(1,2,3-cd)Pyrene	ND (0.691)		8270D		1	08/08/13 18:43	CWH0106	CH30632
Naphthalene	ND (0.691)		8270D		1	08/08/13 18:43	CWH0106	CH30632
Phenanthrene	ND (0.691)		8270D		1	08/08/13 18:43	CWH0106	CH30632

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-108T 0-0.5ft
Date Sampled: 08/06/13 10:28
Percent Solids: 24
Initial Volume: 30.4
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308104
ESS Laboratory Sample ID: 1308104-04
Sample Matrix: Solid
Units: mg/kg dry
Analyst: IBM
Prepared: 8/7/13 16:46

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Phenol	ND (0.691)		8270D		1	08/08/13 18:43	CWH0106	CH30632
Pyrene	**0.987** (0.691)		8270D		1	08/08/13 18:43	CWH0106	CH30632

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*50 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*74 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*53 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*60 %*		*30-130*
Surrogate: 2-Fluorophenol	*48 %*		*30-130*
Surrogate: Nitrobenzene-d5	*51 %*		*30-130*
Surrogate: Phenol-d6	*54 %*		*30-130*
Surrogate: p-Terphenyl-d14	*75 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-108T 0-0.5ft
Date Sampled: 08/06/13 10:28
Percent Solids: 24
Initial Volume: 15.1
Final Volume: 0.5
Extraction Method: 3541

ESS Laboratory Work Order: 1308104
ESS Laboratory Sample ID: 1308104-04
Sample Matrix: Solid
Units: mg/kg dry
Analyst: IBM
Prepared: 8/8/13 9:05

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.174)		8270D		5	08/10/13 11:27	CWH0128	CH30811
Acenaphthene	ND (0.174)		8270D		5	08/10/13 11:27	CWH0128	CH30811
Acenaphthylene	ND (0.174)		8270D		5	08/10/13 11:27	CWH0128	CH30811
Anthracene	ND (0.174)		8270D		5	08/10/13 11:27	CWH0128	CH30811
Benzo(a)anthracene	**0.209** (0.174)		8270D		5	08/10/13 11:27	CWH0128	CH30811
Benzo(a)pyrene	**0.306** (0.174)		8270D		5	08/10/13 11:27	CWH0128	CH30811
Benzo(b)fluoranthene	**0.439** (0.174)		8270D		5	08/10/13 11:27	CWH0128	CH30811
Benzo(g,h,i)perylene	**0.272** (0.174)		8270D		5	08/10/13 11:27	CWH0128	CH30811
Benzo(k)fluoranthene	ND (0.174)		8270D		5	08/10/13 11:27	CWH0128	CH30811
Chrysene	**0.320** (0.174)		8270D		5	08/10/13 11:27	CWH0128	CH30811
Dibenzo(a,h)Anthracene	ND (0.174)		8270D		5	08/10/13 11:27	CWH0128	CH30811
Fluoranthene	**0.425** (0.174)		8270D		5	08/10/13 11:27	CWH0128	CH30811
Fluorene	ND (0.174)		8270D		5	08/10/13 11:27	CWH0128	CH30811
Indeno(1,2,3-cd)Pyrene	**0.286** (0.174)		8270D		5	08/10/13 11:27	CWH0128	CH30811
Naphthalene	ND (0.174)		8270D		5	08/10/13 11:27	CWH0128	CH30811
Phenanthrene	**0.174** (0.174)		8270D		5	08/10/13 11:27	CWH0128	CH30811
Pyrene	**0.446** (0.174)		8270D		5	08/10/13 11:27	CWH0128	CH30811

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*35 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*34 %*		*30-130*
Surrogate: Nitrobenzene-d5	*31 %*		*30-130*
Surrogate: p-Terphenyl-d14	*55 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-108T 0-0.5ft
Date Sampled: 08/06/13 10:28
Percent Solids: 24

ESS Laboratory Work Order: 1308104
ESS Laboratory Sample ID: 1308104-04
Sample Matrix: Solid

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**48000** (500)		TOC-LK		1	SUB	08/12/13 0:00	mg/kg	CH31340

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-108T 0-0.5ft
Date Sampled: 08/06/13 10:28
Percent Solids: 24
Initial Volume: 15.2
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1308104
ESS Laboratory Sample ID: 1308104-04
Sample Matrix: Solid
Units: mg/kg dry

Prepared: 8/8/13 11:00

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	ND (104)		MADEP-EPH		1	IBM	08/09/13 1:54	CWH0117	CH30813
C19-C36 Aliphatics1	**189** (104)		MADEP-EPH		1	IBM	08/09/13 1:54	CWH0117	CH30813
C11-C22 Unadjusted Aromatics1	ND (104)		EPH8270		1	IBM	08/09/13 2:15	CWH0116	CH30813
C11-C22 Aromatics1,2	ND (104)		EPH8270			IBM	08/09/13 2:15		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*85 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*104 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*101 %*		*40-140*
Surrogate: O-Terphenyl	*91 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-108 2-4ft
Date Sampled: 08/01/13 11:01
Percent Solids: 29

ESS Laboratory Work Order: 1308104
ESS Laboratory Sample ID: 1308104-05
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (3.3)		6020A		50	JP	08/09/13 4:33	5.19	100	CH30730
Arsenic	**86.9** (3.3)		6010B		1	SVD	08/08/13 5:25	5.19	100	CH30730
Barium	**59.1** (3.3)		6010B		1	SVD	08/08/13 5:25	5.19	100	CH30730
Beryllium	**0.81** (0.14)		6010B		1	SVD	08/08/13 5:25	5.19	100	CH30730
Cadmium	**3.71** (0.66)		6010B		1	SVD	08/08/13 5:25	5.19	100	CH30730
Chromium	**121** (1.3)		6010B		1	SVD	08/08/13 5:25	5.19	100	CH30730
Lead	**363** (6.6)		6010B		1	SVD	08/08/13 5:25	5.19	100	CH30730
Mercury	**3.42** (0.318)		7471B		5	KJK	08/08/13 18:07	1.06	40	CH30732
Nickel	**27.8** (3.3)		6010B		1	SVD	08/08/13 5:25	5.19	100	CH30730
Selenium	**4.66** (3.30)		6020A		50	JP	08/09/13 4:33	5.19	100	CH30730
Silver	**3.28** (0.66)		6010B		1	SVD	08/08/13 5:25	5.19	100	CH30730
Thallium	ND (3.30)		6020A		50	JP	08/09/13 4:33	5.19	100	CH30730
Vanadium	**186** (1.3)		6010B		1	SVD	08/08/13 5:25	5.19	100	CH30730
Zinc	**482** (3.3)		6010B		1	SVD	08/08/13 5:25	5.19	100	CH30730

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-108 2-4ft
Date Sampled: 08/01/13 11:01
Percent Solids: 29
Initial Volume: 19.8
Final Volume: 5
Extraction Method: 3540

ESS Laboratory Work Order: 1308104
ESS Laboratory Sample ID: 1308104-05
Sample Matrix: Solid
Units: mg/kg dry
Analyst: TJ
Prepared: 8/8/13 17:00
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0860)		8082A		1	08/12/13 14:36		CH30812
Aroclor 1221	ND (0.0860)		8082A		1	08/12/13 14:36		CH30812
Aroclor 1232	ND (0.0860)		8082A		1	08/12/13 14:36		CH30812
Aroclor 1242	ND (0.0860)		8082A		1	08/12/13 14:36		CH30812
Aroclor 1248	**2.45** (0.430)		8082A		5	08/15/13 11:00		CH30812
Aroclor 1254	**3.06** (0.430)		8082A		5	08/15/13 11:00		CH30812
Aroclor 1260	**1.26** (0.0860)		8082A		1	08/12/13 14:36		CH30812
Aroclor 1262	ND (0.0860)		8082A		1	08/12/13 14:36		CH30812
Aroclor 1268	ND (0.0860)		8082A		1	08/12/13 14:36		CH30812

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*94 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*114 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*82 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*75 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-108 2-4ft
Date Sampled: 08/01/13 11:01
Percent Solids: 29
Initial Volume: 30.3
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308104
ESS Laboratory Sample ID: 1308104-05
Sample Matrix: Solid
Units: mg/kg dry
Analyst: IBM
Prepared: 8/7/13 16:46

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.561)		8270D		1	08/08/13 19:17	CWH0106	CH30632
1,2-Dichlorobenzene	ND (0.561)		8270D		1	08/08/13 19:17	CWH0106	CH30632
1,3-Dichlorobenzene	ND (0.561)		8270D		1	08/08/13 19:17	CWH0106	CH30632
1,4-Dichlorobenzene	ND (0.561)		8270D		1	08/08/13 19:17	CWH0106	CH30632
2-Methylnaphthalene	ND (0.561)		8270D		1	08/08/13 19:17	CWH0106	CH30632
2-Methylphenol	ND (0.561)		8270D		1	08/08/13 19:17	CWH0106	CH30632
Acenaphthene	ND (0.561)		8270D		1	08/08/13 19:17	CWH0106	CH30632
Acenaphthylene	ND (0.561)		8270D		1	08/08/13 19:17	CWH0106	CH30632
Anthracene	ND (0.561)		8270D		1	08/08/13 19:17	CWH0106	CH30632
Benzo(a)anthracene	ND (0.561)		8270D		1	08/08/13 19:17	CWH0106	CH30632
Benzo(a)pyrene	**0.552** (0.281)		8270D		1	08/08/13 19:17	CWH0106	CH30632
Benzo(b)fluoranthene	**0.701** (0.561)		8270D		1	08/08/13 19:17	CWH0106	CH30632
Benzo(g,h,i)perylene	ND (0.561)		8270D		1	08/08/13 19:17	CWH0106	CH30632
Benzo(k)fluoranthene	ND (0.561)		8270D		1	08/08/13 19:17	CWH0106	CH30632
bis(2-Ethylhexyl)phthalate	**44.5** (5.61)		8270D		10	08/13/13 19:18	CWH0106	CH30632
Butylbenzylphthalate	ND (0.561)		8270D		1	08/08/13 19:17	CWH0106	CH30632
Carbazole	ND (0.561)		8270D		1	08/08/13 19:17	CWH0106	CH30632
Chrysene	**0.629** (0.281)		8270D		1	08/08/13 19:17	CWH0106	CH30632
Dibenzo(a,h)Anthracene	ND (0.281)		8270D		1	08/08/13 19:17	CWH0106	CH30632
Dibenzofuran	ND (0.561)		8270D		1	08/08/13 19:17	CWH0106	CH30632
Diethylphthalate	ND (0.561)		8270D		1	08/08/13 19:17	CWH0106	CH30632
Dimethylphthalate	ND (0.561)		8270D		1	08/08/13 19:17	CWH0106	CH30632
Di-n-butylphthalate	ND (0.561)		8270D		1	08/08/13 19:17	CWH0106	CH30632
Di-n-octylphthalate	**1.13** (0.561)		8270D		1	08/08/13 19:17	CWH0106	CH30632
Fluoranthene	**1.21** (0.561)		8270D		1	08/08/13 19:17	CWH0106	CH30632
Fluorene	ND (0.561)		8270D		1	08/08/13 19:17	CWH0106	CH30632
Hexachlorobenzene	ND (0.561)		8270D		1	08/08/13 19:17	CWH0106	CH30632
Hexachlorocyclopentadiene	ND (2.81)		8270D		1	08/08/13 19:17	CWH0106	CH30632
Indeno(1,2,3-cd)Pyrene	ND (0.561)		8270D		1	08/08/13 19:17	CWH0106	CH30632
Naphthalene	ND (0.561)		8270D		1	08/08/13 19:17	CWH0106	CH30632
Phenanthrene	ND (0.561)		8270D		1	08/08/13 19:17	CWH0106	CH30632

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-108 2-4ft
Date Sampled: 08/01/13 11:01
Percent Solids: 29
Initial Volume: 30.3
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308104
ESS Laboratory Sample ID: 1308104-05
Sample Matrix: Solid
Units: mg/kg dry
Analyst: IBM
Prepared: 8/7/13 16:46

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Phenol	ND (0.561)		8270D		1	08/08/13 19:17	CWH0106	CH30632
Pyrene	**1.01** (0.561)		8270D		1	08/08/13 19:17	CWH0106	CH30632

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*66 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*81 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*70 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*72 %*		*30-130*
Surrogate: 2-Fluorophenol	*64 %*		*30-130*
Surrogate: Nitrobenzene-d5	*69 %*		*30-130*
Surrogate: Phenol-d6	*70 %*		*30-130*
Surrogate: p-Terphenyl-d14	*84 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-108 2-4ft
Date Sampled: 08/01/13 11:01
Percent Solids: 29
Initial Volume: 15.2
Final Volume: 0.5
Extraction Method: 3541

ESS Laboratory Work Order: 1308104
ESS Laboratory Sample ID: 1308104-05
Sample Matrix: Solid
Units: mg/kg dry
Analyst: IBM
Prepared: 8/8/13 9:05

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.028)		8270D		1	08/10/13 1:40	CWH0104	CH30811
Acenaphthene	ND (0.028)		8270D		1	08/10/13 1:40	CWH0104	CH30811
Acenaphthylene	**0.054** (0.028)		8270D		1	08/10/13 1:40	CWH0104	CH30811
Anthracene	**0.050** (0.028)		8270D		1	08/10/13 1:40	CWH0104	CH30811
Benzo(a)anthracene	**0.115** (0.028)		8270D		1	08/10/13 1:40	CWH0104	CH30811
Benzo(a)pyrene	**0.160** (0.028)		8270D		1	08/10/13 1:40	CWH0104	CH30811
Benzo(b)fluoranthene	**0.216** (0.028)		8270D		1	08/10/13 1:40	CWH0104	CH30811
Benzo(g,h,i)perylene	**0.157** (0.028)		8270D		1	08/10/13 1:40	CWH0104	CH30811
Benzo(k)fluoranthene	**0.082** (0.028)		8270D		1	08/10/13 1:40	CWH0104	CH30811
Chrysene	**0.165** (0.028)		8270D		1	08/10/13 1:40	CWH0104	CH30811
Dibenzo(a,h)Anthracene	**0.038** (0.028)		8270D		1	08/10/13 1:40	CWH0104	CH30811
Fluoranthene	**0.234** (0.028)		8270D		1	08/10/13 1:40	CWH0104	CH30811
Fluorene	ND (0.028)		8270D		1	08/10/13 1:40	CWH0104	CH30811
Indeno(1,2,3-cd)Pyrene	**0.162** (0.028)		8270D		1	08/10/13 1:40	CWH0104	CH30811
Naphthalene	**0.046** (0.028)		8270D		1	08/10/13 1:40	CWH0104	CH30811
Phenanthrene	**0.095** (0.028)		8270D		1	08/10/13 1:40	CWH0104	CH30811
Pyrene	**0.254** (0.028)		8270D		1	08/10/13 1:40	CWH0104	CH30811

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*36 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*42 %*		*30-130*
Surrogate: Nitrobenzene-d5	*39 %*		*30-130*
Surrogate: p-Terphenyl-d14	*74 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-108 2-4ft
Date Sampled: 08/01/13 11:01
Percent Solids: 29

ESS Laboratory Work Order: 1308104
ESS Laboratory Sample ID: 1308104-05
Sample Matrix: Solid

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**59600** (500)		TOC-LK		1	SUB	08/12/13 0:00	mg/kg	CH31340

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-108 2-4ft
Date Sampled: 08/01/13 11:01
Percent Solids: 29
Initial Volume: 14.6
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1308104
ESS Laboratory Sample ID: 1308104-05
Sample Matrix: Solid
Units: mg/kg dry

Prepared: 8/8/13 11:00

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	**142** (87.4)		MADEP-EPH		1	VSC	08/12/13 21:13	CWH0163	CH30813
C19-C36 Aliphatics1	**937** (87.4)		MADEP-EPH		1	VSC	08/12/13 21:13	CWH0163	CH30813
C11-C22 Unadjusted Aromatics1	**445** (87.4)		EPH8270		1	IBM	08/09/13 3:02	CWH0116	CH30813
C11-C22 Aromatics1,2	**445** (87.4)		EPH8270			IBM	08/09/13 3:02		[CALC]

	%Recovery	*Qualifier*	*Limits*
Surrogate: 1-Chlorooctadecane	*94 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*113 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*106 %*		*40-140*
Surrogate: O-Terphenyl	*93 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-108 4-6ft
Date Sampled: 08/01/13 11:01
Percent Solids: 23

ESS Laboratory Work Order: 1308104
ESS Laboratory Sample ID: 1308104-06
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (4.3)		6020A		50	JP	08/09/13 4:51	5.18	100	CH30730
Arsenic	**89.7** (4.3)		6010B		1	SVD	08/08/13 5:30	5.18	100	CH30730
Barium	**51.8** (4.3)		6010B		1	SVD	08/08/13 5:30	5.18	100	CH30730
Beryllium	**0.71** (0.18)		6010B		1	SVD	08/08/13 5:30	5.18	100	CH30730
Cadmium	**2.49** (0.86)		6010B		1	SVD	08/08/13 5:30	5.18	100	CH30730
Chromium	**162** (1.7)		6010B		1	SVD	08/08/13 5:30	5.18	100	CH30730
Lead	**257** (8.6)		6010B		1	SVD	08/08/13 5:30	5.18	100	CH30730
Mercury	**2.44** (0.357)		7471B		5	KJK	08/08/13 18:10	1.23	40	CH30732
Nickel	**19.3** (4.3)		6010B		1	SVD	08/08/13 5:30	5.18	100	CH30730
Selenium	ND (4.30)		6020A		50	JP	08/09/13 4:51	5.18	100	CH30730
Silver	**2.44** (0.86)		6010B		1	SVD	08/08/13 5:30	5.18	100	CH30730
Thallium	ND (4.30)		6020A		50	JP	08/09/13 4:51	5.18	100	CH30730
Vanadium	**183** (1.7)		6010B		1	SVD	08/08/13 5:30	5.18	100	CH30730
Zinc	**302** (4.3)		6010B		1	SVD	08/08/13 5:30	5.18	100	CH30730

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-108 4-6ft
Date Sampled: 08/01/13 11:01
Percent Solids: 23

ESS Laboratory Work Order: 1308104
ESS Laboratory Sample ID: 1308104-06
Sample Matrix: Solid

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**54800** (500)		TOC-LK		1	SUB	08/12/13 0:00	mg/kg	CH31340

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-108 8-10ft
Date Sampled: 08/01/13 11:01
Percent Solids: 19

ESS Laboratory Work Order: 1308104
ESS Laboratory Sample ID: 1308104-07
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (5.2)		6020A		50	JP	08/09/13 4:57	5.14	100	CH30730
Arsenic	**135** (5.2)		6010B		1	SVD	08/08/13 5:44	5.14	100	CH30730
Barium	**68.4** (5.2)		6010B		1	SVD	08/08/13 5:44	5.14	100	CH30730
Beryllium	**0.91** (0.22)		6010B		1	SVD	08/08/13 5:44	5.14	100	CH30730
Cadmium	**4.12** (1.05)		6010B		1	SVD	08/08/13 5:44	5.14	100	CH30730
Chromium	**168** (2.1)		6010B		1	SVD	08/08/13 5:44	5.14	100	CH30730
Lead	**328** (10.5)		6010B		1	SVD	08/08/13 5:44	5.14	100	CH30730
Mercury	**4.05** (0.415)		7471B		5	KJK	08/08/13 18:13	1.28	40	CH30732
Nickel	**18.8** (5.2)		6010B		1	SVD	08/08/13 5:44	5.14	100	CH30730
Selenium	ND (5.25)		6020A		50	JP	08/09/13 4:57	5.14	100	CH30730
Silver	**3.26** (1.05)		6010B		1	SVD	08/08/13 5:44	5.14	100	CH30730
Thallium	ND (5.25)		6020A		50	JP	08/09/13 4:57	5.14	100	CH30730
Vanadium	**159** (2.1)		6010B		1	SVD	08/08/13 5:44	5.14	100	CH30730
Zinc	**439** (5.2)		6010B		1	SVD	08/08/13 5:44	5.14	100	CH30730

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-109T 0-0.5ft
Date Sampled: 08/06/13 09:28
Percent Solids: 35

ESS Laboratory Work Order: 1308104
ESS Laboratory Sample ID: 1308104-08
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (2.7)		6020A		50	JP	08/09/13 5:03	5.28	100	CH30730
Arsenic	**75.7** (2.7)		6010B		1	SVD	08/08/13 5:49	5.28	100	CH30730
Barium	**45.9** (2.7)		6010B		1	SVD	08/08/13 5:49	5.28	100	CH30730
Beryllium	**0.57** (0.11)		6010B		1	SVD	08/08/13 5:49	5.28	100	CH30730
Cadmium	**1.68** (0.55)		6010B		1	SVD	08/08/13 5:49	5.28	100	CH30730
Chromium	**62.0** (1.1)		6010B		1	SVD	08/08/13 5:49	5.28	100	CH30730
Lead	**209** (5.5)		6010B		1	SVD	08/08/13 5:49	5.28	100	CH30730
Mercury	**1.43** (0.207)		7471B		5	KJK	08/08/13 18:21	1.38	40	CH30732
Nickel	**22.5** (2.7)		6010B		1	SVD	08/08/13 5:49	5.28	100	CH30730
Selenium	**5.44** (2.75)		6020A		50	JP	08/09/13 5:03	5.28	100	CH30730
Silver	**1.59** (0.55)		6010B		1	SVD	08/08/13 5:49	5.28	100	CH30730
Thallium	ND (2.75)		6020A		50	JP	08/09/13 5:03	5.28	100	CH30730
Vanadium	**84.5** (1.1)		6010B		1	SVD	08/08/13 5:49	5.28	100	CH30730
Zinc	**279** (2.7)		6010B		1	SVD	08/08/13 5:49	5.28	100	CH30730

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-109 0.5-2.5ft
Date Sampled: 08/02/13 08:01
Percent Solids: 64

ESS Laboratory Work Order: 1308104
ESS Laboratory Sample ID: 1308104-09
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	**2.5** (1.4)		6020A		50	JP	08/09/13 5:09	5.46	100	CH30730
Arsenic	**229** (7.2)		6010B		5	SVD	08/08/13 18:41	5.46	100	CH30730
Barium	**40.8** (7.2)		6010B		5	SVD	08/08/13 18:41	5.46	100	CH30730
Beryllium	ND (0.30)		6010B		5	SVD	08/08/13 18:41	5.46	100	CH30730
Cadmium	**1.52** (1.45)		6010B		5	SVD	08/08/13 18:41	5.46	100	CH30730
Chromium	**24.5** (2.9)		6010B		5	SVD	08/08/13 18:41	5.46	100	CH30730
Lead	**394** (14.4)		6010B		5	SVD	08/08/13 18:41	5.46	100	CH30730
Mercury	**3.99** (0.435)		7471B		20	KJK	08/08/13 20:14	1.43	40	CH30732
Nickel	**13.5** (7.2)		6010B		5	SVD	08/08/13 18:41	5.46	100	CH30730
Selenium	**104** (1.45)		6020A		50	JP	08/09/13 5:09	5.46	100	CH30730
Silver	**1.46** (1.45)		6010B		5	SVD	08/08/13 18:41	5.46	100	CH30730
Thallium	ND (1.45)		6020A		50	JP	08/09/13 5:09	5.46	100	CH30730
Vanadium	**25.0** (2.9)		6010B		5	SVD	08/08/13 18:41	5.46	100	CH30730
Zinc	**169** (7.2)		6010B		5	SVD	08/08/13 18:41	5.46	100	CH30730

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-109 0.5-2.5ft
Date Sampled: 08/02/13 08:01
Percent Solids: 64
Initial Volume: 20.2
Final Volume: 5
Extraction Method: 3540

ESS Laboratory Work Order: 1308104
ESS Laboratory Sample ID: 1308104-09
Sample Matrix: Solid
Units: mg/kg dry
Analyst: TJ
Prepared: 8/8/13 17:00
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0389)		8082A		1	08/13/13 15:52		CH30812
Aroclor 1221	ND (0.0389)		8082A		1	08/13/13 15:52		CH30812
Aroclor 1232	ND (0.0389)		8082A		1	08/13/13 15:52		CH30812
Aroclor 1242	ND (0.0389)		8082A		1	08/13/13 15:52		CH30812
Aroclor 1248	ND (0.0389)		8082A		1	08/13/13 15:52		CH30812
Aroclor 1254	ND (0.0389)		8082A		1	08/13/13 15:52		CH30812
Aroclor 1260	ND (0.0389)		8082A		1	08/13/13 15:52		CH30812
Aroclor 1262	ND (0.0389)		8082A		1	08/13/13 15:52		CH30812
Aroclor 1268	ND (0.0389)		8082A		1	08/13/13 15:52		CH30812

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*84 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*79 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*49 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*45 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-109 0.5-2.5ft
Date Sampled: 08/02/13 08:01
Percent Solids: 64
Initial Volume: 30.8
Final Volume: 3
Extraction Method: 3546

ESS Laboratory Work Order: 1308104
ESS Laboratory Sample ID: 1308104-09
Sample Matrix: Solid
Units: mg/kg dry
Analyst: IBM
Prepared: 8/7/13 16:46

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (1.53)		8270D		1	08/08/13 19:50	CWH0106	CH30632
1,2-Dichlorobenzene	ND (1.53)		8270D		1	08/08/13 19:50	CWH0106	CH30632
1,3-Dichlorobenzene	ND (1.53)		8270D		1	08/08/13 19:50	CWH0106	CH30632
1,4-Dichlorobenzene	ND (1.53)		8270D		1	08/08/13 19:50	CWH0106	CH30632
2-Methylnaphthalene	ND (1.53)		8270D		1	08/08/13 19:50	CWH0106	CH30632
2-Methylphenol	ND (1.53)		8270D		1	08/08/13 19:50	CWH0106	CH30632
Acenaphthene	ND (1.53)		8270D		1	08/08/13 19:50	CWH0106	CH30632
Acenaphthylene	ND (1.53)		8270D		1	08/08/13 19:50	CWH0106	CH30632
Anthracene	ND (1.53)		8270D		1	08/08/13 19:50	CWH0106	CH30632
Benzo(a)anthracene	ND (1.53)		8270D		1	08/08/13 19:50	CWH0106	CH30632
Benzo(a)pyrene	ND (0.767)		8270D		1	08/08/13 19:50	CWH0106	CH30632
Benzo(b)fluoranthene	ND (1.53)		8270D		1	08/08/13 19:50	CWH0106	CH30632
Benzo(g,h,i)perylene	ND (1.53)		8270D		1	08/08/13 19:50	CWH0106	CH30632
Benzo(k)fluoranthene	ND (1.53)		8270D		1	08/08/13 19:50	CWH0106	CH30632
bis(2-Ethylhexyl)phthalate	ND (1.53)		8270D		1	08/08/13 19:50	CWH0106	CH30632
Butylbenzylphthalate	ND (1.53)		8270D		1	08/08/13 19:50	CWH0106	CH30632
Carbazole	ND (1.53)		8270D		1	08/08/13 19:50	CWH0106	CH30632
Chrysene	**1.88** (0.767)		8270D		1	08/08/13 19:50	CWH0106	CH30632
Dibenzo(a,h)Anthracene	ND (0.767)		8270D		1	08/08/13 19:50	CWH0106	CH30632
Dibenzofuran	ND (1.53)		8270D		1	08/08/13 19:50	CWH0106	CH30632
Diethylphthalate	ND (1.53)		8270D		1	08/08/13 19:50	CWH0106	CH30632
Dimethylphthalate	ND (1.53)		8270D		1	08/08/13 19:50	CWH0106	CH30632
Di-n-butylphthalate	ND (1.53)		8270D		1	08/08/13 19:50	CWH0106	CH30632
Di-n-octylphthalate	ND (1.53)		8270D		1	08/08/13 19:50	CWH0106	CH30632
Fluoranthene	**4.91** (1.53)		8270D		1	08/08/13 19:50	CWH0106	CH30632
Fluorene	ND (1.53)		8270D		1	08/08/13 19:50	CWH0106	CH30632
Hexachlorobenzene	ND (1.53)		8270D		1	08/08/13 19:50	CWH0106	CH30632
Hexachlorocyclopentadiene	ND (7.67)		8270D		1	08/08/13 19:50	CWH0106	CH30632
Indeno(1,2,3-cd)Pyrene	ND (1.53)		8270D		1	08/08/13 19:50	CWH0106	CH30632
Naphthalene	ND (1.53)		8270D		1	08/08/13 19:50	CWH0106	CH30632
Phenanthrene	ND (1.53)		8270D		1	08/08/13 19:50	CWH0106	CH30632

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-109 0.5-2.5ft
Date Sampled: 08/02/13 08:01
Percent Solids: 64
Initial Volume: 30.8
Final Volume: 3
Extraction Method: 3546

ESS Laboratory Work Order: 1308104
ESS Laboratory Sample ID: 1308104-09
Sample Matrix: Solid
Units: mg/kg dry
Analyst: IBM
Prepared: 8/7/13 16:46

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Phenol	ND (1.53)		8270D		1	08/08/13 19:50	CWH0106	CH30632
Pyrene	**5.34** (1.53)		8270D		1	08/08/13 19:50	CWH0106	CH30632

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*58 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*80 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*60 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*64 %*		*30-130*
Surrogate: 2-Fluorophenol	*55 %*		*30-130*
Surrogate: Nitrobenzene-d5	*58 %*		*30-130*
Surrogate: Phenol-d6	*63 %*		*30-130*
Surrogate: p-Terphenyl-d14	*71 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-109 0.5-2.5ft
Date Sampled: 08/02/13 08:01
Percent Solids: 64
Initial Volume: 15.4
Final Volume: 2
Extraction Method: 3541

ESS Laboratory Work Order: 1308104
ESS Laboratory Sample ID: 1308104-09
Sample Matrix: Solid
Units: mg/kg dry
Analyst: IBM
Prepared: 8/13/13 13:30

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	**0.114** (0.102)		8270D		1	08/15/13 12:19	CWH0207	CH31330
Acenaphthene	**0.120** (0.102)		8270D		1	08/15/13 12:19	CWH0207	CH31330
Acenaphthylene	**0.204** (0.102)		8270D		1	08/15/13 12:19	CWH0207	CH31330
Anthracene	**0.741** (0.102)		8270D		1	08/15/13 12:19	CWH0207	CH31330
Benzo(a)anthracene	**1.12** (0.102)		8270D		1	08/15/13 12:19	CWH0207	CH31330
Benzo(a)pyrene	**0.563** (0.102)		8270D		1	08/15/13 12:19	CWH0207	CH31330
Benzo(b)fluoranthene	**1.35** (0.102)		8270D		1	08/15/13 12:19	CWH0207	CH31330
Benzo(g,h,i)perylene	**0.300** (0.102)		8270D		1	08/15/13 12:19	CWH0207	CH31330
Benzo(k)fluoranthene	**1.42** (0.102)		8270D		1	08/15/13 12:19	CWH0207	CH31330
Chrysene	**1.18** (0.102)		8270D		1	08/15/13 12:19	CWH0207	CH31330
Dibenzo(a,h)Anthracene	ND (0.102)		8270D		1	08/15/13 12:19	CWH0207	CH31330
Fluoranthene	ND (0.102)		8270D		1	08/15/13 12:19	CWH0207	CH31330
Fluorene	**0.163** (0.102)		8270D		1	08/15/13 12:19	CWH0207	CH31330
Indeno(1,2,3-cd)Pyrene	**0.369** (0.102)		8270D		1	08/15/13 12:19	CWH0207	CH31330
Naphthalene	**0.496** (0.102)		8270D		1	08/15/13 12:19	CWH0207	CH31330
Phenanthrene	**0.733** (0.102)		8270D		1	08/15/13 12:19	CWH0207	CH31330
Pyrene	**2.41** (0.102)		8270D		1	08/15/13 12:19	CWH0207	CH31330

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*42 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*54 %*		*30-130*
Surrogate: Nitrobenzene-d5	*46 %*		*30-130*
Surrogate: p-Terphenyl-d14	*102 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-109 0.5-2.5ft
Date Sampled: 08/02/13 08:01
Percent Solids: 64

ESS Laboratory Work Order: 1308104
ESS Laboratory Sample ID: 1308104-09
Sample Matrix: Solid

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**75700** (500)		TOC-LK		1	SUB	08/12/13 0:00	mg/kg	CH31340

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-109 0.5-2.5ft
Date Sampled: 08/02/13 08:01
Percent Solids: 64
Initial Volume: 15.4
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1308104
ESS Laboratory Sample ID: 1308104-09
Sample Matrix: Solid
Units: mg/kg dry

Prepared: 8/8/13 11:00

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	**262** (38.3)		MADEP-EPH		1	IBM	08/09/13 3:35	CWH0117	CH30813
C19-C36 Aliphatics1	**1570** (38.3)		MADEP-EPH		1	IBM	08/09/13 3:35	CWH0117	CH30813
C11-C22 Unadjusted Aromatics1	**2480** (765)		EPH8270		20	SEP	08/10/13 19:18	CWH0135	CH30813
C11-C22 Aromatics1,2	**2480** (765)		EPH8270			SEP	08/10/13 19:18		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*67 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*112 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*49 %*		*40-140*
Surrogate: O-Terphenyl	*46 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-110B 0-0.5ft
Date Sampled: 08/05/13 09:55
Percent Solids: 78

ESS Laboratory Work Order: 1308104
ESS Laboratory Sample ID: 1308104-10
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.3)		6020A		50	JP	08/09/13 5:15	5.17	100	CH30730
Arsenic	**28.5** (1.2)		6010B		1	SVD	08/08/13 6:00	5.17	100	CH30730
Barium	**14.1** (1.2)		6010B		1	SVD	08/08/13 6:00	5.17	100	CH30730
Beryllium	**0.19** (0.05)		6010B		1	SVD	08/08/13 6:00	5.17	100	CH30730
Cadmium	**0.67** (0.25)		6010B		1	SVD	08/08/13 6:00	5.17	100	CH30730
Chromium	**19.0** (0.5)		6010B		1	SVD	08/08/13 6:00	5.17	100	CH30730
Lead	**208** (2.5)		6010B		1	SVD	08/08/13 6:00	5.17	100	CH30730
Mercury	**1.53** (0.105)		7471B		5	KJK	08/08/13 18:26	1.22	40	CH30732
Nickel	**6.2** (1.2)		6010B		1	SVD	08/08/13 6:00	5.17	100	CH30730
Selenium	**6.23** (1.25)		6020A		50	JP	08/09/13 5:15	5.17	100	CH30730
Silver	**0.32** (0.25)		6010B		1	SVD	08/08/13 6:00	5.17	100	CH30730
Thallium	ND (1.25)		6020A		50	JP	08/09/13 5:15	5.17	100	CH30730
Vanadium	**14.6** (0.5)		6010B		1	SVD	08/08/13 6:00	5.17	100	CH30730
Zinc	**173** (1.2)		6010B		1	SVD	08/08/13 6:00	5.17	100	CH30730

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-110B 0-0.5ft
Date Sampled: 08/05/13 09:55
Percent Solids: 78

ESS Laboratory Work Order: 1308104
ESS Laboratory Sample ID: 1308104-10
Sample Matrix: Solid

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**19700** (500)		TOC-LK		1	SUB	08/12/13 0:00	mg/kg	CH31340

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-110B 2-4ft
Date Sampled: 08/05/13 09:55
Percent Solids: 62

ESS Laboratory Work Order: 1308104
ESS Laboratory Sample ID: 1308104-11
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.6)		6020A		50	JP	08/09/13 5:45	5.03	100	CH30730
Arsenic	**2.5** (1.6)		6010B		1	SVD	08/08/13 6:26	5.03	100	CH30730
Barium	**16.7** (1.6)		6010B		1	SVD	08/08/13 6:26	5.03	100	CH30730
Beryllium	**0.35** (0.07)		6010B		1	SVD	08/08/13 6:26	5.03	100	CH30730
Cadmium	**0.39** (0.32)		6010B		1	SVD	08/08/13 6:26	5.03	100	CH30730
Chromium	**17.2** (0.6)		6010B		1	SVD	08/08/13 6:26	5.03	100	CH30730
Lead	**12.8** (3.2)		6010B		1	SVD	08/08/13 6:26	5.03	100	CH30730
Mercury	**0.090** (0.045)		7471B		2	KJK	08/08/13 20:17	1.43	40	CH30732
Nickel	**10.3** (1.6)		6010B		1	SVD	08/08/13 6:26	5.03	100	CH30730
Selenium	ND (1.61)		6020A		50	JP	08/09/13 5:45	5.03	100	CH30730
Silver	ND (0.32)		6010B		1	SVD	08/08/13 6:26	5.03	100	CH30730
Thallium	ND (1.61)		6020A		50	JP	08/09/13 5:45	5.03	100	CH30730
Vanadium	**23.9** (0.6)		6010B		1	SVD	08/08/13 6:26	5.03	100	CH30730
Zinc	**28.8** (1.6)		6010B		1	SVD	08/08/13 6:26	5.03	100	CH30730

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-111 0-0.5ft
Date Sampled: 08/01/13 11:21
Percent Solids: 34

ESS Laboratory Work Order: 1308104
ESS Laboratory Sample ID: 1308104-12
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (2.7)		6020A		50	JP	08/09/13 6:03	5.36	100	CH30730
Arsenic	**28.8** (2.7)		6010B		1	SVD	08/08/13 6:31	5.36	100	CH30730
Barium	**50.5** (2.7)		6010B		1	SVD	08/08/13 6:31	5.36	100	CH30730
Beryllium	**0.53** (0.11)		6010B		1	SVD	08/08/13 6:31	5.36	100	CH30730
Cadmium	**1.45** (0.54)		6010B		1	SVD	08/08/13 6:31	5.36	100	CH30730
Chromium	**63.7** (1.1)		6010B		1	SVD	08/08/13 6:31	5.36	100	CH30730
Lead	**226** (5.4)		6010B		1	SVD	08/08/13 6:31	5.36	100	CH30730
Mercury	**1.37** (0.254)		7471B		5	KJK	08/08/13 18:42	1.13	40	CH30732
Nickel	**18.9** (2.7)		6010B		1	SVD	08/08/13 6:31	5.36	100	CH30730
Selenium	ND (2.72)		6020A		50	JP	08/09/13 6:03	5.36	100	CH30730
Silver	**1.59** (0.54)		6010B		1	SVD	08/08/13 6:31	5.36	100	CH30730
Thallium	ND (2.72)		6020A		50	JP	08/09/13 6:03	5.36	100	CH30730
Vanadium	**62.4** (1.1)		6010B		1	SVD	08/08/13 6:31	5.36	100	CH30730
Zinc	**279** (2.7)		6010B		1	SVD	08/08/13 6:31	5.36	100	CH30730

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-111 2-4ft
Date Sampled: 08/01/13 11:21
Percent Solids: 23

ESS Laboratory Work Order: 1308104
ESS Laboratory Sample ID: 1308104-13
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (4.4)		6020A		50	JP	08/09/13 6:09	5.01	100	CH30730
Arsenic	**77.6** (4.4)		6010B		1	SVD	08/08/13 6:45	5.01	100	CH30730
Barium	**49.1** (4.4)		6010B		1	SVD	08/08/13 6:45	5.01	100	CH30730
Beryllium	**0.52** (0.19)		6010B		1	SVD	08/08/13 6:45	5.01	100	CH30730
Cadmium	**2.46** (0.89)		6010B		1	SVD	08/08/13 6:45	5.01	100	CH30730
Chromium	**107** (1.8)		6010B		1	SVD	08/08/13 6:45	5.01	100	CH30730
Lead	**190** (8.8)		6010B		1	SVD	08/08/13 6:45	5.01	100	CH30730
Mercury	**1.34** (0.343)		7471B		5	KJK	08/08/13 18:45	1.28	40	CH30732
Nickel	**11.5** (4.4)		6010B		1	SVD	08/08/13 6:45	5.01	100	CH30730
Selenium	ND (4.44)		6020A		50	JP	08/09/13 6:09	5.01	100	CH30730
Silver	**1.49** (0.89)		6010B		1	SVD	08/08/13 6:45	5.01	100	CH30730
Thallium	ND (4.44)		6020A		50	JP	08/09/13 6:09	5.01	100	CH30730
Vanadium	**118** (1.8)		6010B		1	SVD	08/08/13 6:45	5.01	100	CH30730
Zinc	**209** (4.4)		6010B		1	SVD	08/08/13 6:45	5.01	100	CH30730

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-111 7-8ft
Date Sampled: 08/01/13 11:21
Percent Solids: 23

ESS Laboratory Work Order: 1308104
ESS Laboratory Sample ID: 1308104-14
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (4.3)		6020A		50	JP	08/09/13 6:15	5.05	100	CH30730
Arsenic	**9.5** (4.3)		6010B		1	SVD	08/08/13 6:51	5.05	100	CH30730
Barium	**38.1** (4.3)		6010B		1	SVD	08/08/13 6:51	5.05	100	CH30730
Beryllium	**0.66** (0.18)		6010B		1	SVD	08/08/13 6:51	5.05	100	CH30730
Cadmium	ND (0.86)		6010B		1	SVD	08/08/13 6:51	5.05	100	CH30730
Chromium	**38.7** (1.7)		6010B		1	SVD	08/08/13 6:51	5.05	100	CH30730
Lead	**32.4** (8.6)		6010B		1	SVD	08/08/13 6:51	5.05	100	CH30730
Mercury	ND (0.083)		7471B		1	KJK	08/08/13 20:20	1.03	40	CH30732
Nickel	**20.6** (4.3)		6010B		1	SVD	08/08/13 6:51	5.05	100	CH30730
Selenium	ND (4.31)		6020A		50	JP	08/09/13 6:15	5.05	100	CH30730
Silver	ND (0.86)		6010B		1	SVD	08/08/13 6:51	5.05	100	CH30730
Thallium	ND (4.31)		6020A		50	JP	08/09/13 6:15	5.05	100	CH30730
Vanadium	**46.7** (1.7)		6010B		1	SVD	08/08/13 6:51	5.05	100	CH30730
Zinc	**81.6** (4.3)		6010B		1	SVD	08/08/13 6:51	5.05	100	CH30730

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-111 7-8ft
Date Sampled: 08/01/13 11:21
Percent Solids: 23
Initial Volume: 20.3
Final Volume: 5
Extraction Method: 3540

ESS Laboratory Work Order: 1308104
ESS Laboratory Sample ID: 1308104-14
Sample Matrix: Solid
Units: mg/kg dry
Analyst: TJ
Prepared: 8/8/13 17:00
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.107)		8082A		1	08/10/13 21:10		CH30812
Aroclor 1221	ND (0.107)		8082A		1	08/10/13 21:10		CH30812
Aroclor 1232	ND (0.107)		8082A		1	08/10/13 21:10		CH30812
Aroclor 1242	ND (0.107)		8082A		1	08/10/13 21:10		CH30812
Aroclor 1248	ND (0.107)		8082A		1	08/10/13 21:10		CH30812
Aroclor 1254	ND (0.107)		8082A		1	08/10/13 21:10		CH30812
Aroclor 1260	ND (0.107)		8082A		1	08/10/13 21:10		CH30812
Aroclor 1262	ND (0.107)		8082A		1	08/10/13 21:10		CH30812
Aroclor 1268	ND (0.107)		8082A		1	08/10/13 21:10		CH30812

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*104 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*74 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*80 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*68 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-111 7-8ft
Date Sampled: 08/01/13 11:21
Percent Solids: 23
Initial Volume: 30.1
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308104
ESS Laboratory Sample ID: 1308104-14
Sample Matrix: Solid
Units: mg/kg dry
Analyst: IBM
Prepared: 8/7/13 16:46

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.718)		8270D		1	08/08/13 20:24	CWH0106	CH30632
1,2-Dichlorobenzene	ND (0.718)		8270D		1	08/08/13 20:24	CWH0106	CH30632
1,3-Dichlorobenzene	ND (0.718)		8270D		1	08/08/13 20:24	CWH0106	CH30632
1,4-Dichlorobenzene	ND (0.718)		8270D		1	08/08/13 20:24	CWH0106	CH30632
2-Methylnaphthalene	ND (0.718)		8270D		1	08/08/13 20:24	CWH0106	CH30632
2-Methylphenol	ND (0.718)		8270D		1	08/08/13 20:24	CWH0106	CH30632
Acenaphthene	ND (0.718)		8270D		1	08/08/13 20:24	CWH0106	CH30632
Acenaphthylene	ND (0.718)		8270D		1	08/08/13 20:24	CWH0106	CH30632
Anthracene	ND (0.718)		8270D		1	08/08/13 20:24	CWH0106	CH30632
Benzo(a)anthracene	ND (0.718)		8270D		1	08/08/13 20:24	CWH0106	CH30632
Benzo(a)pyrene	ND (0.360)		8270D		1	08/08/13 20:24	CWH0106	CH30632
Benzo(b)fluoranthene	ND (0.718)		8270D		1	08/08/13 20:24	CWH0106	CH30632
Benzo(g,h,i)perylene	ND (0.718)		8270D		1	08/08/13 20:24	CWH0106	CH30632
Benzo(k)fluoranthene	ND (0.718)		8270D		1	08/08/13 20:24	CWH0106	CH30632
bis(2-Ethylhexyl)phthalate	**15.2** (0.718)		8270D		1	08/08/13 20:24	CWH0106	CH30632
Butylbenzylphthalate	ND (0.718)		8270D		1	08/08/13 20:24	CWH0106	CH30632
Carbazole	ND (0.718)		8270D		1	08/08/13 20:24	CWH0106	CH30632
Chrysene	ND (0.360)		8270D		1	08/08/13 20:24	CWH0106	CH30632
Dibenzo(a,h)Anthracene	ND (0.360)		8270D		1	08/08/13 20:24	CWH0106	CH30632
Dibenzofuran	ND (0.718)		8270D		1	08/08/13 20:24	CWH0106	CH30632
Diethylphthalate	ND (0.718)		8270D		1	08/08/13 20:24	CWH0106	CH30632
Dimethylphthalate	ND (0.718)		8270D		1	08/08/13 20:24	CWH0106	CH30632
Di-n-butylphthalate	ND (0.718)		8270D		1	08/08/13 20:24	CWH0106	CH30632
Di-n-octylphthalate	**0.751** (0.718)		8270D		1	08/08/13 20:24	CWH0106	CH30632
Fluoranthene	ND (0.718)		8270D		1	08/08/13 20:24	CWH0106	CH30632
Fluorene	ND (0.718)		8270D		1	08/08/13 20:24	CWH0106	CH30632
Hexachlorobenzene	ND (0.718)		8270D		1	08/08/13 20:24	CWH0106	CH30632
Hexachlorocyclopentadiene	ND (3.60)		8270D		1	08/08/13 20:24	CWH0106	CH30632
Indeno(1,2,3-cd)Pyrene	ND (0.718)		8270D		1	08/08/13 20:24	CWH0106	CH30632
Naphthalene	ND (0.718)		8270D		1	08/08/13 20:24	CWH0106	CH30632
Phenanthrene	ND (0.718)		8270D		1	08/08/13 20:24	CWH0106	CH30632

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-111 7-8ft
Date Sampled: 08/01/13 11:21
Percent Solids: 23
Initial Volume: 30.1
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308104
ESS Laboratory Sample ID: 1308104-14
Sample Matrix: Solid
Units: mg/kg dry
Analyst: IBM
Prepared: 8/7/13 16:46

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Phenol	ND (0.718)		8270D		1	08/08/13 20:24	CWH0106	CH30632
Pyrene	ND (0.718)		8270D		1	08/08/13 20:24	CWH0106	CH30632

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*70 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*39 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*75 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*77 %*		*30-130*
Surrogate: 2-Fluorophenol	*68 %*		*30-130*
Surrogate: Nitrobenzene-d5	*72 %*		*30-130*
Surrogate: Phenol-d6	*76 %*		*30-130*
Surrogate: p-Terphenyl-d14	*81 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-111 7-8ft
Date Sampled: 08/01/13 11:21
Percent Solids: 23
Initial Volume: 15.4
Final Volume: 0.5
Extraction Method: 3541

ESS Laboratory Work Order: 1308104
ESS Laboratory Sample ID: 1308104-14
Sample Matrix: Solid
Units: mg/kg dry
Analyst: IBM
Prepared: 8/8/13 9:05

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.035)		8270D		1	08/10/13 2:30	CWH0104	CH30811
Acenaphthene	ND (0.035)		8270D		1	08/10/13 2:30	CWH0104	CH30811
Acenaphthylene	ND (0.035)		8270D		1	08/10/13 2:30	CWH0104	CH30811
Anthracene	**0.042** (0.035)		8270D		1	08/10/13 2:30	CWH0104	CH30811
Benzo(a)anthracene	**0.062** (0.035)		8270D		1	08/10/13 2:30	CWH0104	CH30811
Benzo(a)pyrene	**0.051** (0.035)		8270D		1	08/10/13 2:30	CWH0104	CH30811
Benzo(b)fluoranthene	**0.065** (0.035)		8270D		1	08/10/13 2:30	CWH0104	CH30811
Benzo(g,h,i)perylene	**0.038** (0.035)		8270D		1	08/10/13 2:30	CWH0104	CH30811
Benzo(k)fluoranthene	ND (0.035)		8270D		1	08/10/13 2:30	CWH0104	CH30811
Chrysene	**0.067** (0.035)		8270D		1	08/10/13 2:30	CWH0104	CH30811
Dibenzo(a,h)Anthracene	ND (0.035)		8270D		1	08/10/13 2:30	CWH0104	CH30811
Fluoranthene	**0.114** (0.035)		8270D		1	08/10/13 2:30	CWH0104	CH30811
Fluorene	ND (0.035)		8270D		1	08/10/13 2:30	CWH0104	CH30811
Indeno(1,2,3-cd)Pyrene	**0.041** (0.035)		8270D		1	08/10/13 2:30	CWH0104	CH30811
Naphthalene	**0.091** (0.035)		8270D		1	08/10/13 2:30	CWH0104	CH30811
Phenanthrene	**0.122** (0.035)		8270D		1	08/10/13 2:30	CWH0104	CH30811
Pyrene	**0.125** (0.035)		8270D		1	08/10/13 2:30	CWH0104	CH30811

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*51 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*55 %*		*30-130*
Surrogate: Nitrobenzene-d5	*54 %*		*30-130*
Surrogate: p-Terphenyl-d14	*77 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-111 7-8ft
Date Sampled: 08/01/13 11:21
Percent Solids: 23

ESS Laboratory Work Order: 1308104
ESS Laboratory Sample ID: 1308104-14
Sample Matrix: Solid

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**5210** (500)		TOC-LK		1	SUB	08/13/13 0:00	mg/kg	CH31340

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-111 7-8ft
Date Sampled: 08/01/13 11:21
Percent Solids: 23
Initial Volume: 15.1
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1308104
ESS Laboratory Sample ID: 1308104-14
Sample Matrix: Solid
Units: mg/kg dry

Prepared: 8/8/13 11:00

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	ND (108)		MADEP-EPH		1	IBM	08/09/13 4:25	CWH0117	CH30813
C19-C36 Aliphatics1	ND (108)		MADEP-EPH		1	IBM	08/09/13 4:25	CWH0117	CH30813
C11-C22 Unadjusted Aromatics1	ND (108)		EPH8270		1	IBM	08/09/13 4:36	CWH0116	CH30813
C11-C22 Aromatics1,2	ND (108)		EPH8270			IBM	08/09/13 4:36		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*88 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*104 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*102 %*		*40-140*
Surrogate: O-Terphenyl	*88 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-112T 0-0.5ft
Date Sampled: 08/06/13 09:00
Percent Solids: 25

ESS Laboratory Work Order: 1308104
ESS Laboratory Sample ID: 1308104-15
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (4.0)		6020A		50	JP	08/09/13 6:21	5	100	CH30730
Arsenic	**54.2** (4.0)		6010B		1	SVD	08/08/13 6:56	5	100	CH30730
Barium	**63.6** (4.0)		6010B		1	SVD	08/08/13 6:56	5	100	CH30730
Beryllium	**0.69** (0.17)		6010B		1	SVD	08/08/13 6:56	5	100	CH30730
Cadmium	**2.09** (0.80)		6010B		1	SVD	08/08/13 6:56	5	100	CH30730
Chromium	**83.7** (1.6)		6010B		1	SVD	08/08/13 6:56	5	100	CH30730
Lead	**266** (8.0)		6010B		1	SVD	08/08/13 6:56	5	100	CH30730
Mercury	**1.67** (0.296)		7471B		5	KJK	08/08/13 18:56	1.34	40	CH30732
Nickel	**24.1** (4.0)		6010B		1	SVD	08/08/13 6:56	5	100	CH30730
Selenium	ND (4.02)		6020A		50	JP	08/09/13 6:21	5	100	CH30730
Silver	**2.07** (0.80)		6010B		1	SVD	08/08/13 6:56	5	100	CH30730
Thallium	ND (4.02)		6020A		50	JP	08/09/13 6:21	5	100	CH30730
Vanadium	**82.0** (1.6)		6010B		1	SVD	08/08/13 6:56	5	100	CH30730
Zinc	**373** (4.0)		6010B		1	SVD	08/08/13 6:56	5	100	CH30730

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-112T 0-0.5ft
Date Sampled: 08/06/13 09:00
Percent Solids: 25

ESS Laboratory Work Order: 1308104
ESS Laboratory Sample ID: 1308104-15
Sample Matrix: Solid

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**50700** (500)		TOC-LK		1	SUB	08/13/13 0:00	mg/kg	CH31340

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-112 2-4ft
Date Sampled: 08/01/13 12:26
Percent Solids: 25

ESS Laboratory Work Order: 1308104
ESS Laboratory Sample ID: 1308104-16
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (3.7)		6020A		50	JP	08/09/13 6:27	5.3	100	CH30730
Arsenic	**94.8** (3.7)		6010B		1	SVD	08/08/13 7:02	5.3	100	CH30730
Barium	**60.9** (3.7)		6010B		1	SVD	08/08/13 7:02	5.3	100	CH30730
Beryllium	**0.77** (0.16)		6010B		1	SVD	08/08/13 7:02	5.3	100	CH30730
Cadmium	**3.45** (0.75)		6010B		1	SVD	08/08/13 7:02	5.3	100	CH30730
Chromium	**138** (1.5)		6010B		1	SVD	08/08/13 7:02	5.3	100	CH30730
Lead	**357** (7.5)		6010B		1	SVD	08/08/13 7:02	5.3	100	CH30730
Mercury	**3.70** (0.329)		7471B		5	KJK	08/08/13 18:59	1.19	40	CH30732
Nickel	**29.9** (3.7)		6010B		1	SVD	08/08/13 7:02	5.3	100	CH30730
Selenium	ND (3.75)		6020A		50	JP	08/09/13 6:27	5.3	100	CH30730
Silver	**3.50** (0.75)		6010B		1	SVD	08/08/13 7:02	5.3	100	CH30730
Thallium	ND (3.75)		6020A		50	JP	08/09/13 6:27	5.3	100	CH30730
Vanadium	**231** (1.5)		6010B		1	SVD	08/08/13 7:02	5.3	100	CH30730
Zinc	**469** (3.7)		6010B		1	SVD	08/08/13 7:02	5.3	100	CH30730

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-112 6-8ft
Date Sampled: 08/01/13 12:26
Percent Solids: 22

ESS Laboratory Work Order: 1308104
ESS Laboratory Sample ID: 1308104-17
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (4.6)		6020A		50	JP	08/09/13 6:33	5.01	100	CH30730
Arsenic	**87.3** (4.5)		6010B		1	SVD	08/08/13 7:07	5.01	100	CH30730
Barium	**48.0** (4.5)		6010B		1	SVD	08/08/13 7:07	5.01	100	CH30730
Beryllium	**0.94** (0.19)		6010B		1	SVD	08/08/13 7:07	5.01	100	CH30730
Cadmium	**2.73** (0.92)		6010B		1	SVD	08/08/13 7:07	5.01	100	CH30730
Chromium	**115** (1.8)		6010B		1	SVD	08/08/13 7:07	5.01	100	CH30730
Lead	**178** (9.1)		6010B		1	SVD	08/08/13 7:07	5.01	100	CH30730
Mercury	**2.68** (0.400)		7471B		5	KJK	08/08/13 19:01	1.13	40	CH30732
Nickel	**23.9** (4.5)		6010B		1	SVD	08/08/13 7:07	5.01	100	CH30730
Selenium	ND (4.58)		6020A		50	JP	08/09/13 6:33	5.01	100	CH30730
Silver	**1.69** (0.92)		6010B		1	SVD	08/08/13 7:07	5.01	100	CH30730
Thallium	ND (4.58)		6020A		50	JP	08/09/13 6:33	5.01	100	CH30730
Vanadium	**120** (1.8)		6010B		1	SVD	08/08/13 7:07	5.01	100	CH30730
Zinc	**243** (4.5)		6010B		1	SVD	08/08/13 7:07	5.01	100	CH30730

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-113T 0-0.5ft
Date Sampled: 08/06/13 11:11
Percent Solids: 52

ESS Laboratory Work Order: 1308104
ESS Laboratory Sample ID: 1308104-18
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.8)		6020A		50	JP	08/09/13 6:39	5.4	100	CH30730
Arsenic	**39.7** (1.8)		6010B		1	SVD	08/08/13 7:13	5.4	100	CH30730
Barium	**21.9** (1.8)		6010B		1	SVD	08/08/13 7:13	5.4	100	CH30730
Beryllium	**0.29** (0.07)		6010B		1	SVD	08/08/13 7:13	5.4	100	CH30730
Cadmium	**0.95** (0.36)		6010B		1	SVD	08/08/13 7:13	5.4	100	CH30730
Chromium	**32.8** (0.7)		6010B		1	SVD	08/08/13 7:13	5.4	100	CH30730
Lead	**101** (3.5)		6010B		1	SVD	08/08/13 7:13	5.4	100	CH30730
Mercury	**0.754** (0.126)		7471B		5	KJK	08/08/13 19:04	1.5	40	CH30732
Nickel	**15.3** (1.8)		6010B		1	SVD	08/08/13 7:13	5.4	100	CH30730
Selenium	**1.81** (1.78)		6020A		50	JP	08/09/13 6:39	5.4	100	CH30730
Silver	**0.91** (0.36)		6010B		1	SVD	08/08/13 7:13	5.4	100	CH30730
Thallium	ND (1.78)		6020A		50	JP	08/09/13 6:39	5.4	100	CH30730
Vanadium	**52.9** (0.7)		6010B		1	SVD	08/08/13 7:13	5.4	100	CH30730
Zinc	**147** (1.8)		6010B		1	SVD	08/08/13 7:13	5.4	100	CH30730

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-113T 0-0.5ft
Date Sampled: 08/06/13 11:11
Percent Solids: 52
Initial Volume: 20.5
Final Volume: 5
Extraction Method: 3540

ESS Laboratory Work Order: 1308104
ESS Laboratory Sample ID: 1308104-18
Sample Matrix: Solid
Units: mg/kg dry
Analyst: TJ
Prepared: 8/8/13 17:00
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0466)		8082A		1	08/11/13 5:47		CH30812
Aroclor 1221	ND (0.0466)		8082A		1	08/11/13 5:47		CH30812
Aroclor 1232	ND (0.0466)		8082A		1	08/11/13 5:47		CH30812
Aroclor 1242	ND (0.0466)		8082A		1	08/11/13 5:47		CH30812
Aroclor 1248	**0.648** (0.0466)		8082A		1	08/11/13 5:47		CH30812
Aroclor 1254	**0.914** (0.0466)		8082A		1	08/11/13 5:47		CH30812
Aroclor 1260	**0.358** (0.0466)		8082A		1	08/11/13 5:47		CH30812
Aroclor 1262	ND (0.0466)		8082A		1	08/11/13 5:47		CH30812
Aroclor 1268	ND (0.0466)		8082A		1	08/11/13 5:47		CH30812

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*92 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*98 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*73 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*63 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-113T 0-0.5ft
Date Sampled: 08/06/13 11:11
Percent Solids: 52
Initial Volume: 30.4
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308104
ESS Laboratory Sample ID: 1308104-18
Sample Matrix: Solid
Units: mg/kg dry
Analyst: IBM
Prepared: 8/7/13 16:46

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.314)		8270D		1	08/08/13 20:57	CWH0106	CH30632
1,2-Dichlorobenzene	ND (0.314)		8270D		1	08/08/13 20:57	CWH0106	CH30632
1,3-Dichlorobenzene	ND (0.314)		8270D		1	08/08/13 20:57	CWH0106	CH30632
1,4-Dichlorobenzene	ND (0.314)		8270D		1	08/08/13 20:57	CWH0106	CH30632
2-Methylnaphthalene	ND (0.314)		8270D		1	08/08/13 20:57	CWH0106	CH30632
2-Methylphenol	ND (0.314)		8270D		1	08/08/13 20:57	CWH0106	CH30632
Acenaphthene	ND (0.314)		8270D		1	08/08/13 20:57	CWH0106	CH30632
Acenaphthylene	ND (0.314)		8270D		1	08/08/13 20:57	CWH0106	CH30632
Anthracene	ND (0.314)		8270D		1	08/08/13 20:57	CWH0106	CH30632
Benzo(a)anthracene	ND (0.314)		8270D		1	08/08/13 20:57	CWH0106	CH30632
Benzo(a)pyrene	**0.231** (0.158)		8270D		1	08/08/13 20:57	CWH0106	CH30632
Benzo(b)fluoranthene	ND (0.314)		8270D		1	08/08/13 20:57	CWH0106	CH30632
Benzo(g,h,i)perylene	ND (0.314)		8270D		1	08/08/13 20:57	CWH0106	CH30632
Benzo(k)fluoranthene	ND (0.314)		8270D		1	08/08/13 20:57	CWH0106	CH30632
bis(2-Ethylhexyl)phthalate	**2.27** (0.314)		8270D		1	08/08/13 20:57	CWH0106	CH30632
Butylbenzylphthalate	ND (0.314)		8270D		1	08/08/13 20:57	CWH0106	CH30632
Carbazole	ND (0.314)		8270D		1	08/08/13 20:57	CWH0106	CH30632
Chrysene	**0.256** (0.158)		8270D		1	08/08/13 20:57	CWH0106	CH30632
Dibenzo(a,h)Anthracene	ND (0.158)		8270D		1	08/08/13 20:57	CWH0106	CH30632
Dibenzofuran	ND (0.314)		8270D		1	08/08/13 20:57	CWH0106	CH30632
Diethylphthalate	ND (0.314)		8270D		1	08/08/13 20:57	CWH0106	CH30632
Dimethylphthalate	ND (0.314)		8270D		1	08/08/13 20:57	CWH0106	CH30632
Di-n-butylphthalate	ND (0.314)		8270D		1	08/08/13 20:57	CWH0106	CH30632
Di-n-octylphthalate	ND (0.314)		8270D		1	08/08/13 20:57	CWH0106	CH30632
Fluoranthene	**0.431** (0.314)		8270D		1	08/08/13 20:57	CWH0106	CH30632
Fluorene	ND (0.314)		8270D		1	08/08/13 20:57	CWH0106	CH30632
Hexachlorobenzene	ND (0.314)		8270D		1	08/08/13 20:57	CWH0106	CH30632
Hexachlorocyclopentadiene	ND (1.58)		8270D		1	08/08/13 20:57	CWH0106	CH30632
Indeno(1,2,3-cd)Pyrene	ND (0.314)		8270D		1	08/08/13 20:57	CWH0106	CH30632
Naphthalene	ND (0.314)		8270D		1	08/08/13 20:57	CWH0106	CH30632
Phenanthrene	ND (0.314)		8270D		1	08/08/13 20:57	CWH0106	CH30632

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-113T 0-0.5ft
Date Sampled: 08/06/13 11:11
Percent Solids: 52
Initial Volume: 30.4
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308104
ESS Laboratory Sample ID: 1308104-18
Sample Matrix: Solid
Units: mg/kg dry
Analyst: IBM
Prepared: 8/7/13 16:46

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Phenol	ND (0.314)		8270D		1	08/08/13 20:57	CWH0106	CH30632
Pyrene	**0.408** (0.314)		8270D		1	08/08/13 20:57	CWH0106	CH30632

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*65 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*49 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*69 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*75 %*		*30-130*
Surrogate: 2-Fluorophenol	*64 %*		*30-130*
Surrogate: Nitrobenzene-d5	*68 %*		*30-130*
Surrogate: Phenol-d6	*68 %*		*30-130*
Surrogate: p-Terphenyl-d14	*77 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-113T 0-0.5ft
Date Sampled: 08/06/13 11:11
Percent Solids: 52
Initial Volume: 15.1
Final Volume: 0.5
Extraction Method: 3541

ESS Laboratory Work Order: 1308104
ESS Laboratory Sample ID: 1308104-18
Sample Matrix: Solid
Units: mg/kg dry
Analyst: IBM
Prepared: 8/8/13 9:05

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.079)		8270D		5	08/10/13 3:19	CWH0104	CH30811
Acenaphthene	ND (0.079)		8270D		5	08/10/13 3:19	CWH0104	CH30811
Acenaphthylene	ND (0.079)		8270D		5	08/10/13 3:19	CWH0104	CH30811
Anthracene	ND (0.079)		8270D		5	08/10/13 3:19	CWH0104	CH30811
Benzo(a)anthracene	**0.117** (0.079)		8270D		5	08/10/13 3:19	CWH0104	CH30811
Benzo(a)pyrene	**0.149** (0.079)		8270D		5	08/10/13 3:19	CWH0104	CH30811
Benzo(b)fluoranthene	**0.206** (0.079)		8270D		5	08/10/13 3:19	CWH0104	CH30811
Benzo(g,h,i)perylene	**0.130** (0.079)		8270D		5	08/10/13 3:19	CWH0104	CH30811
Benzo(k)fluoranthene	ND (0.079)		8270D		5	08/10/13 3:19	CWH0104	CH30811
Chrysene	**0.158** (0.079)		8270D		5	08/10/13 3:19	CWH0104	CH30811
Dibenzo(a,h)Anthracene	ND (0.079)		8270D		5	08/10/13 3:19	CWH0104	CH30811
Fluoranthene	**0.203** (0.079)		8270D		5	08/10/13 3:19	CWH0104	CH30811
Fluorene	ND (0.079)		8270D		5	08/10/13 3:19	CWH0104	CH30811
Indeno(1,2,3-cd)Pyrene	**0.139** (0.079)		8270D		5	08/10/13 3:19	CWH0104	CH30811
Naphthalene	ND (0.079)		8270D		5	08/10/13 3:19	CWH0104	CH30811
Phenanthrene	**0.108** (0.079)		8270D		5	08/10/13 3:19	CWH0104	CH30811
Pyrene	**0.237** (0.079)		8270D		5	08/10/13 3:19	CWH0104	CH30811

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*34 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*43 %*		*30-130*
Surrogate: Nitrobenzene-d5	*38 %*		*30-130*
Surrogate: p-Terphenyl-d14	*74 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-113T 0-0.5ft
Date Sampled: 08/06/13 11:11
Percent Solids: 52

ESS Laboratory Work Order: 1308104
ESS Laboratory Sample ID: 1308104-18
Sample Matrix: Solid

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**24600** (500)		TOC-LK		1	SUB	08/13/13 0:00	mg/kg	CH31340

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-113T 0-0.5ft
Date Sampled: 08/06/13 11:11
Percent Solids: 52
Initial Volume: 15.4
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1308104
ESS Laboratory Sample ID: 1308104-18
Sample Matrix: Solid
Units: mg/kg dry

Prepared: 8/8/13 11:00

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	**51.4** (46.5)		MADEP-EPH		1	IBM	08/09/13 5:16	CWH0117	CH30813
C19-C36 Aliphatics1	**329** (46.5)		MADEP-EPH		1	IBM	08/09/13 5:16	CWH0117	CH30813
C11-C22 Unadjusted Aromatics1	**175** (46.5)		EPH8270		1	IBM	08/09/13 5:23	CWH0116	CH30813
C11-C22 Aromatics1,2	**175** (46.5)		EPH8270			IBM	08/09/13 5:23		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*87 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*100 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*93 %*		*40-140*
Surrogate: O-Terphenyl	*91 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-113 2-4ft
Date Sampled: 08/01/13 12:41
Percent Solids: 53

ESS Laboratory Work Order: 1308104
ESS Laboratory Sample ID: 1308104-19
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.8)		6020A		50	JP	08/09/13 6:45	5.27	100	CH30730
Arsenic	**46.4** (1.8)		6010B		1	SVD	08/08/13 7:18	5.27	100	CH30730
Barium	**30.8** (1.8)		6010B		1	SVD	08/08/13 7:18	5.27	100	CH30730
Beryllium	**0.33** (0.07)		6010B		1	SVD	08/08/13 7:18	5.27	100	CH30730
Cadmium	**1.30** (0.36)		6010B		1	SVD	08/08/13 7:18	5.27	100	CH30730
Chromium	**37.2** (0.7)		6010B		1	SVD	08/08/13 7:18	5.27	100	CH30730
Lead	**187** (3.6)		6010B		1	SVD	08/08/13 7:18	5.27	100	CH30730
Mercury	**1.59** (0.134)		7471B		5	KJK	08/08/13 19:07	1.39	40	CH30732
Nickel	**19.7** (1.8)		6010B		1	SVD	08/08/13 7:18	5.27	100	CH30730
Selenium	**2.75** (1.79)		6020A		50	JP	08/09/13 6:45	5.27	100	CH30730
Silver	**1.16** (0.36)		6010B		1	SVD	08/08/13 7:18	5.27	100	CH30730
Thallium	ND (1.79)		6020A		50	JP	08/09/13 6:45	5.27	100	CH30730
Vanadium	**171** (0.7)		6010B		1	SVD	08/08/13 7:18	5.27	100	CH30730
Zinc	**190** (1.8)		6010B		1	SVD	08/08/13 7:18	5.27	100	CH30730

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-113 2-4ft
Date Sampled: 08/01/13 12:41
Percent Solids: 53
Initial Volume: 20.7
Final Volume: 5
Extraction Method: 3540

ESS Laboratory Work Order: 1308104
ESS Laboratory Sample ID: 1308104-19
Sample Matrix: Solid
Units: mg/kg dry
Analyst: TJ
Prepared: 8/8/13 17:00
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0453)		8082A		1	08/12/13 16:31		CH30812
Aroclor 1221	ND (0.0453)		8082A		1	08/12/13 16:31		CH30812
Aroclor 1232	ND (0.0453)		8082A		1	08/12/13 16:31		CH30812
Aroclor 1242	ND (0.0453)		8082A		1	08/12/13 16:31		CH30812
Aroclor 1248	ND (0.0453)		8082A		1	08/12/13 16:31		CH30812
Aroclor 1254	**1.38** (0.226)		8082A		5	08/13/13 16:11		CH30812
Aroclor 1260	**1.42** (0.226)		8082A		5	08/13/13 16:11		CH30812
Aroclor 1262	ND (0.0453)		8082A		1	08/12/13 16:31		CH30812
Aroclor 1268	ND (0.0453)		8082A		1	08/12/13 16:31		CH30812

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*93 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*88 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*61 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*54 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-113 2-4ft
Date Sampled: 08/01/13 12:41
Percent Solids: 53
Initial Volume: 30.4
Final Volume: 3
Extraction Method: 3546

ESS Laboratory Work Order: 1308104
ESS Laboratory Sample ID: 1308104-19
Sample Matrix: Solid
Units: mg/kg dry
Analyst: IBM
Prepared: 8/7/13 16:46

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (1.85)		8270D		1	08/08/13 21:30	CWH0106	CH30632
1,2-Dichlorobenzene	ND (1.85)		8270D		1	08/08/13 21:30	CWH0106	CH30632
1,3-Dichlorobenzene	ND (1.85)		8270D		1	08/08/13 21:30	CWH0106	CH30632
1,4-Dichlorobenzene	ND (1.85)		8270D		1	08/08/13 21:30	CWH0106	CH30632
2-Methylnaphthalene	ND (1.85)		8270D		1	08/08/13 21:30	CWH0106	CH30632
2-Methylphenol	ND (1.85)		8270D		1	08/08/13 21:30	CWH0106	CH30632
Acenaphthene	ND (1.85)		8270D		1	08/08/13 21:30	CWH0106	CH30632
Acenaphthylene	ND (1.85)		8270D		1	08/08/13 21:30	CWH0106	CH30632
Anthracene	ND (1.85)		8270D		1	08/08/13 21:30	CWH0106	CH30632
Benzo(a)anthracene	ND (1.85)		8270D		1	08/08/13 21:30	CWH0106	CH30632
Benzo(a)pyrene	ND (0.927)		8270D		1	08/08/13 21:30	CWH0106	CH30632
Benzo(b)fluoranthene	ND (1.85)		8270D		1	08/08/13 21:30	CWH0106	CH30632
Benzo(g,h,i)perylene	ND (1.85)		8270D		1	08/08/13 21:30	CWH0106	CH30632
Benzo(k)fluoranthene	ND (1.85)		8270D		1	08/08/13 21:30	CWH0106	CH30632
bis(2-Ethylhexyl)phthalate	**30.4** (1.85)		8270D		1	08/08/13 21:30	CWH0106	CH30632
Butylbenzylphthalate	ND (1.85)		8270D		1	08/08/13 21:30	CWH0106	CH30632
Carbazole	ND (1.85)		8270D		1	08/08/13 21:30	CWH0106	CH30632
Chrysene	ND (0.927)		8270D		1	08/08/13 21:30	CWH0106	CH30632
Dibenzo(a,h)Anthracene	ND (0.927)		8270D		1	08/08/13 21:30	CWH0106	CH30632
Dibenzofuran	ND (1.85)		8270D		1	08/08/13 21:30	CWH0106	CH30632
Diethylphthalate	ND (1.85)		8270D		1	08/08/13 21:30	CWH0106	CH30632
Dimethylphthalate	ND (1.85)		8270D		1	08/08/13 21:30	CWH0106	CH30632
Di-n-butylphthalate	ND (1.85)		8270D		1	08/08/13 21:30	CWH0106	CH30632
Di-n-octylphthalate	ND (1.85)		8270D		1	08/08/13 21:30	CWH0106	CH30632
Fluoranthene	ND (1.85)		8270D		1	08/08/13 21:30	CWH0106	CH30632
Fluorene	ND (1.85)		8270D		1	08/08/13 21:30	CWH0106	CH30632
Hexachlorobenzene	ND (1.85)		8270D		1	08/08/13 21:30	CWH0106	CH30632
Hexachlorocyclopentadiene	ND (9.27)		8270D		1	08/08/13 21:30	CWH0106	CH30632
Indeno(1,2,3-cd)Pyrene	ND (1.85)		8270D		1	08/08/13 21:30	CWH0106	CH30632
Naphthalene	ND (1.85)		8270D		1	08/08/13 21:30	CWH0106	CH30632
Phenanthrene	ND (1.85)		8270D		1	08/08/13 21:30	CWH0106	CH30632

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-113 2-4ft
Date Sampled: 08/01/13 12:41
Percent Solids: 53
Initial Volume: 30.4
Final Volume: 3
Extraction Method: 3546

ESS Laboratory Work Order: 1308104
ESS Laboratory Sample ID: 1308104-19
Sample Matrix: Solid
Units: mg/kg dry
Analyst: IBM
Prepared: 8/7/13 16:46

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Phenol	ND (1.85)		8270D		1	08/08/13 21:30	CWH0106	CH30632
Pyrene	ND (1.85)		8270D		1	08/08/13 21:30	CWH0106	CH30632

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*31 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*37 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*32 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*36 %*		*30-130*
Surrogate: 2-Fluorophenol	*32 %*		*30-130*
Surrogate: Nitrobenzene-d5	*30 %*		*30-130*
Surrogate: Phenol-d6	*34 %*		*30-130*
Surrogate: p-Terphenyl-d14	*47 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-113 2-4ft
Date Sampled: 08/01/13 12:41
Percent Solids: 53
Initial Volume: 15.3
Final Volume: 3
Extraction Method: 3541

ESS Laboratory Work Order: 1308104
ESS Laboratory Sample ID: 1308104-19
Sample Matrix: Solid
Units: mg/kg dry
Analyst: IBM
Prepared: 8/8/13 9:05

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.092)		8270D		1	08/10/13 8:59	CWH0128	CH30811
Acenaphthene	ND (0.092)		8270D		1	08/10/13 8:59	CWH0128	CH30811
Acenaphthylene	**0.180** (0.092)		8270D		1	08/10/13 8:59	CWH0128	CH30811
Anthracene	**0.268** (0.092)		8270D		1	08/10/13 8:59	CWH0128	CH30811
Benzo(a)anthracene	**0.577** (0.092)		8270D		1	08/10/13 8:59	CWH0128	CH30811
Benzo(a)pyrene	**0.599** (0.092)		8270D		1	08/10/13 8:59	CWH0128	CH30811
Benzo(b)fluoranthene	**0.875** (0.092)		8270D		1	08/10/13 8:59	CWH0128	CH30811
Benzo(g,h,i)perylene	**0.515** (0.092)		8270D		1	08/10/13 8:59	CWH0128	CH30811
Benzo(k)fluoranthene	**0.309** (0.092)		8270D		1	08/10/13 8:59	CWH0128	CH30811
Chrysene	**0.680** (0.092)		8270D		1	08/10/13 8:59	CWH0128	CH30811
Dibenzo(a,h)Anthracene	**0.154** (0.092)		8270D		1	08/10/13 8:59	CWH0128	CH30811
Fluoranthene	**0.673** (0.092)		8270D		1	08/10/13 8:59	CWH0128	CH30811
Fluorene	ND (0.092)		8270D		1	08/10/13 8:59	CWH0128	CH30811
Indeno(1,2,3-cd)Pyrene	**0.585** (0.092)		8270D		1	08/10/13 8:59	CWH0128	CH30811
Naphthalene	ND (0.092)		8270D		1	08/10/13 8:59	CWH0128	CH30811
Phenanthrene	**0.408** (0.092)		8270D		1	08/10/13 8:59	CWH0128	CH30811
Pyrene	**1.01** (0.092)		8270D		1	08/10/13 8:59	CWH0128	CH30811

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*40 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*52 %*		*30-130*
Surrogate: Nitrobenzene-d5	*38 %*		*30-130*
Surrogate: p-Terphenyl-d14	*97 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-113 2-4ft
Date Sampled: 08/01/13 12:41
Percent Solids: 53

ESS Laboratory Work Order: 1308104
ESS Laboratory Sample ID: 1308104-19
Sample Matrix: Solid

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**31300** (500)		TOC-LK		1	SUB	08/13/13 0:00	mg/kg	CH31340

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-113 2-4ft
Date Sampled: 08/01/13 12:41
Percent Solids: 53
Initial Volume: 14.6
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1308104
ESS Laboratory Sample ID: 1308104-19
Sample Matrix: Solid
Units: mg/kg dry

Prepared: 8/8/13 11:00

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	ND (48.2)		MADEP-EPH		1	IBM	08/09/13 6:07	CWH0117	CH30813
C19-C36 Aliphatics1	**305** (48.2)		MADEP-EPH		1	IBM	08/09/13 6:07	CWH0117	CH30813
C11-C22 Unadjusted Aromatics1	**2630** (963)		EPH8270		20	SEP	08/10/13 20:05	CWH0135	CH30813
C11-C22 Aromatics1,2	**2630** (963)		EPH8270			SEP	08/10/13 20:05		[CALC]

	%Recovery	*Qualifier*	*Limits*
Surrogate: 1-Chlorooctadecane	*50 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*107 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*95 %*		*40-140*
Surrogate: O-Terphenyl	*63 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-113 4-6ft
Date Sampled: 08/01/13 12:41
Percent Solids: 69

ESS Laboratory Work Order: 1308104
ESS Laboratory Sample ID: 1308104-20
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.4)		6020A		50	JP	08/09/13 6:51	5.35	100	CH30730
Arsenic	**78.3** (6.8)		6010B		5	SVD	08/08/13 18:46	5.35	100	CH30730
Barium	**36.0** (6.8)		6010B		5	SVD	08/08/13 18:46	5.35	100	CH30730
Beryllium	ND (0.29)		6010B		5	SVD	08/08/13 18:46	5.35	100	CH30730
Cadmium	**1.76** (1.37)		6010B		5	SVD	08/08/13 18:46	5.35	100	CH30730
Chromium	**40.8** (2.7)		6010B		5	SVD	08/08/13 18:46	5.35	100	CH30730
Lead	**246** (13.6)		6010B		5	SVD	08/08/13 18:46	5.35	100	CH30730
Mercury	**1.08** (0.115)		7471B		5	KJK	08/08/13 19:09	1.25	40	CH30732
Nickel	**8.2** (6.8)		6010B		5	SVD	08/08/13 18:46	5.35	100	CH30730
Selenium	**26.8** (1.37)		6020A		50	JP	08/09/13 6:51	5.35	100	CH30730
Silver	**1.74** (1.37)		6010B		5	SVD	08/08/13 18:46	5.35	100	CH30730
Thallium	ND (1.37)		6020A		50	JP	08/09/13 6:51	5.35	100	CH30730
Vanadium	**26.8** (2.7)		6010B		5	SVD	08/08/13 18:46	5.35	100	CH30730
Zinc	**187** (6.8)		6010B		5	SVD	08/08/13 18:46	5.35	100	CH30730

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308104

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Total Metals Solid										
Batch CH30730 - 3050B										
Blank										
Antimony	ND	2.5	mg/kg wet							
Arsenic	ND	2.5	mg/kg wet							
Barium	ND	2.5	mg/kg wet							
Beryllium	ND	0.10	mg/kg wet							
Cadmium	ND	0.50	mg/kg wet							
Chromium	ND	1.0	mg/kg wet							
Lead	ND	5.0	mg/kg wet							
Nickel	ND	2.5	mg/kg wet							
Selenium	ND	2.51	mg/kg wet							
Silver	ND	0.50	mg/kg wet							
Thallium	ND	2.51	mg/kg wet							
Vanadium	ND	1.0	mg/kg wet							
Zinc	ND	2.5	mg/kg wet							
LCS										
Antimony	96.9	9.7	mg/kg wet	106.0		91	80-120			
Arsenic	156	9.6	mg/kg wet	182.0		86	80-120			
Barium	120	9.6	mg/kg wet	143.0		84	80-120			
Beryllium	80.0	0.40	mg/kg wet	98.30		81	80-120			
Cadmium	49.7	1.93	mg/kg wet	60.40		82	80-120			
Chromium	105	3.8	mg/kg wet	125.0		84	80-120			
Lead	113	19.2	mg/kg wet	136.0		83	80-120			
Nickel	108	9.6	mg/kg wet	128.0		85	80-120			
Selenium	84.1	9.66	mg/kg wet	85.90		98	80-120			
Silver	52.6	1.93	mg/kg wet	61.30		86	80-120			
Thallium	129	9.66	mg/kg wet	144.0		89	80-120			
Vanadium	88.9	3.8	mg/kg wet	104.0		85	80-120			
Zinc	165	9.6	mg/kg wet	204.0		81	80-120			
LCS Dup										
Antimony	93.7	9.0	mg/kg wet	106.0		88	80-120	3	20	
Arsenic	159	8.9	mg/kg wet	182.0		87	80-120	2	20	
Barium	116	8.9	mg/kg wet	143.0		81	80-120	4	20	
Beryllium	79.3	0.38	mg/kg wet	98.30		81	80-120	0.9	20	
Cadmium	50.8	1.79	mg/kg wet	60.40		84	80-120	2	20	
Chromium	103	3.6	mg/kg wet	125.0		83	80-120	1	20	
Lead	111	17.9	mg/kg wet	136.0		82	80-120	2	20	
Nickel	106	8.9	mg/kg wet	128.0		83	80-120	2	20	
Selenium	78.9	8.97	mg/kg wet	85.90		92	80-120	6	20	
Silver	51.8	1.79	mg/kg wet	61.30		85	80-120	2	20	
Thallium	130	8.97	mg/kg wet	144.0		90	80-120	0.9	20	
Vanadium	86.3	3.6	mg/kg wet	104.0		83	80-120	3	20	
Zinc	168	8.9	mg/kg wet	204.0		82	80-120	2	20	
Batch CH30732 - 7471A										
Blank										

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308104

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Total Metals Solid										
Batch CH30732 - 7471A										
Mercury	ND	0.033	mg/kg wet							
LCS										
Mercury	10.6	0.728	mg/kg wet	9.250		115	80-120			
LCS Dup										
Mercury	8.71	0.811	mg/kg wet	9.250		94	80-120	20	20	
8082A Polychlorinated Biphenyls (PCB)										
Batch CH30812 - 3540										
Blank										
Aroclor 1016	ND	0.0250	mg/kg wet							
Aroclor 1016 (1)	ND	0.0250	mg/kg wet							
Aroclor 1016 (1) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1016 (2)	ND	0.0250	mg/kg wet							
Aroclor 1016 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1016 (3)	ND	0.0250	mg/kg wet							
Aroclor 1016 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1016 (4)	ND	0.0250	mg/kg wet							
Aroclor 1016 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1016 (5)	ND	0.0250	mg/kg wet							
Aroclor 1016 (5) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1221	ND	0.0250	mg/kg wet							
Aroclor 1221 (1)	ND	0.0250	mg/kg wet							
Aroclor 1221 (1) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1221 (2)	ND	0.0250	mg/kg wet							
Aroclor 1221 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1221 (3)	ND	0.0250	mg/kg wet							
Aroclor 1221 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1221 (4)	ND	0.0250	mg/kg wet							
Aroclor 1221 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1221 (5)	ND	0.0250	mg/kg wet							
Aroclor 1221 (5) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1232	ND	0.0250	mg/kg wet							
Aroclor 1232 (1)	ND	0.0250	mg/kg wet							
Aroclor 1232 (1) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1232 (2)	ND	0.0250	mg/kg wet							
Aroclor 1232 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1232 (3)	ND	0.0250	mg/kg wet							
Aroclor 1232 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1232 (4)	ND	0.0250	mg/kg wet							
Aroclor 1232 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1232 (5)	ND	0.0250	mg/kg wet							
Aroclor 1232 (5) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1242	ND	0.0250	mg/kg wet							
Aroclor 1242 (1)	ND	0.0250	mg/kg wet							

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Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch CH30812 - 3540										
Aroclor 1242 (1) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1242 (2)	ND	0.0250	mg/kg wet							
Aroclor 1242 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1242 (3)	ND	0.0250	mg/kg wet							
Aroclor 1242 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1242 (4)	ND	0.0250	mg/kg wet							
Aroclor 1242 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1242 (5)	ND	0.0250	mg/kg wet							
Aroclor 1242 (5) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1248	ND	0.0250	mg/kg wet							
Aroclor 1248 (1)	ND	0.0250	mg/kg wet							
Aroclor 1248 (1) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1248 (2)	ND	0.0250	mg/kg wet							
Aroclor 1248 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1248 (3)	ND	0.0250	mg/kg wet							
Aroclor 1248 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1248 (4)	ND	0.0250	mg/kg wet							
Aroclor 1248 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1248 (5)	ND	0.0250	mg/kg wet							
Aroclor 1248 (5) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1254	ND	0.0250	mg/kg wet							
Aroclor 1254 (1)	ND	0.0250	mg/kg wet							
Aroclor 1254 (1) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1254 (2)	ND	0.0250	mg/kg wet							
Aroclor 1254 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1254 (3)	ND	0.0250	mg/kg wet							
Aroclor 1254 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1254 (4)	ND	0.0250	mg/kg wet							
Aroclor 1254 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1254 (5)	ND	0.0250	mg/kg wet							
Aroclor 1254 (5) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1260	ND	0.0250	mg/kg wet							
Aroclor 1260 (1)	ND	0.0250	mg/kg wet							
Aroclor 1260 (1) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1260 (2)	ND	0.0250	mg/kg wet							
Aroclor 1260 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1260 (3)	ND	0.0250	mg/kg wet							
Aroclor 1260 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1260 (4)	ND	0.0250	mg/kg wet							
Aroclor 1260 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1260 (5)	ND	0.0250	mg/kg wet							
Aroclor 1260 (5) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1262	ND	0.0250	mg/kg wet							
Aroclor 1262 (1)	ND	0.0250	mg/kg wet							
Aroclor 1262 (1) [2C]	ND	0.0250	mg/kg wet							

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch CH30812 - 3540										
Aroclor 1262 (2)	ND	0.0250	mg/kg wet							
Aroclor 1262 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1262 (3)	ND	0.0250	mg/kg wet							
Aroclor 1262 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1262 (4)	ND	0.0250	mg/kg wet							
Aroclor 1262 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1262 (5)	ND	0.0250	mg/kg wet							
Aroclor 1262 (5) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1268	ND	0.0250	mg/kg wet							
Aroclor 1268 (1)	ND	0.0250	mg/kg wet							
Aroclor 1268 (1) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1268 (2)	ND	0.0250	mg/kg wet							
Aroclor 1268 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1268 (3)	ND	0.0250	mg/kg wet							
Aroclor 1268 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1268 (4)	ND	0.0250	mg/kg wet							
Aroclor 1268 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1268 (5)	ND	0.0250	mg/kg wet							
Aroclor 1268 (5) [2C]	ND	0.0250	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0130*		mg/kg wet	*0.01250*		*104*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.00992*		mg/kg wet	*0.01250*		*79*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0104*		mg/kg wet	*0.01250*		*83*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.00936*		mg/kg wet	*0.01250*		*75*	*30-150*			
LCS										
Aroclor 1016	0.260	0.0250	mg/kg wet	0.2500		104	40-140			
Aroclor 1260	0.263	0.0250	mg/kg wet	0.2500		105	40-140			
Surrogate: Decachlorobiphenyl	*0.0135*		mg/kg wet	*0.01250*		*108*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0104*		mg/kg wet	*0.01250*		*83*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0112*		mg/kg wet	*0.01250*		*90*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.00989*		mg/kg wet	*0.01250*		*79*	*30-150*			
LCS Dup										
Aroclor 1016	0.261	0.0250	mg/kg wet	0.2500		104	40-140	0.5	30	
Aroclor 1260	0.268	0.0250	mg/kg wet	0.2500		107	40-140	2	30	
Surrogate: Decachlorobiphenyl	*0.0139*		mg/kg wet	*0.01250*		*111*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0106*		mg/kg wet	*0.01250*		*85*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0115*		mg/kg wet	*0.01250*		*92*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.00996*		mg/kg wet	*0.01250*		*80*	*30-150*			
8270D Semi-Volatile Organic Compounds										
Batch CH30632 - 3546										
Blank										
1,2,4-Trichlorobenzene	ND	0.333	mg/kg wet							

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch CH30632 - 3546										
1,2-Dichlorobenzene	ND	0.333	mg/kg wet							
1,3-Dichlorobenzene	ND	0.333	mg/kg wet							
1,4-Dichlorobenzene	ND	0.333	mg/kg wet							
2-Methylnaphthalene	ND	0.333	mg/kg wet							
2-Methylphenol	ND	0.333	mg/kg wet							
Acenaphthene	ND	0.333	mg/kg wet							
Acenaphthylene	ND	0.333	mg/kg wet							
Anthracene	ND	0.333	mg/kg wet							
Benzo(a)anthracene	ND	0.333	mg/kg wet							
Benzo(a)pyrene	ND	0.167	mg/kg wet							
Benzo(b)fluoranthene	ND	0.333	mg/kg wet							
Benzo(g,h,i)perylene	ND	0.333	mg/kg wet							
Benzo(k)fluoranthene	ND	0.333	mg/kg wet							
bis(2-Ethylhexyl)phthalate	ND	0.333	mg/kg wet							
Butylbenzylphthalate	ND	0.333	mg/kg wet							
Carbazole	ND	0.333	mg/kg wet							
Chrysene	ND	0.167	mg/kg wet							
Dibenzo(a,h)Anthracene	ND	0.167	mg/kg wet							
Dibenzofuran	ND	0.333	mg/kg wet							
Diethylphthalate	ND	0.333	mg/kg wet							
Dimethylphthalate	ND	0.333	mg/kg wet							
Di-n-butylphthalate	ND	0.333	mg/kg wet							
Di-n-octylphthalate	ND	0.333	mg/kg wet							
Fluoranthene	ND	0.333	mg/kg wet							
Fluorene	ND	0.333	mg/kg wet							
Hexachlorobenzene	ND	0.333	mg/kg wet							
Hexachlorocyclopentadiene	ND	1.67	mg/kg wet							
Indeno(1,2,3-cd)Pyrene	ND	0.333	mg/kg wet							
Naphthalene	ND	0.333	mg/kg wet							
Phenanthrene	ND	0.333	mg/kg wet							
Phenol	ND	0.333	mg/kg wet							
Pyrene	ND	0.333	mg/kg wet							
Surrogate: 1,2-Dichlorobenzene-d4	*2.99*		mg/kg wet	*3.333*		*90*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*4.10*		mg/kg wet	*5.000*		*82*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*4.69*		mg/kg wet	*5.000*		*94*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*3.01*		mg/kg wet	*3.333*		*90*	*30-130*			
Surrogate: 2-Fluorophenol	*4.45*		mg/kg wet	*5.000*		*89*	*30-130*			
Surrogate: Nitrobenzene-d5	*3.01*		mg/kg wet	*3.333*		*90*	*30-130*			
Surrogate: Phenol-d6	*4.71*		mg/kg wet	*5.000*		*94*	*30-130*			
Surrogate: p-Terphenyl-d14	*3.63*		mg/kg wet	*3.333*		*109*	*30-130*			
LCS										
1,2,4-Trichlorobenzene	2.58	0.333	mg/kg wet	3.333		78	40-140			
1,2-Dichlorobenzene	2.58	0.333	mg/kg wet	3.333		77	40-140			
1,3-Dichlorobenzene	2.52	0.333	mg/kg wet	3.333		76	40-140			
1,4-Dichlorobenzene	2.59	0.333	mg/kg wet	3.333		78	40-140			

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Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch CH30632 - 3546										
2-Methylnaphthalene	2.75	0.333	mg/kg wet	3.333		83	40-140			
2-Methylphenol	2.64	0.333	mg/kg wet	3.333		79	30-130			
Acenaphthene	2.75	0.333	mg/kg wet	3.333		82	40-140			
Acenaphthylene	2.62	0.333	mg/kg wet	3.333		78	40-140			
Anthracene	2.95	0.333	mg/kg wet	3.333		89	40-140			
Benzo(a)anthracene	2.73	0.333	mg/kg wet	3.333		82	40-140			
Benzo(a)pyrene	2.62	0.167	mg/kg wet	3.333		79	40-140			
Benzo(b)fluoranthene	2.98	0.333	mg/kg wet	3.333		89	40-140			
Benzo(g,h,i)perylene	2.80	0.333	mg/kg wet	3.333		84	40-140			
Benzo(k)fluoranthene	3.10	0.333	mg/kg wet	3.333		93	40-140			
bis(2-Ethylhexyl)phthalate	3.25	0.333	mg/kg wet	3.333		98	40-140			
Butylbenzylphthalate	3.16	0.333	mg/kg wet	3.333		95	40-140			
Carbazole	2.99	0.333	mg/kg wet	3.333		90	40-140			
Chrysene	2.99	0.167	mg/kg wet	3.333		90	40-140			
Dibenzo(a,h)Anthracene	3.18	0.167	mg/kg wet	3.333		95	40-140			
Dibenzofuran	2.72	0.333	mg/kg wet	3.333		82	40-140			
Diethylphthalate	2.89	0.333	mg/kg wet	3.333		87	40-140			
Dimethylphthalate	2.77	0.333	mg/kg wet	3.333		83	40-140			
Di-n-butylphthalate	3.17	0.333	mg/kg wet	3.333		95	40-140			
Di-n-octylphthalate	3.13	0.333	mg/kg wet	3.333		94	40-140			
Fluoranthene	2.96	0.333	mg/kg wet	3.333		89	40-140			
Fluorene	2.84	0.333	mg/kg wet	3.333		85	40-140			
Hexachlorobenzene	2.62	0.333	mg/kg wet	3.333		79	40-140			
Hexachlorocyclopentadiene	1.90	1.67	mg/kg wet	3.333		57	40-140			
Indeno(1,2,3-cd)Pyrene	2.74	0.333	mg/kg wet	3.333		82	40-140			
Naphthalene	2.78	0.333	mg/kg wet	3.333		83	40-140			
Phenanthrene	2.94	0.333	mg/kg wet	3.333		88	40-140			
Phenol	2.60	0.333	mg/kg wet	3.333		78	30-130			
Pyrene	3.01	0.333	mg/kg wet	3.333		90	40-140			
Surrogate: 1,2-Dichlorobenzene-d4	*2.99*		mg/kg wet	*3.333*		*90*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*4.59*		mg/kg wet	*5.000*		*92*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*4.70*		mg/kg wet	*5.000*		*94*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*3.13*		mg/kg wet	*3.333*		*94*	*30-130*			
Surrogate: 2-Fluorophenol	*4.53*		mg/kg wet	*5.000*		*91*	*30-130*			
Surrogate: Nitrobenzene-d5	*3.30*		mg/kg wet	*3.333*		*99*	*30-130*			
Surrogate: Phenol-d6	*4.65*		mg/kg wet	*5.000*		*93*	*30-130*			
Surrogate: p-Terphenyl-d14	*3.37*		mg/kg wet	*3.333*		*101*	*30-130*			
LCS Dup										
1,2,4-Trichlorobenzene	2.57	0.333	mg/kg wet	3.333		77	40-140	0.7	30	
1,2-Dichlorobenzene	2.57	0.333	mg/kg wet	3.333		77	40-140	0.06	30	
1,3-Dichlorobenzene	2.52	0.333	mg/kg wet	3.333		76	40-140	0.1	30	
1,4-Dichlorobenzene	2.58	0.333	mg/kg wet	3.333		77	40-140	0.4	30	
2-Methylnaphthalene	2.78	0.333	mg/kg wet	3.333		84	40-140	1	30	
2-Methylphenol	2.75	0.333	mg/kg wet	3.333		83	30-130	4	30	
Acenaphthene	2.76	0.333	mg/kg wet	3.333		83	40-140	0.7	30	

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch CH30632 - 3546										
Acenaphthylene	2.65	0.333	mg/kg wet	3.333		79	40-140	1	30	
Anthracene	2.96	0.333	mg/kg wet	3.333		89	40-140	0.2	30	
Benzo(a)anthracene	2.87	0.333	mg/kg wet	3.333		86	40-140	5	30	
Benzo(a)pyrene	2.71	0.167	mg/kg wet	3.333		81	40-140	3	30	
Benzo(b)fluoranthene	2.97	0.333	mg/kg wet	3.333		89	40-140	0.5	30	
Benzo(g,h,i)perylene	2.81	0.333	mg/kg wet	3.333		84	40-140	0.3	30	
Benzo(k)fluoranthene	3.05	0.333	mg/kg wet	3.333		92	40-140	1	30	
bis(2-Ethylhexyl)phthalate	3.19	0.333	mg/kg wet	3.333		96	40-140	2	30	
Butylbenzylphthalate	3.14	0.333	mg/kg wet	3.333		94	40-140	0.7	30	
Carbazole	2.97	0.333	mg/kg wet	3.333		89	40-140	0.6	30	
Chrysene	2.82	0.167	mg/kg wet	3.333		85	40-140	6	30	
Dibenzo(a,h)Anthracene	3.28	0.167	mg/kg wet	3.333		98	40-140	3	30	
Dibenzofuran	2.74	0.333	mg/kg wet	3.333		82	40-140	0.7	30	
Diethylphthalate	2.86	0.333	mg/kg wet	3.333		86	40-140	0.8	30	
Dimethylphthalate	2.77	0.333	mg/kg wet	3.333		83	40-140	0.1	30	
Di-n-butylphthalate	3.11	0.333	mg/kg wet	3.333		93	40-140	2	30	
Di-n-octylphthalate	3.02	0.333	mg/kg wet	3.333		91	40-140	4	30	
Fluoranthene	2.93	0.333	mg/kg wet	3.333		88	40-140	1	30	
Fluorene	2.85	0.333	mg/kg wet	3.333		86	40-140	0.3	30	
Hexachlorobenzene	2.72	0.333	mg/kg wet	3.333		82	40-140	4	30	
Hexachlorocyclopentadiene	1.93	1.67	mg/kg wet	3.333		58	40-140	2	30	
Indeno(1,2,3-cd)Pyrene	2.67	0.333	mg/kg wet	3.333		80	40-140	2	30	
Naphthalene	2.77	0.333	mg/kg wet	3.333		83	40-140	0.4	30	
Phenanthrene	2.97	0.333	mg/kg wet	3.333		89	40-140	0.9	30	
Phenol	2.68	0.333	mg/kg wet	3.333		80	30-130	3	30	
Pyrene	3.05	0.333	mg/kg wet	3.333		91	40-140	1	30	
Surrogate: 1,2-Dichlorobenzene-d4	*2.93*		mg/kg wet	*3.333*		*88*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*4.59*		mg/kg wet	*5.000*		*92*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*4.69*		mg/kg wet	*5.000*		*94*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*3.06*		mg/kg wet	*3.333*		*92*	*30-130*			
Surrogate: 2-Fluorophenol	*4.46*		mg/kg wet	*5.000*		*89*	*30-130*			
Surrogate: Nitrobenzene-d5	*3.16*		mg/kg wet	*3.333*		*95*	*30-130*			
Surrogate: Phenol-d6	*4.68*		mg/kg wet	*5.000*		*94*	*30-130*			
Surrogate: p-Terphenyl-d14	*3.07*		mg/kg wet	*3.333*		*92*	*30-130*			
8270D(SIM) Polynuclear Aromatic Hydrocarbons										
Batch CH30811 - 3541										
Blank										
2-Methylnaphthalene	ND	0.017	mg/kg wet							
Acenaphthene	ND	0.017	mg/kg wet							
Acenaphthylene	ND	0.017	mg/kg wet							
Anthracene	ND	0.017	mg/kg wet							
Benzo(a)anthracene	ND	0.017	mg/kg wet							
Benzo(a)pyrene	ND	0.017	mg/kg wet							
Benzo(b)fluoranthene	ND	0.017	mg/kg wet							

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D(SIM) Polynuclear Aromatic Hydrocarbons										
Batch CH30811 - 3541										
Benzo(g,h,i)perylene	ND	0.017	mg/kg wet							
Benzo(k)fluoranthene	ND	0.017	mg/kg wet							
Chrysene	ND	0.017	mg/kg wet							
Dibenzo(a,h)Anthracene	ND	0.017	mg/kg wet							
Fluoranthene	ND	0.017	mg/kg wet							
Fluorene	ND	0.017	mg/kg wet							
Indeno(1,2,3-cd)Pyrene	ND	0.017	mg/kg wet							
Naphthalene	ND	0.017	mg/kg wet							
Phenanthrene	ND	0.017	mg/kg wet							
Pyrene	ND	0.017	mg/kg wet							
Surrogate: 1,2-Dichlorobenzene-d4	*0.119*		mg/kg wet	*0.3333*		*36*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*0.125*		mg/kg wet	*0.3333*		*38*	*30-130*			
Surrogate: Nitrobenzene-d5	*0.128*		mg/kg wet	*0.3333*		*38*	*30-130*			
Surrogate: p-Terphenyl-d14	*0.183*		mg/kg wet	*0.3333*		*55*	*30-130*			
LCS										
2-Methylnaphthalene	0.252	0.017	mg/kg wet	0.2667		95	40-140			
Acenaphthene	0.233	0.017	mg/kg wet	0.2667		87	40-140			
Acenaphthylene	0.211	0.017	mg/kg wet	0.2667		79	40-140			
Anthracene	0.254	0.017	mg/kg wet	0.2667		95	40-140			
Benzo(a)anthracene	0.263	0.017	mg/kg wet	0.2667		98	40-140			
Benzo(a)pyrene	0.242	0.017	mg/kg wet	0.2667		91	40-140			
Benzo(b)fluoranthene	0.243	0.017	mg/kg wet	0.2667		91	40-140			
Benzo(g,h,i)perylene	0.281	0.017	mg/kg wet	0.2667		105	40-140			
Benzo(k)fluoranthene	0.243	0.017	mg/kg wet	0.2667		91	40-140			
Chrysene	0.259	0.017	mg/kg wet	0.2667		97	40-140			
Dibenzo(a,h)Anthracene	0.310	0.017	mg/kg wet	0.2667		116	40-140			
Fluoranthene	0.234	0.017	mg/kg wet	0.2667		88	40-140			
Fluorene	0.243	0.017	mg/kg wet	0.2667		91	40-140			
Indeno(1,2,3-cd)Pyrene	0.290	0.017	mg/kg wet	0.2667		109	40-140			
Naphthalene	0.236	0.017	mg/kg wet	0.2667		88	40-140			
Phenanthrene	0.251	0.017	mg/kg wet	0.2667		94	40-140			
Pyrene	0.260	0.017	mg/kg wet	0.2667		97	40-140			
Surrogate: 1,2-Dichlorobenzene-d4	*0.240*		mg/kg wet	*0.3333*		*72*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*0.233*		mg/kg wet	*0.3333*		*70*	*30-130*			
Surrogate: Nitrobenzene-d5	*0.246*		mg/kg wet	*0.3333*		*74*	*30-130*			
Surrogate: p-Terphenyl-d14	*0.322*		mg/kg wet	*0.3333*		*97*	*30-130*			
LCS Dup										
2-Methylnaphthalene	0.206	0.017	mg/kg wet	0.2667		77	40-140	20	30	
Acenaphthene	0.199	0.017	mg/kg wet	0.2667		74	40-140	16	30	
Acenaphthylene	0.177	0.017	mg/kg wet	0.2667		66	40-140	17	30	
Anthracene	0.217	0.017	mg/kg wet	0.2667		81	40-140	16	30	
Benzo(a)anthracene	0.244	0.017	mg/kg wet	0.2667		91	40-140	7	30	
Benzo(a)pyrene	0.226	0.017	mg/kg wet	0.2667		85	40-140	7	30	
Benzo(b)fluoranthene	0.238	0.017	mg/kg wet	0.2667		89	40-140	2	30	
Benzo(g,h,i)perylene	0.260	0.017	mg/kg wet	0.2667		97	40-140	8	30	

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Client Name: GZA GeoEnvironmental, Inc.
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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D(SIM) Polynuclear Aromatic Hydrocarbons										
Batch CH30811 - 3541										
Benzo(k)fluoranthene	0.229	0.017	mg/kg wet	0.2667		86	40-140	6	30	
Chrysene	0.238	0.017	mg/kg wet	0.2667		89	40-140	8	30	
Dibenzo(a,h)Anthracene	0.286	0.017	mg/kg wet	0.2667		107	40-140	8	30	
Fluoranthene	0.211	0.017	mg/kg wet	0.2667		79	40-140	10	30	
Fluorene	0.207	0.017	mg/kg wet	0.2667		78	40-140	16	30	
Indeno(1,2,3-cd)Pyrene	0.272	0.017	mg/kg wet	0.2667		102	40-140	7	30	
Naphthalene	0.190	0.017	mg/kg wet	0.2667		71	40-140	21	30	
Phenanthrene	0.212	0.017	mg/kg wet	0.2667		79	40-140	17	30	
Pyrene	0.235	0.017	mg/kg wet	0.2667		88	40-140	10	30	
Surrogate: 1,2-Dichlorobenzene-d4	*0.181*		mg/kg wet	*0.3333*		*54*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*0.186*		mg/kg wet	*0.3333*		*56*	*30-130*			
Surrogate: Nitrobenzene-d5	*0.189*		mg/kg wet	*0.3333*		*57*	*30-130*			
Surrogate: p-Terphenyl-d14	*0.283*		mg/kg wet	*0.3333*		*85*	*30-130*			
Batch CH31330 - 3541										
Blank										
2-Methylnaphthalene	ND	0.017	mg/kg wet							
Acenaphthene	ND	0.017	mg/kg wet							
Acenaphthylene	ND	0.017	mg/kg wet							
Anthracene	ND	0.017	mg/kg wet							
Benzo(a)anthracene	ND	0.017	mg/kg wet							
Benzo(a)pyrene	ND	0.017	mg/kg wet							
Benzo(b)fluoranthene	ND	0.017	mg/kg wet							
Benzo(g,h,i)perylene	ND	0.017	mg/kg wet							
Benzo(k)fluoranthene	ND	0.017	mg/kg wet							
Chrysene	ND	0.017	mg/kg wet							
Dibenzo(a,h)Anthracene	ND	0.017	mg/kg wet							
Fluoranthene	ND	0.017	mg/kg wet							
Fluorene	ND	0.017	mg/kg wet							
Indeno(1,2,3-cd)Pyrene	ND	0.017	mg/kg wet							
Naphthalene	ND	0.017	mg/kg wet							
Phenanthrene	ND	0.017	mg/kg wet							
Pyrene	ND	0.017	mg/kg wet							
Surrogate: 1,2-Dichlorobenzene-d4	*0.154*		mg/kg wet	*0.3333*		*46*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*0.146*		mg/kg wet	*0.3333*		*44*	*30-130*			
Surrogate: Nitrobenzene-d5	*0.169*		mg/kg wet	*0.3333*		*51*	*30-130*			
Surrogate: p-Terphenyl-d14	*0.239*		mg/kg wet	*0.3333*		*72*	*30-130*			
LCS										
2-Methylnaphthalene	0.167	0.017	mg/kg wet	0.2667		62	40-140			
Acenaphthene	0.143	0.017	mg/kg wet	0.2667		54	40-140			
Acenaphthylene	0.134	0.017	mg/kg wet	0.2667		50	40-140			
Anthracene	0.180	0.017	mg/kg wet	0.2667		67	40-140			
Benzo(a)anthracene	0.178	0.017	mg/kg wet	0.2667		67	40-140			
Benzo(a)pyrene	0.166	0.017	mg/kg wet	0.2667		62	40-140			
Benzo(b)fluoranthene	0.165	0.017	mg/kg wet	0.2667		62	40-140			
Benzo(g,h,i)perylene	0.181	0.017	mg/kg wet	0.2667		68	40-140			

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D(SIM) Polynuclear Aromatic Hydrocarbons										
Batch CH31330 - 3541										
Benzo(k)fluoranthene	0.175	0.017	mg/kg wet	0.2667		66	40-140			
Chrysene	0.180	0.017	mg/kg wet	0.2667		68	40-140			
Dibenzo(a,h)Anthracene	0.204	0.017	mg/kg wet	0.2667		76	40-140			
Fluoranthene	0.174	0.017	mg/kg wet	0.2667		65	40-140			
Fluorene	0.153	0.017	mg/kg wet	0.2667		57	40-140			
Indeno(1,2,3-cd)Pyrene	0.176	0.017	mg/kg wet	0.2667		66	40-140			
Naphthalene	0.138	0.017	mg/kg wet	0.2667		52	40-140			
Phenanthrene	0.171	0.017	mg/kg wet	0.2667		64	40-140			
Pyrene	0.174	0.017	mg/kg wet	0.2667		65	40-140			
Surrogate: 1,2-Dichlorobenzene-d4	*0.171*		mg/kg wet	*0.3333*		*51*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*0.169*		mg/kg wet	*0.3333*		*51*	*30-130*			
Surrogate: Nitrobenzene-d5	*0.191*		mg/kg wet	*0.3333*		*57*	*30-130*			
Surrogate: p-Terphenyl-d14	*0.283*		mg/kg wet	*0.3333*		*85*	*30-130*			
LCS Dup										
2-Methylnaphthalene	0.162	0.017	mg/kg wet	0.2667		61	40-140	3	30	
Acenaphthene	0.137	0.017	mg/kg wet	0.2667		51	40-140	4	30	
Acenaphthylene	0.130	0.017	mg/kg wet	0.2667		49	40-140	3	30	
Anthracene	0.176	0.017	mg/kg wet	0.2667		66	40-140	2	30	
Benzo(a)anthracene	0.176	0.017	mg/kg wet	0.2667		66	40-140	1	30	
Benzo(a)pyrene	0.163	0.017	mg/kg wet	0.2667		61	40-140	2	30	
Benzo(b)fluoranthene	0.167	0.017	mg/kg wet	0.2667		62	40-140	1	30	
Benzo(g,h,i)perylene	0.183	0.017	mg/kg wet	0.2667		69	40-140	1	30	
Benzo(k)fluoranthene	0.177	0.017	mg/kg wet	0.2667		66	40-140	1	30	
Chrysene	0.177	0.017	mg/kg wet	0.2667		66	40-140	2	30	
Dibenzo(a,h)Anthracene	0.208	0.017	mg/kg wet	0.2667		78	40-140	2	30	
Fluoranthene	0.173	0.017	mg/kg wet	0.2667		65	40-140	1	30	
Fluorene	0.141	0.017	mg/kg wet	0.2667		53	40-140	8	30	
Indeno(1,2,3-cd)Pyrene	0.176	0.017	mg/kg wet	0.2667		66	40-140	0	30	
Naphthalene	0.130	0.017	mg/kg wet	0.2667		49	40-140	6	30	
Phenanthrene	0.167	0.017	mg/kg wet	0.2667		63	40-140	2	30	
Pyrene	0.173	0.017	mg/kg wet	0.2667		65	40-140	0.4	30	
Surrogate: 1,2-Dichlorobenzene-d4	*0.155*		mg/kg wet	*0.3333*		*46*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*0.152*		mg/kg wet	*0.3333*		*46*	*30-130*			
Surrogate: Nitrobenzene-d5	*0.172*		mg/kg wet	*0.3333*		*52*	*30-130*			
Surrogate: p-Terphenyl-d14	*0.268*		mg/kg wet	*0.3333*		*80*	*30-130*			
MADEP-EPH Extractable Petroleum Hydrocarbons										
Batch CH30813 - 3546										
Blank										
C19-C36 Aliphatics1	ND	15.0	mg/kg wet							
C9-C18 Aliphatics1	ND	15.0	mg/kg wet							
Decane (C10)	ND	0.5	mg/kg wet							
Docosane (C22)	ND	0.5	mg/kg wet							
Dodecane (C12)	ND	0.5	mg/kg wet							
Eicosane (C20)	ND	0.5	mg/kg wet							

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
MADEP-EPH Extractable Petroleum Hydrocarbons										
Batch CH30813 - 3546										
Hexacosane (C26)	ND	0.5	mg/kg wet							
Hexadecane (C16)	ND	0.5	mg/kg wet							
Hexatriacontane (C36)	ND	0.5	mg/kg wet							
Nonadecane (C19)	ND	0.5	mg/kg wet							
Nonane (C9)	ND	0.5	mg/kg wet							
Octacosane (C28)	ND	0.5	mg/kg wet							
Octadecane (C18)	ND	0.5	mg/kg wet							
Tetracosane (C24)	ND	0.5	mg/kg wet							
Tetradecane (C14)	ND	0.5	mg/kg wet							
Triacontane (C30)	ND	0.5	mg/kg wet							
Surrogate: 1-Chlorooctadecane	*1.52*		mg/kg wet	*2.000*		*76*	*40-140*			
Blank										
2-Methylnaphthalene	ND	0.20	mg/kg wet							
Acenaphthene	ND	0.40	mg/kg wet							
Acenaphthylene	ND	0.20	mg/kg wet							
Anthracene	ND	0.40	mg/kg wet							
Benzo(a)anthracene	ND	0.40	mg/kg wet							
Benzo(a)pyrene	ND	0.40	mg/kg wet							
Benzo(b)fluoranthene	ND	0.40	mg/kg wet							
Benzo(g,h,i)perylene	ND	0.40	mg/kg wet							
Benzo(k)fluoranthene	ND	0.40	mg/kg wet							
C11-C22 Unadjusted Aromatics1	ND	15.0	mg/kg wet							
Chrysene	ND	0.40	mg/kg wet							
Dibenzo(a,h)Anthracene	ND	0.20	mg/kg wet							
Fluoranthene	ND	0.40	mg/kg wet							
Fluorene	ND	0.40	mg/kg wet							
Indeno(1,2,3-cd)Pyrene	ND	0.40	mg/kg wet							
Naphthalene	ND	0.40	mg/kg wet							
Phenanthrene	ND	0.40	mg/kg wet							
Pyrene	ND	0.40	mg/kg wet							
Surrogate: 2-Bromonaphthalene	*2.15*		mg/kg wet	*2.000*		*107*	*40-140*			
Surrogate: 2-Fluorobiphenyl	*2.07*		mg/kg wet	*2.000*		*104*	*40-140*			
Surrogate: O-Terphenyl	*1.75*		mg/kg wet	*2.000*		*88*	*40-140*			
LCS										
C19-C36 Aliphatics1	15.0	15.0	mg/kg wet	16.00		94	40-140			
C9-C18 Aliphatics1	9.2	15.0	mg/kg wet	12.00		76	40-140			
Decane (C10)	1.1	0.5	mg/kg wet	2.000		54	40-140			
Docosane (C22)	1.6	0.5	mg/kg wet	2.000		81	40-140			
Dodecane (C12)	1.2	0.5	mg/kg wet	2.000		59	40-140			
Eicosane (C20)	1.6	0.5	mg/kg wet	2.000		78	40-140			
Hexacosane (C26)	1.6	0.5	mg/kg wet	2.000		80	40-140			
Hexadecane (C16)	1.5	0.5	mg/kg wet	2.000		73	40-140			
Hexatriacontane (C36)	1.6	0.5	mg/kg wet	2.000		82	40-140			
Nonadecane (C19)	1.6	0.5	mg/kg wet	2.000		78	40-140			

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
MADEP-EPH Extractable Petroleum Hydrocarbons										
Batch CH30813 - 3546										
Nonane (C9)	0.8	0.5	mg/kg wet	2.000		40	30-140			
Octacosane (C28)	1.6	0.5	mg/kg wet	2.000		80	40-140			
Octadecane (C18)	1.5	0.5	mg/kg wet	2.000		77	40-140			
Tetracosane (C24)	1.6	0.5	mg/kg wet	2.000		79	40-140			
Tetradecane (C14)	1.3	0.5	mg/kg wet	2.000		67	40-140			
Triacontane (C30)	1.6	0.5	mg/kg wet	2.000		81	40-140			
Surrogate: 1-Chlorooctadecane	*1.63*		mg/kg wet	*2.000*		*81*	*40-140*			
LCS										
2-Methylnaphthalene	1.30	0.20	mg/kg wet	2.000		65	40-140			
Acenaphthene	1.33	0.40	mg/kg wet	2.000		66	40-140			
Acenaphthylene	1.33	0.20	mg/kg wet	2.000		67	40-140			
Anthracene	1.35	0.40	mg/kg wet	2.000		68	40-140			
Benzo(a)anthracene	1.37	0.40	mg/kg wet	2.000		68	40-140			
Benzo(a)pyrene	1.68	0.40	mg/kg wet	2.000		84	40-140			
Benzo(b)fluoranthene	1.40	0.40	mg/kg wet	2.000		70	40-140			
Benzo(g,h,i)perylene	1.45	0.40	mg/kg wet	2.000		73	40-140			
Benzo(k)fluoranthene	1.59	0.40	mg/kg wet	2.000		79	40-140			
C11-C22 Unadjusted Aromatics1	27.6	15.0	mg/kg wet	34.00		81	40-140			
Chrysene	1.46	0.40	mg/kg wet	2.000		73	40-140			
Dibenzo(a,h)Anthracene	1.58	0.20	mg/kg wet	2.000		79	40-140			
Fluoranthene	1.43	0.40	mg/kg wet	2.000		71	40-140			
Fluorene	1.39	0.40	mg/kg wet	2.000		69	40-140			
Indeno(1,2,3-cd)Pyrene	1.43	0.40	mg/kg wet	2.000		71	40-140			
Naphthalene	1.19	0.40	mg/kg wet	2.000		59	40-140			
Phenanthrene	1.40	0.40	mg/kg wet	2.000		70	40-140			
Pyrene	1.44	0.40	mg/kg wet	2.000		72	40-140			
Surrogate: 2-Bromonaphthalene	*1.94*		mg/kg wet	*2.000*		*97*	*40-140*			
Surrogate: 2-Fluorobiphenyl	*2.09*		mg/kg wet	*2.000*		*105*	*40-140*			
Surrogate: O-Terphenyl	*1.72*		mg/kg wet	*2.000*		*86*	*40-140*			
LCS										
2-Methylnaphthalene Breakthrough	0.0		%				0-5			
Naphthalene Breakthrough	0.0		%				0-5			
LCS Dup										
C19-C36 Aliphatics1	14.9	15.0	mg/kg wet	16.00		93	40-140	0.6	25	
C9-C18 Aliphatics1	8.6	15.0	mg/kg wet	12.00		72	40-140	6	25	
Decane (C10)	1.0	0.5	mg/kg wet	2.000		51	40-140	6	25	
Docosane (C22)	1.6	0.5	mg/kg wet	2.000		80	40-140	0.7	25	
Dodecane (C12)	1.1	0.5	mg/kg wet	2.000		57	40-140	4	25	
Eicosane (C20)	1.5	0.5	mg/kg wet	2.000		76	40-140	2	25	
Hexacosane (C26)	1.6	0.5	mg/kg wet	2.000		80	40-140	0.2	25	
Hexadecane (C16)	1.4	0.5	mg/kg wet	2.000		68	40-140	7	25	
Hexatriacontane (C36)	1.6	0.5	mg/kg wet	2.000		81	40-140	0.6	25	
Nonadecane (C19)	1.5	0.5	mg/kg wet	2.000		75	40-140	4	25	

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
MADEP-EPH Extractable Petroleum Hydrocarbons										
Batch CH30813 - 3546										
Nonane (C9)	0.8	0.5	mg/kg wet	2.000		40	30-140	2	25	
Octacosane (C28)	1.6	0.5	mg/kg wet	2.000		81	40-140	0.2	25	
Octadecane (C18)	1.4	0.5	mg/kg wet	2.000		72	40-140	6	25	
Tetracosane (C24)	1.6	0.5	mg/kg wet	2.000		80	40-140	0.2	25	
Tetradecane (C14)	1.3	0.5	mg/kg wet	2.000		63	40-140	6	25	
Triacontane (C30)	1.6	0.5	mg/kg wet	2.000		80	40-140	0.3	25	
Surrogate: 1-Chlorooctadecane	*1.58*		mg/kg wet	*2.000*		*79*	*40-140*			
LCS Dup										
2-Methylnaphthalene	1.25	0.20	mg/kg wet	2.000		62	40-140	4	20	
Acenaphthene	1.26	0.40	mg/kg wet	2.000		63	40-140	6	20	
Acenaphthylene	1.30	0.20	mg/kg wet	2.000		65	40-140	3	20	
Anthracene	1.36	0.40	mg/kg wet	2.000		68	40-140	0.4	20	
Benzo(a)anthracene	1.43	0.40	mg/kg wet	2.000		71	40-140	4	20	
Benzo(a)pyrene	1.73	0.40	mg/kg wet	2.000		86	40-140	3	20	
Benzo(b)fluoranthene	1.49	0.40	mg/kg wet	2.000		74	40-140	6	20	
Benzo(g,h,i)perylene	1.50	0.40	mg/kg wet	2.000		75	40-140	3	20	
Benzo(k)fluoranthene	1.63	0.40	mg/kg wet	2.000		82	40-140	3	20	
C11-C22 Unadjusted Aromatics1	27.4	15.0	mg/kg wet	34.00		81	40-140	0.7	25	
Chrysene	1.51	0.40	mg/kg wet	2.000		76	40-140	4	20	
Dibenzo(a,h)Anthracene	1.61	0.20	mg/kg wet	2.000		80	40-140	2	20	
Fluoranthene	1.46	0.40	mg/kg wet	2.000		73	40-140	2	20	
Fluorene	1.38	0.40	mg/kg wet	2.000		69	40-140	0.7	20	
Indeno(1,2,3-cd)Pyrene	1.48	0.40	mg/kg wet	2.000		74	40-140	3	20	
Naphthalene	1.18	0.40	mg/kg wet	2.000		59	40-140	0.7	20	
Phenanthrene	1.35	0.40	mg/kg wet	2.000		67	40-140	4	20	
Pyrene	1.45	0.40	mg/kg wet	2.000		72	40-140	0.7	20	
Surrogate: 2-Bromonaphthalene	*1.86*		mg/kg wet	*2.000*		*93*	*40-140*			
Surrogate: 2-Fluorobiphenyl	*2.00*		mg/kg wet	*2.000*		*100*	*40-140*			
Surrogate: O-Terphenyl	*1.69*		mg/kg wet	*2.000*		*85*	*40-140*			
LCS Dup										
2-Methylnaphthalene Breakthrough	0.0		%				0-5		200	
Naphthalene Breakthrough	0.0		%				0-5		200	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308104

Notes and Definitions

U	Analyte included in the analysis, but not detected
Q	Calibration required quadratic regression (Q).
ICV	Initial Calibration Verification recovery is outside of control limit (ICV).
D	Diluted.
C+	Continuing Calibration recovery is above upper control limit (C+).
ND	Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
I/V	Initial Volume
F/V	Final Volume
§	Subcontracted analysis; see attached report
1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of target analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.
Avg	Results reported as a mathematical average.
NR	No Recovery
[CALC]	Calculated Analyte
SUB	Subcontracted analysis; see attached report

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308104

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Department of Defense (DoD) Environmental Laboratory Accreditation Program (ELAP)
A2LA Accredited: Testing Cert# 2864.01
http://www.a2la.org/scopepdf/2864-01.pdf

Rhode Island Potable and Non Potable Water: LAI00179
http://www.health.ri.gov/labs/waterlabs-instate.php

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750
http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutofStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI0002
http://www.maine.gov/dep/blwq/topic/vessel/lab_list.pdf

Massachusetts Potable and Non Potable Water: M-RI002
http://public.dep.state.ma.us/labcert/labcert.aspx

New Hampshire (NELAP accredited) Potable and Non PotableWater, Solid and Hazardous Waste: 2424
http://www4.egov.nh.gov/des/nhelap/namesearch.asp

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313
http://www.wadsworth.org/labcert/elap/comm.html

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006
http://datamine2.state.nj.us/dep/DEP_OPRA/

United States Department of Agriculture Soil Permit: S-54210

Maryland Potable Water: 301
http://www.mde.state.md.us/assets/document/WSP_labs-2009apr20.pdf

CHEMISTRY

A2LA Accredited: Testing Cert # 2864.01
Lead in Paint, Phthalates, Lead in Children's Metals Products (Including Jewelry)
http://www.A2LA.org/dirsearchnew/newsearch.cfm

CPSC ID# 1141
Lead Paint, Lead in Children's Metals Jewelry
http://www.cpsc.gov/cgi-bin/labapplist.aspx

Sterling Analytical, Inc.
15 Agawam Avenue
West Springfield, MA 01089
Phone (413) 214-6541 Fax (413) 214-6842
email-madhu@sterlinganalytical.com

Visit our website: www.sterlinganalytical.com

Mass Certification - MA-00071
Conn Certification - PH-0520

Report Date August 13, 2013

Customer	Contact	Laboratory Supervisor	eMail
ESS Laboratory	C. Taylor	Madhu Shah	madhu@sterlinganalytical.com

Sample Description
Analysis of Solid Samples

Samples Analyzed

Enclosed are Report No(s): 39711 to 39720

ICV 50,000 = 49,999mg/kg
CCV 50,000 = 48,137mg/kg

Sample # 39720 = 31,280mg/kg

39720 MS+50,000 = 74,810mg/kg 87.0% Rec
39720 MSD = 75860mg/kg 89.2% Rec

Thank you for your business

Madhu Shah

Madhu Shah, Laboratory Supervisor

8/13/13

Date

ALL the information contained in this report has been reviewed for accuracy and checked against all quality control requirements outlined in each applicable method.
This report may not be reproduced, except in full, without written approval from Sterling Analytical, Inc.

Sample	Description	Source	Taken/Time	Received
39711	1308104-2	ESS Laboratory	8/1/13	8/9/13

Parameter	Results		MDL	Method	Analyzed/Time	Tech
Total Organic Carbon Lloyd Kah	45,260	mg/kg	500.00	Lloyd Kahn	08/12/13	sjr

Sample	Description	Source	Taken/Time	Received
39712	1308104-4	ESS Laboratory	8/1/13	8/9/13

Parameter	Results		MDL	Method	Analyzed/Time	Tech
Total Organic Carbon Lloyd Kah	47,980	mg/kg	500.00	Lloyd Kahn	08/12/13	sjr

Sample	Description	Source	Taken/Time	Received
39713	1308104-5	ESS Laboratory	8/1/13	8/9/13

Parameter	Results		MDL	Method	Analyzed/Time	Tech
Total Organic Carbon Lloyd Kah	59,620	mg/kg	500.00	Lloyd Kahn	08/12/13	sjr

Sample	Description	Source	Taken/Time	Received
39714	1308104-6	ESS Laboratory	8/1/13	8/9/13

Parameter	Results		MDL	Method	Analyzed/Time	Tech
Total Organic Carbon Lloyd Kah	54,760	mg/kg	500.00	Lloyd Kahn	08/12/13	sjr

Sample	Description	Source	Taken/Time	Received
39715	1308104-9	ESS Laboratory	8/1/13	8/9/13

Parameter	Results		MDL	Method	Analyzed/Time	Tech
Total Organic Carbon Lloyd Kah	75,660	mg/kg	500.00	Lloyd Kahn	08/12/13	sjr

Sample	Description	Source	Taken/Time	Received
39716	1308104-10	ESS Laboratory	8/1/13	8/9/13

Parameter	Results		MDL	Method	Analyzed/Time	Tech
Total Organic Carbon Lloyd Kah	19,710	mg/kg	500.00	Lloyd Kahn	08/12/13	sjr

Sample	Description	Source	Taken/Time	Received
39717	1308104-14	ESS Laboratory	8/1/13	8/9/13

Parameter	Results		MDL	Method	Analyzed/Time	Tech
Total Organic Carbon Lloyd Kah	5,210	mg/kg	500.00	Lloyd Kahn	08/13/13	sjr

Sample	Description	Source	Taken/Time	Received
39718	1308104-15	ESS Laboratory	8/1/13	8/9/13

Parameter	Results		MDL	Method	Analyzed/Time	Tech
Total Organic Carbon Lloyd Kah	50,690	mg/kg	500.00	Lloyd Kahn	08/13/13	sjr

Sample	Description	Source	Taken/Time	Received
39719	1308104-18	ESS Laboratory	8/1/13	8/9/13

Parameter	Results		MDL	Method	Analyzed/Time	Tech
Total Organic Carbon Lloyd Kah	24,610	mg/kg	500.00	Lloyd Kahn	08/13/13	sjr

Sample	Description	Source	Taken/Time	Received
39720	1308104-19	ESS Laboratory	8/1/13	8/9/13

Parameter	Results		MDL	Method	Analyzed/Time	Tech
Total Organic Carbon Lloyd Kah	31,280	mg/kg	500.00	Lloyd Kahn	08/13/13	sjr

Sterling Analytical, Inc.
P.O. Box 2010
West Springfield, MA 01090-2010
Phone (413) 787-9064 Fax (413) 787-905
email-madhu@sterlinganalytical.com

Sample Number 39720

QA/QC Results

8/14/2013

Parameter	Blank	LCS	CCV	Sample Results	Spiked With		Theoretical	Spiked Results	Percent Recovery
Total Organic Carbon Lloyd Kah	1	466	50,866		50000	Spiked	50000.000	74807.00	149.61%
						Duplicate	50000.000	75858.00	151.72%

ICV- true value 50,000 found 49,535---- Date analyzed 8/14/13

ICV: Initial Control Verification CCV:Continuous Control Verification LCS: Fortified

Signature Madhu Shah

Madhu Shah

ESS Laboratory

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston, RI 02910-2211
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www.esslaboratory.com

CHAIN OF CUSTODY

Page_____ of_____

Turn Time ___ Standard Other 48 hr
If faster than 5 days, prior approval by laboratory is required #

State where samples were collected from:
MA) RI CT NH NJ NY ME Other

Is this project for any of the following:
MA-MCP) Navy USACE Other

Reporting Limits

ESS LAB PROJECT ID

Electronic Deliverable Yes ✓ No ___
Format: Excel ___ Access ___ PDF ✓ Other ___

Co. Name	Project #	Project Name (20 Char. or less)
ESS	130S104	
Contact Person	**Address**	
Christine Taylor		
City	**State**	**Zip**
Telephone #	**Fax #**	**Email Address**

PO# 130S104

ESS LAB Sample #	Date	Collection Time	COMP	GRAB	MATRIX	Sample Identification (20 Char. or less)	Pres Code	Number of Containers	Type of Containers	Write Required Analysis: TOC (Mod. Lloyd Kahn)													
	7/11/13	1113		✓	SD	130S104-2	1	1	6	X													
		1028		✓		130S104-4	✓	✓	✓														
		1101		✓		-5																	
		1101		✓		-6																	
		101		✓		-9																	
		955		✓		-10																	
		1121		✓		-14																	
		900		✓		-15																	
		1122		✓		-18																	
	↓	1241		✓	✓	-19	✓	✓	✓	✓													

Container Type: P-Poly G-Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Waste Water GW-Ground Water SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filters

Cooler Present ___ Yes ___ No Internal Use Only

Seals Intact ___ Yes ___ No NA: ___ [ ] Pickup

Cooler Temp: _____ [ ] Technicians _____

Preservation Code 1- NP, 2- HCl, 3- H_2SO_4, 4- HNO_3, 5- NaOH, 6- MeOH, 7- Asorbic Acid, 8- ZnAct, 9- _____

Sampled by:

Commenrs:

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
	7/12/13 1350						
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time

*By circling MA-MCP, client acknowledges samples were collected in accordance with MADEP CAM VII A

Please fax all changes to Chain of Custody in writing.

1 (White) Lab Copy 2 (Yellow) Client Receipt

10/26/04 A

Sample and Cooler Receipt Checklist

Client: GZA GeoEnvironmental, Inc.
Client Project ID: _____
Shipped/Delivered Via: ESS Courier

ESS Project ID: 13080104
Date Project Due: 8/14/13
Days For Project: 5 Day

Items to be checked upon receipt:

1. Air Bill Manifest Present?	* No	10. Are the samples properly preserved?	Yes
Air No.:		11. Proper sample containers used?	Yes
2. Were Custody Seals Present?	No	12. Any air bubbles in the VOA vials?	N/A
3. Were Custody Seals Intact?	N/A	13. Holding times exceeded?	No
4. Is Radiation count < 100 CPM?	Yes	14. Sufficient sample volumes?	Yes
5. Is a cooler present?	Yes	15. Any Subcontracting needed?	~~No~~ Yes CET 8/7/13
Cooler Temp: **4.1**		16. Are ESS labels on correct containers?	Yes|No
Iced With: **Ice**		17. Were samples received intact?	Yes|No
6. Was COC included with samples?	Yes	ESS Sample IDs:	13080104 (2, 45, 6, 9, 10, 14, 15, 18, 19
7. Was COC signed and dated by client?	Yes	Sub Lab:	(Sterling) + ~~Test America~~
8. Does the COC match the sample	Yes	Analysis:	TOC
9. Is COC complete and correct?	Yes	TAT:	Std

18. Was there need to call project manager to discuss status? If yes, please explain.

_____

_____

_____

Who was called?:_____ By whom? _____

Sample Number	Properly Preserved	Container Type	# of Containers	Preservative
1	Yes	4 oz Soil Jar	1	NP
1	Yes	8 oz Soil Jar	1	NP
2	Yes	2 oz Soil Jar	1	NP
2	Yes	4 oz Soil Jar	1	NP
2	Yes	8 oz Soil Jar	1	NP
3	Yes	4 oz Soil Jar	1	NP
3	Yes	8 oz Soil Jar	1	NP
4	Yes	2 oz Soil Jar	1	NP
4	Yes	4 oz Soil Jar	1	NP
4	Yes	8 oz Soil Jar	1	NP
5	Yes	2 oz Soil Jar	1	NP
5	Yes	4 oz Soil Jar	1	NP
5	Yes	8 oz Soil Jar	1	NP
6	Yes	2 oz Soil Jar	1	NP
6	Yes	4 oz Soil Jar	1	NP
6	Yes	8 oz Soil Jar	1	NP
7	Yes	4 oz Soil Jar	1	NP
7	Yes	8 oz Soil Jar	1	NP
8	Yes	4 oz Soil Jar	1	NP
8	Yes	8 oz Soil Jar	1	NP
9	Yes	2 oz Soil Jar	1	NP
9	Yes	4 oz Soil Jar	1	NP
9	Yes	8 oz Soil Jar	1	NP
10	Yes	2 oz Soil Jar	1	NP
10	Yes	4 oz Soil Jar	1	NP

Sample and Cooler Receipt Checklist

Client: GZA GeoEnvironmental, Inc. ESS Project ID: 13080104

10	Yes	8 oz Soil Jar	1	NP
11	Yes	4 oz Soil Jar	1	NP
11	Yes	8 oz Soil Jar	1	NP
12	Yes	4 oz Soil Jar	1	NP
12	Yes	8 oz Soil Jar	1	NP
13	Yes	4 oz Soil Jar	1	NP
13	Yes	8 oz Soil Jar	1	NP
14	Yes	2 oz Soil Jar	1	NP
14	Yes	4 oz Soil Jar	1	NP
14	Yes	8 oz Soil Jar	1	NP
15	Yes	2 oz Soil Jar	1	NP
15	Yes	4 oz Soil Jar	1	NP
15	Yes	8 oz Soil Jar	1	NP
16	Yes	4 oz Soil Jar	1	NP
16	Yes	8 oz Soil Jar	1	NP
17	Yes	4 oz Soil Jar	1	NP
17	Yes	8 oz Soil Jar	1	NP
18	Yes	2 oz Soil Jar	1	NP
18	Yes	4 oz Soil Jar	1	NP
18	Yes	8 oz Soil Jar	1	NP
19	Yes	2 oz Soil Jar	1	NP
19	Yes	4 oz Soil Jar	1	NP
19	Yes	8 oz Soil Jar	1	NP
20	Yes	4 oz Soil Jar	1	NP
20	Yes	8 oz Soil Jar	1	NP

Completed By: _____ Date/Time: 8/7/13 1325

Reviewed By: _____ Date/Time: 8/7/13 1409

ESS Laboratory
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CHAIN OF CUSTODY

ESS LAB PROJECT ID: 1308104

Turn Time ___x___ Standard Rush_____ Approved By: _____

Reporting Limits - see prev. email correspondence

State where samples were collected: MA RI CT NH NJ NY ME Other_____

Is this project for any of the following: (please circle)
MA-MCP CT-RCP RGP DOD Other_____

Electonic Deliverable Yes__x__ No____
Format: Excel_x__ Access___ PDF___ Other_____

GZA Project Manager: David E. Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Avenue
Norwood, MA 02062
(781) 278-3700
PRESUMPTIVE CERTAINTY REQUIRED

Project # 171521.02
Project Name: Former Everett Staging Yard
Contract Pricing _____
Special Pricing WO#: _____

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	MCP 14 metals	B/N Phthalates Esters 8270	PAH 8270 SIM	EPH Fractions	PCBs	TOC by Lloyd Kahn					Comment #
						Analysis											
1	8/1/13	10:41	G	Sed	GZ-106 6-9'	2	X										
2	8/1/13	11:13	G	Sed	GZ-107 0-0.5'	2	X					X					
3	8/1/13	11:13	G	Sed	GZ-107 2-4'	2	X										
4	8/6/13	10:28	G	Sed	GZ-108 T 0-0.5'	2	X	X	X	X	X	X					
5	8/1/13	11:01	G	Sed	GZ-108 2-4'	2	X	X	X	X	X	X					
6	8/1/13	11:01	G	Sed	GZ-108 4-6'	2	X					X					
7	8/1/13	11:01	G	Sed	GZ-108 8-10'	2	X										
8	8/6/13	9:28	G	Sed	GZ-109 T 0-0.5'	2	X										
9	8/2/13	8:01	G	Sed	GZ-109 0.5-2.5'	2	X	X	X	X	X	X					
10	8/5/13	9:55	G	Sed	GZ-110B 0-0.5'	2	X					X					

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-_____

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA — G AG G AG AG AG

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present ✓ Yes _____ No
Seals Intact ✓ Yes _____ No NA: _____
Cooler Temperature: 4.1 3.6 4.8 2.6 3.2

Sampled by : Dan Scanlon

Comments: Contract Price - 10%

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Dan Scanlon	8/6/13	[illegible] 8/7/13 1030	[illegible] 1120	8/7/13	[illegible] 8/7/13 11:2

Please E-mail all changes to Chain of Custody in writing.

2 of 2

ESS Laboratory

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Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS LAB PROJECT ID: 1308104

Turn Time ___x___Standard Rush_____ Approved By: _____

Reporting Limits - see prev. email correspondence

State where samples were collected: MA RI CT NH NJ NY ME Other_____

Is this project for any of the following: (please circle)
MA-MCP CT-RCP RGP DOD Other_____

Electonic Deliverable Yes__x__ No____
Format: Excel_x__ Access___ PDF___ Other_____

GZA Project Manager: David E. Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Avenue
Norwood, MA 02062
(781) 278-3700
PRESUMPTIVE CERTAINTY REQUIRED

Project # 171521.02

Project Name: Former Everett Staging Yard

Contract Pricing _____
Special Pricing WO#: _____

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	Analysis: MCP 14 metals	B/N Phthalates Esters 8270	PAH 8270 SIM	EPH Fractions	PCBs	TOC by Lloyd Kahn					Comment #
11	8/5/13	9:55	G	Sed	GZ-110B 2-4'	2	X										
12	8/1/13	11:21	G	Sed	GZ-111 0-0.5'	2	X										
13	8/1/13	11:21	G	Sed	GZ-111 2-4'	2	X										
14	8/1/13	11:21	G	Sed	GZ-111 7-8'	2	X	X	X	X	X	X					
15	8/6/13	9:00	G	Sed	GZ-112 T 0-0.5'	2	X					X					
16	8/1/13	12:26	G	Sed	GZ-112 2-4'	2	X										
17	8/1/13	12:26	G	Sed	GZ-112 6-8'	2	X										
18	8/6/13	11:11	G	Sed	GZ-113 T 0-0.5'	2	X	X	X	X	X	X					
19	8/1/13	12:41	G	Sed	GZ-113 2-4'	2	X	X	X	X	X	X					
20	8/1/13	12:41	G	Sed	GZ-113 4-6'	2	X										
Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-_____																	
Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA							AG	AG	AG	AG	AG	AG					

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present ✓ Yes _____ No
Seals Intact loose Yes _____ No NA: BB
5 Coolers
Cooler Temperature: 4.1 3.6 4.8 2.6 3.2

Sampled by : Dan Scanlon

Comments: Contract Price - 10%

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
W Oosten	6/6/13 8:30	Bill Buesen 8/7/13 1030	Bill Buesen 1120	8/7/13	8/7/13 11:30

Please E-mail all changes to Chain of Custody in writing.

CERTIFICATE OF ANALYSIS

David E Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Avenue
Norwood, MA 02062

RE: Everett (01.0171521.02)
ESS Laboratory Work Order Number: 1308105

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director

REVIEWED
By ESS Laboratory at 4:13 pm, Aug 19, 2013

Analytical Summary
The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with NELAC Standards, A2LA and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibratins, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.

Subcontracted Analyses

Sterling Analytical Lab - West Springfield, MA	Total Organic Carbon

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308105

SAMPLE RECEIPT

The following samples were received on August 07, 2013 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has performed and reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Data Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

For EPH soil samples, the aromatic range results have been corrected for identified cartridge contaminant in accordance with the CAM protocol.

Question I: All samples for SVOA were analyzed for a subset of the required MCP list per the client's request.

Lab Number	SampleName	Matrix	Analysis
1308105-01	GZ-114T 0-0.5ft	Solid	6010B, 6020A, 7471B, 8082A, 8270D, EPH8270, MADEP-EPH, TOC-LK
1308105-02	GZ-114 2-5ft	Solid	6010B, 6020A, 7471B, 8082A, 8270D, EPH8270, MADEP-EPH, TOC-LK
1308105-03	GZ-114 5-7ft	Solid	6010B, 6020A, 7471B
1308105-04	GZ-115T 0-0.5ft	Solid	6010B, 6020A, 7471B, TOC-LK
1308105-05	GZ-115 2-5ft	Solid	6010B, 6020A, 7471B
1308105-06	GZ-115 5-7ft	Solid	6010B, 6020A, 7471B
1308105-07	GZ-116T 0-0.5ft	Solid	6010B, 6020A, 7471B, 8082A, 8270D, EPH8270, MADEP-EPH, TOC-LK
1308105-08	GZ-116 0.5-2ft	Solid	6010B, 6020A, 7471B, 8082A, 8270D, EPH8270, MADEP-EPH, TOC-LK
1308105-09	GZ-116 2-4ft	Solid	6010B, 7.3.3.2, 7.3.4.1, 7471B, 8082A, 8270D, EPH8270, MADEP-EPH, TOC-LK
1308105-10	GZ-116 4-6ft	Solid	6010B, 6020A, 7471B
1308105-11	GZ-116 6-8ft	Solid	6010B, 6020A, 7471B, 8082A, 8270D, EPH8270, MADEP-EPH, TOC-LK
1308105-12	GZ-116 8-9ft	Solid	6010B, 6020A, 7471B
1308105-13	GZ-117T 0-0.5ft	Solid	6010B, 6020A, 7471B, TOC-LK
1308105-14	GZ-117 2-4ft	Solid	6010B, 6020A, 7471B
1308105-15	GZ-117 4-6ft	Solid	6010B, 6020A, 7471B

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett ESS Laboratory Work Order: 1308105

1308105-16	GZ-118A 0-0.5ft	Solid	6010B, 6020A, 7471B, TOC-LK
1308105-17	GZ-118A 0.5-1ft	Solid	6010B, 6020A, 7471B
1308105-18	GZ-119T 0-0.5ft	Solid	6010B, 6020A, 7471B, 8082A, 8270D, EPH8270, MADEP-EPH, TOC-LK
1308105-19	GZ-119 2-4ft	Solid	6010B, 6020A, 7471B, 8082A, 8270D, EPH8270, MADEP-EPH, TOC-LK
1308105-20	GZ-120T 0-0.5ft	Solid	6010B, 6020A, 7471B, TOC-LK

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308105

PROJECT NARRATIVE

8082A Polychlorinated Biphenyls (PCB)

1308105-01 **Surrogate recovery(ies) below lower control limit (S-).**
Tetrachloro-m-xylene [2C] (24% @ 30-150%)

1308105-02 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

1308105-18 **Surrogate recovery(ies) below lower control limit (S-).**
Tetrachloro-m-xylene [2C] (21% @ 30-150%)

8270D Semi-Volatile Organic Compounds

1308105-01 **Surrogate recovery(ies) below lower control limit (S-).**
2,4,6-Tribromophenol (14% @ 30-130%)

1308105-07 **Surrogate recovery(ies) below lower control limit (S-).**
2,4,6-Tribromophenol (28% @ 30-130%)

1308105-08 **Surrogate recovery(ies) outside of criteria due to matrix (UCM/coelution/matrix is present) (SM).**
1,2-Dichlorobenzene-d4 (27% @ 30-130%), 2,4,6-Tribromophenol (25% @ 30-130%), 2-Fluorophenol (27% @ 30-130%)

1308105-09 **Surrogate recovery(ies) below lower control limit (S-).**
2,4,6-Tribromophenol (% @ 30-130%)

1308105-11 **Surrogate recovery(ies) below lower control limit (S-).**
2,4,6-Tribromophenol (7% @ 30-130%)

1308105-18 **Surrogate recovery(ies) below lower control limit (S-).**
2,4,6-Tribromophenol (29% @ 30-130%)

CWH0106-CCV1 **Calibration required quadratic regression (Q).**
2,4-Dinitrophenol (110% @ 80-120%), 4,6-Dinitro-2-Methylphenol (114% @ 70-130%), Benzoic Acid (103% @ 70-130%), Pentachlorophenol (103% @ 80-120%)

CWH0106-CCV1 **Initial Calibration Verification recovery is outside of control limit (ICV).**
Benzidine , Hexachlorocyclopentadiene

8270D(SIM) Polynuclear Aromatic Hydrocarbons

1308105-08 **Surrogate recovery(ies) outside of criteria due to matrix (UCM/coelution/matrix is present) (SM).**
1,2-Dichlorobenzene-d4 (26% @ 30-130%), Nitrobenzene-d5 (26% @ 30-130%)

1308105-18 **Surrogate recovery(ies) below lower control limit (S-).**
Nitrobenzene-d5 (26% @ 30-130%)

MADEP-EPH Extractable Petroleum Hydrocarbons

CWH0135-CCV4 **Continuing Calibration recovery is above upper control limit (C+).**
Benzo(a)pyrene (121% @ 80-120%)

Total Metals Solid

1308105-09 **Elevated Method Reporting Limits due to sample matrix (EL).**
Antimony , Selenium , Thallium

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308105

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

Definitions of Quality Control Parameters

Semivolatile Organics Internal Standard Information

Semivolatile Organics Surrogate Information

Volatile Organics Internal Standard Information

Volatile Organics Surrogate Information

EPH and VPH Alkane Lists

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

1010A - Flashpoint
6010C - ICP
6020A - ICP MS
7010 - Graphite Furnace
7196A - Hexavalent Chromium
7470A - Aqueous Mercury
7471B - Solid Mercury
8011 - EDB/DBCP/TCP
8015C - GRO/DRO
8081B - Pesticides
8082A - PCB
8100M - TPH
8151A - Herbicides
8260B - VOA
8270D - SVOA
8270D SIM - SVOA Low Level
9014 - Cyanide
9038 - Sulfate
9040C - Aqueous pH
9045D - Solid pH (Corrosivity)
9050A - Specific Conductance
9056A - Anions (IC)
9060A - TOC
9095B - Paint Filter
MADEP 04-1.1 - EPH / VPH

Prep Methods

3005A - Aqueous ICP Digestion
3020A - Aqueous Graphite Furnace / ICP MS Digestion
3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
3060A - Solid Hexavalent Chromium Digestion
3510C - Separatory Funnel Extraction
3520C - Liquid / Liquid Extraction
3540C - Manual Soxhlet Extraction
3541 - Automated Soxhlet Extraction
3580A - Waste Dilution
5030B - Aqueous Purge and Trap
5035 - Solid Purge and Trap

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308105

MassDEP Analytical Protocol Certification Form

MADEP RTN: _____

This form provides certification for the following data set: **1308105-01 through 1308105-20**

Matrices: ( ) Ground Water/Surface Water (X) Soil/Sediment ( ) Drinking Water ( ) Air ( ) Other:_____

CAM Protocol (check all that apply below):

( ) 8260 VOC CAM II A	(X) 7470/7471 Hg CAM III B	( ) MassDEP VPH CAM IV A	( ) 8081 Pesticides CAM V B	( ) 7196 Hex Cr CAM VI B	( ) MassDEP APH CAM IX A
(X) 8270 SVOC CAM II B	( ) 7010 Metals CAM III C	(X) MassDEP EPH CAM IV B	( ) 8151 Herbicides CAM V C	( ) 8330 Explosives CAM VIII A	( ) TO-15 VOC CAM IX B
(X) 6010 Metals CAM III A	(X) 6020 Metals CAM III D	(X) 8082 PCB CAM V A	( ) 6860 Perchlorate CAM VIII B	( ) 9014 Total Cyanide/PAC CAM VI A	

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	Yes (X) No ( )
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	Yes (X) No ( )
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	Yes (X) No ( )
D	Does the laboratory report comply with all the reporting requirements specified in the CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	Yes (X) No ( )
E	a. VPH, EPH, APH and TO-15 only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	Yes (X) No ( )
	b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	Yes ( ) No ( )
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	Yes (X) No ( )

Responses to Questions G, H and I below are required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocols(s)?	Yes (X) No ( )*
	***Data User Note:* Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.**	
H	Were **all** QC performance standards specified in the CAM protocol(s) achieved?	Yes ( ) No (X)*
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	Yes ( ) No (X)*

All negative responses must be addressed in an attached laboratory narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: _____ Date: August 19, 2013

Printed Name: Laurel Stoddard Position: Laboratory Director

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-114T 0-0.5ft
Date Sampled: 08/06/13 09:55
Percent Solids: 29

ESS Laboratory Work Order: 1308105
ESS Laboratory Sample ID: 1308105-01
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (3.1)		6020A		50	JP	08/09/13 18:15	5.52	100	CH30801
Arsenic	**41.4** (3.1)		6010B		1	SVD	08/08/13 19:33	5.52	100	CH30801
Barium	**77.5** (3.1)		6010B		1	SVD	08/08/13 19:33	5.52	100	CH30801
Beryllium	**0.82** (0.13)		6010B		1	SVD	08/08/13 19:33	5.52	100	CH30801
Cadmium	**2.27** (0.62)		6010B		1	SVD	08/08/13 19:33	5.52	100	CH30801
Chromium	**94.2** (1.2)		6010B		1	SVD	08/08/13 19:33	5.52	100	CH30801
Lead	**288** (6.2)		6010B		1	SVD	08/08/13 19:33	5.52	100	CH30801
Mercury	**1.15** (0.300)		7471B		5	NAR	08/09/13 12:32	1.12	40	CH30803
Nickel	**27.6** (3.1)		6010B		1	SVD	08/08/13 19:33	5.52	100	CH30801
Selenium	**3.57** (3.09)		6020A		50	JP	08/09/13 18:15	5.52	100	CH30801
Silver	**2.21** (0.62)		6010B		1	SVD	08/08/13 19:33	5.52	100	CH30801
Thallium	ND (3.09)		6020A		50	JP	08/09/13 18:15	5.52	100	CH30801
Vanadium	**88.0** (1.2)		6010B		1	SVD	08/08/13 19:33	5.52	100	CH30801
Zinc	**416** (3.1)		6010B		1	SVD	08/08/13 19:33	5.52	100	CH30801

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-114T 0-0.5ft
Date Sampled: 08/06/13 09:55
Percent Solids: 29
Initial Volume: 19.1
Final Volume: 5
Extraction Method: 3540

ESS Laboratory Work Order: 1308105
ESS Laboratory Sample ID: 1308105-01
Sample Matrix: Solid
Units: mg/kg dry
Analyst: TJ
Prepared: 8/8/13 17:00
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0889)		8082A		1	08/11/13 6:26		CH30812
Aroclor 1221	ND (0.0889)		8082A		1	08/11/13 6:26		CH30812
Aroclor 1232	ND (0.0889)		8082A		1	08/11/13 6:26		CH30812
Aroclor 1242	ND (0.0889)		8082A		1	08/11/13 6:26		CH30812
Aroclor 1248	**0.266** (0.0889)		8082A		1	08/11/13 6:26		CH30812
Aroclor 1254	**0.606** (0.0889)		8082A		1	08/11/13 6:26		CH30812
Aroclor 1260	**0.462** (0.0889)		8082A		1	08/11/13 6:26		CH30812
Aroclor 1262	ND (0.0889)		8082A		1	08/11/13 6:26		CH30812
Aroclor 1268	ND (0.0889)		8082A		1	08/11/13 6:26		CH30812

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*79 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*73 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*33 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*24 %*	*S-*	*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-114T 0-0.5ft
Date Sampled: 08/06/13 09:55
Percent Solids: 29
Initial Volume: 30.1
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308105
ESS Laboratory Sample ID: 1308105-01
Sample Matrix: Solid
Units: mg/kg dry
Analyst: IBM
Prepared: 8/8/13 13:40

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.563)		8270D		1	08/08/13 22:04	CWH0106	CH30815
1,2-Dichlorobenzene	ND (0.563)		8270D		1	08/08/13 22:04	CWH0106	CH30815
1,3-Dichlorobenzene	ND (0.563)		8270D		1	08/08/13 22:04	CWH0106	CH30815
1,4-Dichlorobenzene	ND (0.563)		8270D		1	08/08/13 22:04	CWH0106	CH30815
2-Methylnaphthalene	ND (0.563)		8270D		1	08/08/13 22:04	CWH0106	CH30815
2-Methylphenol	ND (0.563)		8270D		1	08/08/13 22:04	CWH0106	CH30815
Acenaphthene	ND (0.563)		8270D		1	08/08/13 22:04	CWH0106	CH30815
Acenaphthylene	ND (0.563)		8270D		1	08/08/13 22:04	CWH0106	CH30815
Anthracene	ND (0.563)		8270D		1	08/08/13 22:04	CWH0106	CH30815
Benzo(a)anthracene	ND (0.563)		8270D		1	08/08/13 22:04	CWH0106	CH30815
Benzo(a)pyrene	ND (0.283)		8270D		1	08/08/13 22:04	CWH0106	CH30815
Benzo(b)fluoranthene	ND (0.563)		8270D		1	08/08/13 22:04	CWH0106	CH30815
Benzo(g,h,i)perylene	ND (0.563)		8270D		1	08/08/13 22:04	CWH0106	CH30815
Benzo(k)fluoranthene	ND (0.563)		8270D		1	08/08/13 22:04	CWH0106	CH30815
bis(2-Ethylhexyl)phthalate	**0.979** (0.563)		8270D		1	08/08/13 22:04	CWH0106	CH30815
Butylbenzylphthalate	ND (0.563)		8270D		1	08/08/13 22:04	CWH0106	CH30815
Carbazole	ND (0.563)		8270D		1	08/08/13 22:04	CWH0106	CH30815
Chrysene	ND (0.283)		8270D		1	08/08/13 22:04	CWH0106	CH30815
Dibenzo(a,h)Anthracene	ND (0.283)		8270D		1	08/08/13 22:04	CWH0106	CH30815
Dibenzofuran	ND (0.563)		8270D		1	08/08/13 22:04	CWH0106	CH30815
Diethylphthalate	ND (0.563)		8270D		1	08/08/13 22:04	CWH0106	CH30815
Dimethylphthalate	ND (0.563)		8270D		1	08/08/13 22:04	CWH0106	CH30815
Di-n-butylphthalate	ND (0.563)		8270D		1	08/08/13 22:04	CWH0106	CH30815
Di-n-octylphthalate	ND (0.563)		8270D		1	08/08/13 22:04	CWH0106	CH30815
Fluoranthene	ND (0.563)		8270D		1	08/08/13 22:04	CWH0106	CH30815
Fluorene	ND (0.563)		8270D		1	08/08/13 22:04	CWH0106	CH30815
Hexachlorobenzene	ND (0.563)		8270D		1	08/08/13 22:04	CWH0106	CH30815
Hexachlorocyclopentadiene	ND (2.83)		8270D		1	08/08/13 22:04	CWH0106	CH30815
Indeno(1,2,3-cd)Pyrene	ND (0.563)		8270D		1	08/08/13 22:04	CWH0106	CH30815
Naphthalene	ND (0.563)		8270D		1	08/08/13 22:04	CWH0106	CH30815
Phenanthrene	ND (0.563)		8270D		1	08/08/13 22:04	CWH0106	CH30815

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-114T 0-0.5ft
Date Sampled: 08/06/13 09:55
Percent Solids: 29
Initial Volume: 30.1
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308105
ESS Laboratory Sample ID: 1308105-01
Sample Matrix: Solid
Units: mg/kg dry
Analyst: IBM
Prepared: 8/8/13 13:40

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Phenol	ND (0.563)		8270D		1	08/08/13 22:04	CWH0106	CH30815
Pyrene	ND (0.563)		8270D		1	08/08/13 22:04	CWH0106	CH30815

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*56 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*14 %*	*S-*	*30-130*
Surrogate: 2-Chlorophenol-d4	*59 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*65 %*		*30-130*
Surrogate: 2-Fluorophenol	*56 %*		*30-130*
Surrogate: Nitrobenzene-d5	*60 %*		*30-130*
Surrogate: Phenol-d6	*59 %*		*30-130*
Surrogate: p-Terphenyl-d14	*81 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-114T 0-0.5ft
Date Sampled: 08/06/13 09:55
Percent Solids: 29
Initial Volume: 15
Final Volume: 0.5
Extraction Method: 3541

ESS Laboratory Work Order: 1308105
ESS Laboratory Sample ID: 1308105-01
Sample Matrix: Solid
Units: mg/kg dry
Analyst: IBM
Prepared: 8/8/13 11:45

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.141)		8270D		5	08/10/13 13:05	CWH0128	CH30811
Acenaphthene	ND (0.141)		8270D		5	08/10/13 13:05	CWH0128	CH30811
Acenaphthylene	ND (0.141)		8270D		5	08/10/13 13:05	CWH0128	CH30811
Anthracene	ND (0.141)		8270D		5	08/10/13 13:05	CWH0128	CH30811
Benzo(a)anthracene	**0.215** (0.141)		8270D		5	08/10/13 13:05	CWH0128	CH30811
Benzo(a)pyrene	**0.323** (0.141)		8270D		5	08/10/13 13:05	CWH0128	CH30811
Benzo(b)fluoranthene	**0.458** (0.141)		8270D		5	08/10/13 13:05	CWH0128	CH30811
Benzo(g,h,i)perylene	**0.255** (0.141)		8270D		5	08/10/13 13:05	CWH0128	CH30811
Benzo(k)fluoranthene	**0.147** (0.141)		8270D		5	08/10/13 13:05	CWH0128	CH30811
Chrysene	**0.323** (0.141)		8270D		5	08/10/13 13:05	CWH0128	CH30811
Dibenzo(a,h)Anthracene	ND (0.141)		8270D		5	08/10/13 13:05	CWH0128	CH30811
Fluoranthene	**0.430** (0.141)		8270D		5	08/10/13 13:05	CWH0128	CH30811
Fluorene	ND (0.141)		8270D		5	08/10/13 13:05	CWH0128	CH30811
Indeno(1,2,3-cd)Pyrene	**0.277** (0.141)		8270D		5	08/10/13 13:05	CWH0128	CH30811
Naphthalene	ND (0.141)		8270D		5	08/10/13 13:05	CWH0128	CH30811
Phenanthrene	**0.181** (0.141)		8270D		5	08/10/13 13:05	CWH0128	CH30811
Pyrene	**0.464** (0.141)		8270D		5	08/10/13 13:05	CWH0128	CH30811

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*35 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*39 %*		*30-130*
Surrogate: Nitrobenzene-d5	*31 %*		*30-130*
Surrogate: p-Terphenyl-d14	*76 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-114T 0-0.5ft
Date Sampled: 08/06/13 09:55
Percent Solids: 29

ESS Laboratory Work Order: 1308105
ESS Laboratory Sample ID: 1308105-01
Sample Matrix: Solid

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**50600** (500)		TOC-LK		1	SUB	08/14/13 0:00	mg/kg	CH31926

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-114T 0-0.5ft
Date Sampled: 08/06/13 09:55
Percent Solids: 29
Initial Volume: 15.1
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1308105
ESS Laboratory Sample ID: 1308105-01
Sample Matrix: Solid
Units: mg/kg dry

Prepared: 8/8/13 11:00

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	ND (84.3)		MADEP-EPH		1	IBM	08/09/13 10:18	CWH0117	CH30813
C19-C36 Aliphatics1	**137** (84.3)		MADEP-EPH		1	IBM	08/09/13 10:18	CWH0117	CH30813
C11-C22 Unadjusted Aromatics1	**111** (84.3)		EPH8270		1	IBM	08/09/13 10:04	CWH0116	CH30813
C11-C22 Aromatics1,2	**111** (84.3)		EPH8270			IBM	08/09/13 10:04		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*70 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*107 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*104 %*		*40-140*
Surrogate: O-Terphenyl	*80 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-114 2-5ft
Date Sampled: 08/01/13 12:51
Percent Solids: 24

ESS Laboratory Work Order: 1308105
ESS Laboratory Sample ID: 1308105-02
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (3.9)		6020A		50	JP	08/09/13 18:21	5.46	100	CH30801
Arsenic	**152** (3.9)		6010B		1	SVD	08/08/13 19:39	5.46	100	CH30801
Barium	**163** (3.9)		6010B		1	SVD	08/08/13 19:39	5.46	100	CH30801
Beryllium	**1.51** (0.16)		6010B		1	SVD	08/08/13 19:39	5.46	100	CH30801
Cadmium	**8.49** (0.78)		6010B		1	SVD	08/08/13 19:39	5.46	100	CH30801
Chromium	**212** (1.6)		6010B		1	SVD	08/08/13 19:39	5.46	100	CH30801
Lead	**667** (7.8)		6010B		1	SVD	08/08/13 19:39	5.46	100	CH30801
Mercury	**4.57** (0.258)		7471B		5	NAR	08/09/13 12:34	1.63	40	CH30803
Nickel	**38.2** (3.9)		6010B		1	SVD	08/08/13 19:39	5.46	100	CH30801
Selenium	**11.7** (3.91)		6020A		50	JP	08/09/13 18:21	5.46	100	CH30801
Silver	**4.02** (0.78)		6010B		1	SVD	08/08/13 19:39	5.46	100	CH30801
Thallium	ND (3.91)		6020A		50	JP	08/09/13 18:21	5.46	100	CH30801
Vanadium	**163** (1.6)		6010B		1	SVD	08/08/13 19:39	5.46	100	CH30801
Zinc	**956** (3.9)		6010B		1	SVD	08/08/13 19:39	5.46	100	CH30801

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-114 2-5ft
Date Sampled: 08/01/13 12:51
Percent Solids: 24
Initial Volume: 19.4
Final Volume: 5
Extraction Method: 3540

ESS Laboratory Work Order: 1308105
ESS Laboratory Sample ID: 1308105-02
Sample Matrix: Solid
Units: mg/kg dry
Analyst: TJ
Prepared: 8/8/13 17:00
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (5.48)		8082A		50	08/13/13 16:30		CH30812
Aroclor 1221	ND (5.48)		8082A		50	08/13/13 16:30		CH30812
Aroclor 1232	ND (5.48)		8082A		50	08/13/13 16:30		CH30812
Aroclor 1242	ND (5.48)		8082A		50	08/13/13 16:30		CH30812
Aroclor 1248	**59.7** (5.48)		8082A		50	08/13/13 16:30		CH30812
Aroclor 1254	ND (5.48)		8082A		50	08/13/13 16:30		CH30812
Aroclor 1260	ND (5.48)		8082A		50	08/13/13 16:30		CH30812
Aroclor 1262	ND (5.48)		8082A		50	08/13/13 16:30		CH30812
Aroclor 1268	ND (5.48)		8082A		50	08/13/13 16:30		CH30812

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-114 2-5ft
Date Sampled: 08/01/13 12:51
Percent Solids: 24
Initial Volume: 30.3
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308105
ESS Laboratory Sample ID: 1308105-02
Sample Matrix: Solid
Units: mg/kg dry
Analyst: IBM
Prepared: 8/8/13 13:40

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.701)		8270D		1	08/08/13 22:37	CWH0106	CH30815
1,2-Dichlorobenzene	ND (0.701)		8270D		1	08/08/13 22:37	CWH0106	CH30815
1,3-Dichlorobenzene	ND (0.701)		8270D		1	08/08/13 22:37	CWH0106	CH30815
1,4-Dichlorobenzene	ND (0.701)		8270D		1	08/08/13 22:37	CWH0106	CH30815
2-Methylnaphthalene	ND (0.701)		8270D		1	08/08/13 22:37	CWH0106	CH30815
2-Methylphenol	ND (0.701)		8270D		1	08/08/13 22:37	CWH0106	CH30815
Acenaphthene	ND (0.701)		8270D		1	08/08/13 22:37	CWH0106	CH30815
Acenaphthylene	ND (0.701)		8270D		1	08/08/13 22:37	CWH0106	CH30815
Anthracene	ND (0.701)		8270D		1	08/08/13 22:37	CWH0106	CH30815
Benzo(a)anthracene	ND (0.701)		8270D		1	08/08/13 22:37	CWH0106	CH30815
Benzo(a)pyrene	**0.354** (0.351)		8270D		1	08/08/13 22:37	CWH0106	CH30815
Benzo(b)fluoranthene	ND (0.701)		8270D		1	08/08/13 22:37	CWH0106	CH30815
Benzo(g,h,i)perylene	ND (0.701)		8270D		1	08/08/13 22:37	CWH0106	CH30815
Benzo(k)fluoranthene	ND (0.701)		8270D		1	08/08/13 22:37	CWH0106	CH30815
bis(2-Ethylhexyl)phthalate	**1270** (350)		8270D		500	08/12/13 11:35	CWH0106	CH30815
Butylbenzylphthalate	ND (0.701)		8270D		1	08/08/13 22:37	CWH0106	CH30815
Carbazole	ND (0.701)		8270D		1	08/08/13 22:37	CWH0106	CH30815
Chrysene	**0.567** (0.351)		8270D		1	08/08/13 22:37	CWH0106	CH30815
Dibenzo(a,h)Anthracene	ND (0.351)		8270D		1	08/08/13 22:37	CWH0106	CH30815
Dibenzofuran	ND (0.701)		8270D		1	08/08/13 22:37	CWH0106	CH30815
Diethylphthalate	ND (0.701)		8270D		1	08/08/13 22:37	CWH0106	CH30815
Dimethylphthalate	ND (0.701)		8270D		1	08/08/13 22:37	CWH0106	CH30815
Di-n-butylphthalate	ND (0.701)		8270D		1	08/08/13 22:37	CWH0106	CH30815
Di-n-octylphthalate	**46.7** (7.01)		8270D		10	08/09/13 19:46	CWH0106	CH30815
Fluoranthene	**1.49** (0.701)		8270D		1	08/08/13 22:37	CWH0106	CH30815
Fluorene	ND (0.701)		8270D		1	08/08/13 22:37	CWH0106	CH30815
Hexachlorobenzene	ND (0.701)		8270D		1	08/08/13 22:37	CWH0106	CH30815
Hexachlorocyclopentadiene	ND (3.51)		8270D		1	08/08/13 22:37	CWH0106	CH30815
Indeno(1,2,3-cd)Pyrene	ND (0.701)		8270D		1	08/08/13 22:37	CWH0106	CH30815
Naphthalene	**3.17** (0.701)		8270D		1	08/08/13 22:37	CWH0106	CH30815
Phenanthrene	**1.62** (0.701)		8270D		1	08/08/13 22:37	CWH0106	CH30815

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-114 2-5ft
Date Sampled: 08/01/13 12:51
Percent Solids: 24
Initial Volume: 30.3
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308105
ESS Laboratory Sample ID: 1308105-02
Sample Matrix: Solid
Units: mg/kg dry
Analyst: IBM
Prepared: 8/8/13 13:40

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Phenol	ND (0.701)		8270D		1	08/08/13 22:37	CWH0106	CH30815
Pyrene	**1.18** (0.701)		8270D		1	08/08/13 22:37	CWH0106	CH30815

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*69 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*40 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*75 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*74 %*		*30-130*
Surrogate: 2-Fluorophenol	*71 %*		*30-130*
Surrogate: Nitrobenzene-d5	*73 %*		*30-130*
Surrogate: Phenol-d6	*75 %*		*30-130*
Surrogate: p-Terphenyl-d14	*72 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-114 2-5ft
Date Sampled: 08/01/13 12:51
Percent Solids: 24
Initial Volume: 15.3
Final Volume: 0.5
Extraction Method: 3541

ESS Laboratory Work Order: 1308105
ESS Laboratory Sample ID: 1308105-02
Sample Matrix: Solid
Units: mg/kg dry
Analyst: IBM
Prepared: 8/8/13 11:45

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	**0.114** (0.035)		8270D		1	08/10/13 15:34	CWH0128	CH30811
Acenaphthene	**0.060** (0.035)		8270D		1	08/10/13 15:34	CWH0128	CH30811
Acenaphthylene	**0.079** (0.035)		8270D		1	08/10/13 15:34	CWH0128	CH30811
Anthracene	**0.144** (0.035)		8270D		1	08/10/13 15:34	CWH0128	CH30811
Benzo(a)anthracene	**0.142** (0.035)		8270D		1	08/10/13 15:34	CWH0128	CH30811
Benzo(a)pyrene	**0.119** (0.035)		8270D		1	08/10/13 15:34	CWH0128	CH30811
Benzo(b)fluoranthene	**0.236** (0.035)		8270D		1	08/10/13 15:34	CWH0128	CH30811
Benzo(g,h,i)perylene	**0.118** (0.035)		8270D		1	08/10/13 15:34	CWH0128	CH30811
Benzo(k)fluoranthene	**0.085** (0.035)		8270D		1	08/10/13 15:34	CWH0128	CH30811
Chrysene	**0.167** (0.035)		8270D		1	08/10/13 15:34	CWH0128	CH30811
Dibenzo(a,h)Anthracene	ND (0.035)		8270D		1	08/10/13 15:34	CWH0128	CH30811
Fluoranthene	**0.342** (0.035)		8270D		1	08/10/13 15:34	CWH0128	CH30811
Fluorene	**0.113** (0.035)		8270D		1	08/10/13 15:34	CWH0128	CH30811
Indeno(1,2,3-cd)Pyrene	**0.124** (0.035)		8270D		1	08/10/13 15:34	CWH0128	CH30811
Naphthalene	**0.472** (0.035)		8270D		1	08/10/13 15:34	CWH0128	CH30811
Phenanthrene	**0.625** (0.035)		8270D		1	08/10/13 15:34	CWH0128	CH30811
Pyrene	**0.440** (0.035)		8270D		1	08/10/13 15:34	CWH0128	CH30811

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*37 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*41 %*		*30-130*
Surrogate: Nitrobenzene-d5	*43 %*		*30-130*
Surrogate: p-Terphenyl-d14	*70 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-114 2-5ft
Date Sampled: 08/01/13 12:51
Percent Solids: 24

ESS Laboratory Work Order: 1308105
ESS Laboratory Sample ID: 1308105-02
Sample Matrix: Solid

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**61300** (500)		TOC-LK		1	SUB	08/14/13 0:00	mg/kg	CH31926

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-114 2-5ft
Date Sampled: 08/01/13 12:51
Percent Solids: 24
Initial Volume: 15
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1308105
ESS Laboratory Sample ID: 1308105-02
Sample Matrix: Solid
Units: mg/kg dry

Prepared: 8/8/13 11:00

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	**442** (106)		MADEP-EPH		1	IBM	08/09/13 11:09	CWH0117	CH30813
C19-C36 Aliphatics1	**321** (106)		MADEP-EPH		1	IBM	08/09/13 11:09	CWH0117	CH30813
C11-C22 Unadjusted Aromatics1	**1640** (213)		EPH8270		2	SEP	08/10/13 21:39	CWH0135	CH30813
C11-C22 Aromatics1,2	**1640** (213)		EPH8270			SEP	08/10/13 21:39		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*88 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*110 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*107 %*		*40-140*
Surrogate: O-Terphenyl	*90 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-114 5-7ft
Date Sampled: 08/01/13 12:51
Percent Solids: 75

ESS Laboratory Work Order: 1308105
ESS Laboratory Sample ID: 1308105-03
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.3)		6020A		50	JP	08/09/13 18:27	5.2	100	CH30801
Arsenic	**2.2** (1.3)		6010B		1	SVD	08/08/13 19:44	5.2	100	CH30801
Barium	**15.4** (1.3)		6010B		1	SVD	08/08/13 19:44	5.2	100	CH30801
Beryllium	**0.29** (0.05)		6010B		1	SVD	08/08/13 19:44	5.2	100	CH30801
Cadmium	**0.26** (0.26)		6010B		1	SVD	08/08/13 19:44	5.2	100	CH30801
Chromium	**14.2** (0.5)		6010B		1	SVD	08/08/13 19:44	5.2	100	CH30801
Lead	**3.0** (2.6)		6010B		1	SVD	08/08/13 19:44	5.2	100	CH30801
Mercury	ND (0.023)		7471B		1	NAR	08/09/13 15:40	1.12	40	CH30803
Nickel	**8.7** (1.3)		6010B		1	SVD	08/08/13 19:44	5.2	100	CH30801
Selenium	ND (1.28)		6020A		50	JP	08/09/13 18:27	5.2	100	CH30801
Silver	ND (0.26)		6010B		1	SVD	08/08/13 19:44	5.2	100	CH30801
Thallium	ND (1.28)		6020A		50	JP	08/09/13 18:27	5.2	100	CH30801
Vanadium	**18.1** (0.5)		6010B		1	SVD	08/08/13 19:44	5.2	100	CH30801
Zinc	**24.1** (1.3)		6010B		1	SVD	08/08/13 19:44	5.2	100	CH30801

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-115T 0-0.5ft
Date Sampled: 08/06/13 10:09
Percent Solids: 28

ESS Laboratory Work Order: 1308105
ESS Laboratory Sample ID: 1308105-04
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (3.5)		6020A		50	JP	08/09/13 18:33	5.15	100	CH30801
Arsenic	**45.7** (3.4)		6010B		1	SVD	08/08/13 19:50	5.15	100	CH30801
Barium	**77.8** (3.4)		6010B		1	SVD	08/08/13 19:50	5.15	100	CH30801
Beryllium	**0.82** (0.14)		6010B		1	SVD	08/08/13 19:50	5.15	100	CH30801
Cadmium	**2.39** (0.69)		6010B		1	SVD	08/08/13 19:50	5.15	100	CH30801
Chromium	**95.0** (1.4)		6010B		1	SVD	08/08/13 19:50	5.15	100	CH30801
Lead	**281** (6.9)		6010B		1	SVD	08/08/13 19:50	5.15	100	CH30801
Mercury	**1.26** (0.262)		7471B		5	NAR	08/09/13 12:40	1.34	40	CH30803
Nickel	**28.0** (3.4)		6010B		1	SVD	08/08/13 19:50	5.15	100	CH30801
Selenium	ND (3.46)		6020A		50	JP	08/09/13 18:33	5.15	100	CH30801
Silver	**2.17** (0.69)		6010B		1	SVD	08/08/13 19:50	5.15	100	CH30801
Thallium	ND (3.46)		6020A		50	JP	08/09/13 18:33	5.15	100	CH30801
Vanadium	**88.6** (1.4)		6010B		1	SVD	08/08/13 19:50	5.15	100	CH30801
Zinc	**423** (3.4)		6010B		1	SVD	08/08/13 19:50	5.15	100	CH30801

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-115T 0-0.5ft
Date Sampled: 08/06/13 10:09
Percent Solids: 28

ESS Laboratory Work Order: 1308105
ESS Laboratory Sample ID: 1308105-04
Sample Matrix: Solid

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**49100** (500)		TOC-LK		1	SUB	08/14/13 0:00	mg/kg	CH31926

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-115 2-5ft
Date Sampled: 08/01/13 13:05
Percent Solids: 28

ESS Laboratory Work Order: 1308105
ESS Laboratory Sample ID: 1308105-05
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (3.4)		6020A		50	JP	08/09/13 18:39	5.24	100	CH30801
Arsenic	**323** (3.4)		6010B		1	SVD	08/08/13 19:55	5.24	100	CH30801
Barium	**34.4** (3.4)		6010B		1	SVD	08/08/13 19:55	5.24	100	CH30801
Beryllium	**0.86** (0.14)		6010B		1	SVD	08/08/13 19:55	5.24	100	CH30801
Cadmium	**2.26** (0.68)		6010B		1	SVD	08/08/13 19:55	5.24	100	CH30801
Chromium	**172** (1.3)		6010B		1	SVD	08/08/13 19:55	5.24	100	CH30801
Lead	**283** (6.7)		6010B		1	SVD	08/08/13 19:55	5.24	100	CH30801
Mercury	**4.19** (0.217)		7471B		5	NAR	08/09/13 12:43	1.61	40	CH30803
Nickel	**15.4** (3.4)		6010B		1	SVD	08/08/13 19:55	5.24	100	CH30801
Selenium	ND (3.38)		6020A		50	JP	08/09/13 18:39	5.24	100	CH30801
Silver	**1.94** (0.68)		6010B		1	SVD	08/08/13 19:55	5.24	100	CH30801
Thallium	ND (3.38)		6020A		50	JP	08/09/13 18:39	5.24	100	CH30801
Vanadium	**297** (1.3)		6010B		1	SVD	08/08/13 19:55	5.24	100	CH30801
Zinc	**342** (3.4)		6010B		1	SVD	08/08/13 19:55	5.24	100	CH30801

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-115 5-7ft
Date Sampled: 08/01/13 13:05
Percent Solids: 17

ESS Laboratory Work Order: 1308105
ESS Laboratory Sample ID: 1308105-06
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (5.7)		6020A		50	JP	08/09/13 18:45	5.06	100	CH30801
Arsenic	**204** (5.7)		6010B		1	SVD	08/08/13 20:01	5.06	100	CH30801
Barium	**61.0** (5.7)		6010B		1	SVD	08/08/13 20:01	5.06	100	CH30801
Beryllium	**0.91** (0.24)		6010B		1	SVD	08/08/13 20:01	5.06	100	CH30801
Cadmium	**2.91** (1.15)		6010B		1	SVD	08/08/13 20:01	5.06	100	CH30801
Chromium	**201** (2.3)		6010B		1	SVD	08/08/13 20:01	5.06	100	CH30801
Lead	**344** (11.4)		6010B		1	SVD	08/08/13 20:01	5.06	100	CH30801
Mercury	**2.51** (0.525)		7471B		5	NAR	08/09/13 12:45	1.09	40	CH30803
Nickel	**17.4** (5.7)		6010B		1	SVD	08/08/13 20:01	5.06	100	CH30801
Selenium	ND (5.74)		6020A		50	JP	08/09/13 18:45	5.06	100	CH30801
Silver	**2.50** (1.15)		6010B		1	SVD	08/08/13 20:01	5.06	100	CH30801
Thallium	ND (5.74)		6020A		50	JP	08/09/13 18:45	5.06	100	CH30801
Vanadium	**192** (2.3)		6010B		1	SVD	08/08/13 20:01	5.06	100	CH30801
Zinc	**349** (5.7)		6010B		1	SVD	08/08/13 20:01	5.06	100	CH30801

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-116T 0-0.5ft
Date Sampled: 08/06/13 10:55
Percent Solids: 56

ESS Laboratory Work Order: 1308105
ESS Laboratory Sample ID: 1308105-07
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.6)		6020A		50	JP	08/09/13 18:51	5.71	100	CH30801
Arsenic	**75.7** (1.5)		6010B		1	SVD	08/08/13 20:06	5.71	100	CH30801
Barium	**32.6** (1.5)		6010B		1	SVD	08/08/13 20:06	5.71	100	CH30801
Beryllium	**0.49** (0.07)		6010B		1	SVD	08/08/13 20:06	5.71	100	CH30801
Cadmium	**1.04** (0.31)		6010B		1	SVD	08/08/13 20:06	5.71	100	CH30801
Chromium	**39.8** (0.6)		6010B		1	SVD	08/08/13 20:06	5.71	100	CH30801
Lead	**116** (3.1)		6010B		1	SVD	08/08/13 20:06	5.71	100	CH30801
Mercury	**0.484** (0.135)		7471B		5	NAR	08/09/13 12:48	1.3	40	CH30803
Nickel	**15.8** (1.5)		6010B		1	SVD	08/08/13 20:06	5.71	100	CH30801
Selenium	**1.58** (1.56)		6020A		50	JP	08/09/13 18:51	5.71	100	CH30801
Silver	**0.97** (0.31)		6010B		1	SVD	08/08/13 20:06	5.71	100	CH30801
Thallium	ND (1.56)		6020A		50	JP	08/09/13 18:51	5.71	100	CH30801
Vanadium	**57.5** (0.6)		6010B		1	SVD	08/08/13 20:06	5.71	100	CH30801
Zinc	**182** (1.5)		6010B		1	SVD	08/08/13 20:06	5.71	100	CH30801

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-116T 0-0.5ft
Date Sampled: 08/06/13 10:55
Percent Solids: 56
Initial Volume: 19.3
Final Volume: 5
Extraction Method: 3540

ESS Laboratory Work Order: 1308105
ESS Laboratory Sample ID: 1308105-07
Sample Matrix: Solid
Units: mg/kg dry
Analyst: TJ
Prepared: 8/8/13 17:00
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0459)		8082A		1	08/11/13 6:45		CH30812
Aroclor 1221	ND (0.0459)		8082A		1	08/11/13 6:45		CH30812
Aroclor 1232	ND (0.0459)		8082A		1	08/11/13 6:45		CH30812
Aroclor 1242	ND (0.0459)		8082A		1	08/11/13 6:45		CH30812
Aroclor 1248	**0.170** (0.0459)		8082A		1	08/11/13 6:45		CH30812
Aroclor 1254	**0.286** (0.0459)		8082A		1	08/11/13 6:45		CH30812
Aroclor 1260	**0.211** (0.0459)		8082A		1	08/11/13 6:45		CH30812
Aroclor 1262	ND (0.0459)		8082A		1	08/11/13 6:45		CH30812
Aroclor 1268	ND (0.0459)		8082A		1	08/11/13 6:45		CH30812

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*89 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*84 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*72 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*62 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-116T 0-0.5ft
Date Sampled: 08/06/13 10:55
Percent Solids: 56
Initial Volume: 30.2
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308105
ESS Laboratory Sample ID: 1308105-07
Sample Matrix: Solid
Units: mg/kg dry
Analyst: IBM
Prepared: 8/8/13 13:40

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.293)		8270D		1	08/08/13 23:11	CWH0106	CH30815
1,2-Dichlorobenzene	ND (0.293)		8270D		1	08/08/13 23:11	CWH0106	CH30815
1,3-Dichlorobenzene	ND (0.293)		8270D		1	08/08/13 23:11	CWH0106	CH30815
1,4-Dichlorobenzene	ND (0.293)		8270D		1	08/08/13 23:11	CWH0106	CH30815
2-Methylnaphthalene	ND (0.293)		8270D		1	08/08/13 23:11	CWH0106	CH30815
2-Methylphenol	ND (0.293)		8270D		1	08/08/13 23:11	CWH0106	CH30815
Acenaphthene	ND (0.293)		8270D		1	08/08/13 23:11	CWH0106	CH30815
Acenaphthylene	ND (0.293)		8270D		1	08/08/13 23:11	CWH0106	CH30815
Anthracene	ND (0.293)		8270D		1	08/08/13 23:11	CWH0106	CH30815
Benzo(a)anthracene	**0.442** (0.293)		8270D		1	08/08/13 23:11	CWH0106	CH30815
Benzo(a)pyrene	**0.596** (0.147)		8270D		1	08/08/13 23:11	CWH0106	CH30815
Benzo(b)fluoranthene	**0.981** (0.293)		8270D		1	08/08/13 23:11	CWH0106	CH30815
Benzo(g,h,i)perylene	ND (0.293)		8270D		1	08/08/13 23:11	CWH0106	CH30815
Benzo(k)fluoranthene	**0.342** (0.293)		8270D		1	08/08/13 23:11	CWH0106	CH30815
bis(2-Ethylhexyl)phthalate	**2.94** (0.293)		8270D		1	08/08/13 23:11	CWH0106	CH30815
Butylbenzylphthalate	ND (0.293)		8270D		1	08/08/13 23:11	CWH0106	CH30815
Carbazole	ND (0.293)		8270D		1	08/08/13 23:11	CWH0106	CH30815
Chrysene	**0.647** (0.147)		8270D		1	08/08/13 23:11	CWH0106	CH30815
Dibenzo(a,h)Anthracene	ND (0.147)		8270D		1	08/08/13 23:11	CWH0106	CH30815
Dibenzofuran	ND (0.293)		8270D		1	08/08/13 23:11	CWH0106	CH30815
Diethylphthalate	ND (0.293)		8270D		1	08/08/13 23:11	CWH0106	CH30815
Dimethylphthalate	ND (0.293)		8270D		1	08/08/13 23:11	CWH0106	CH30815
Di-n-butylphthalate	ND (0.293)		8270D		1	08/08/13 23:11	CWH0106	CH30815
Di-n-octylphthalate	ND (0.293)		8270D		1	08/08/13 23:11	CWH0106	CH30815
Fluoranthene	**0.901** (0.293)		8270D		1	08/08/13 23:11	CWH0106	CH30815
Fluorene	ND (0.293)		8270D		1	08/08/13 23:11	CWH0106	CH30815
Hexachlorobenzene	ND (0.293)		8270D		1	08/08/13 23:11	CWH0106	CH30815
Hexachlorocyclopentadiene	ND (1.47)		8270D		1	08/08/13 23:11	CWH0106	CH30815
Indeno(1,2,3-cd)Pyrene	ND (0.293)		8270D		1	08/08/13 23:11	CWH0106	CH30815
Naphthalene	ND (0.293)		8270D		1	08/08/13 23:11	CWH0106	CH30815
Phenanthrene	ND (0.293)		8270D		1	08/08/13 23:11	CWH0106	CH30815

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-116T 0-0.5ft
Date Sampled: 08/06/13 10:55
Percent Solids: 56
Initial Volume: 30.2
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308105
ESS Laboratory Sample ID: 1308105-07
Sample Matrix: Solid
Units: mg/kg dry
Analyst: IBM
Prepared: 8/8/13 13:40

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Phenol	ND (0.293)		8270D		1	08/08/13 23:11	CWH0106	CH30815
Pyrene	**0.816** (0.293)		8270D		1	08/08/13 23:11	CWH0106	CH30815

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*46 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*28 %*	*S-*	*30-130*
Surrogate: 2-Chlorophenol-d4	*51 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*55 %*		*30-130*
Surrogate: 2-Fluorophenol	*47 %*		*30-130*
Surrogate: Nitrobenzene-d5	*50 %*		*30-130*
Surrogate: Phenol-d6	*52 %*		*30-130*
Surrogate: p-Terphenyl-d14	*67 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-116T 0-0.5ft
Date Sampled: 08/06/13 10:55
Percent Solids: 56
Initial Volume: 15
Final Volume: 0.5
Extraction Method: 3541

ESS Laboratory Work Order: 1308105
ESS Laboratory Sample ID: 1308105-07
Sample Matrix: Solid
Units: mg/kg dry
Analyst: IBM
Prepared: 8/8/13 11:45

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.074)		8270D		5	08/10/13 13:55	CWH0128	CH30811
Acenaphthene	ND (0.074)		8270D		5	08/10/13 13:55	CWH0128	CH30811
Acenaphthylene	ND (0.074)		8270D		5	08/10/13 13:55	CWH0128	CH30811
Anthracene	ND (0.074)		8270D		5	08/10/13 13:55	CWH0128	CH30811
Benzo(a)anthracene	**0.198** (0.074)		8270D		5	08/10/13 13:55	CWH0128	CH30811
Benzo(a)pyrene	**0.180** (0.074)		8270D		5	08/10/13 13:55	CWH0128	CH30811
Benzo(b)fluoranthene	**0.227** (0.074)		8270D		5	08/10/13 13:55	CWH0128	CH30811
Benzo(g,h,i)perylene	**0.115** (0.074)		8270D		5	08/10/13 13:55	CWH0128	CH30811
Benzo(k)fluoranthene	**0.074** (0.074)		8270D		5	08/10/13 13:55	CWH0128	CH30811
Chrysene	**0.221** (0.074)		8270D		5	08/10/13 13:55	CWH0128	CH30811
Dibenzo(a,h)Anthracene	ND (0.074)		8270D		5	08/10/13 13:55	CWH0128	CH30811
Fluoranthene	**0.295** (0.074)		8270D		5	08/10/13 13:55	CWH0128	CH30811
Fluorene	ND (0.074)		8270D		5	08/10/13 13:55	CWH0128	CH30811
Indeno(1,2,3-cd)Pyrene	**0.121** (0.074)		8270D		5	08/10/13 13:55	CWH0128	CH30811
Naphthalene	ND (0.074)		8270D		5	08/10/13 13:55	CWH0128	CH30811
Phenanthrene	**0.189** (0.074)		8270D		5	08/10/13 13:55	CWH0128	CH30811
Pyrene	**0.407** (0.074)		8270D		5	08/10/13 13:55	CWH0128	CH30811

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*44 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*44 %*		*30-130*
Surrogate: Nitrobenzene-d5	*40 %*		*30-130*
Surrogate: p-Terphenyl-d14	*72 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-116T 0-0.5ft
Date Sampled: 08/06/13 10:55
Percent Solids: 56

ESS Laboratory Work Order: 1308105
ESS Laboratory Sample ID: 1308105-07
Sample Matrix: Solid

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**30500** (500)		TOC-LK		1	SUB	08/14/13 0:00	mg/kg	CH31926

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-116T 0-0.5ft
Date Sampled: 08/06/13 10:55
Percent Solids: 56
Initial Volume: 15.3
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1308105
ESS Laboratory Sample ID: 1308105-07
Sample Matrix: Solid
Units: mg/kg dry

Prepared: 8/8/13 11:00

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	ND (43.4)		MADEP-EPH		1	IBM	08/09/13 11:59	CWH0117	CH30813
C19-C36 Aliphatics1	**85.0** (43.4)		MADEP-EPH		1	IBM	08/09/13 11:59	CWH0117	CH30813
C11-C22 Unadjusted Aromatics1	**60.2** (43.4)		EPH8270		1	IBM	08/09/13 14:15	CWH0116	CH30813
C11-C22 Aromatics1,2	**60.2** (43.4)		EPH8270			IBM	08/09/13 14:15		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*75 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*110 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*104 %*		*40-140*
Surrogate: O-Terphenyl	*86 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-116 0.5-2ft
Date Sampled: 08/02/13 08:28
Percent Solids: 73

ESS Laboratory Work Order: 1308105
ESS Laboratory Sample ID: 1308105-08
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	**1.6** (1.2)		6020A		50	JP	08/09/13 19:09	5.54	100	CH30801
Arsenic	**249** (1.2)		6010B		1	SVD	08/08/13 20:12	5.54	100	CH30801
Barium	**33.9** (1.2)		6010B		1	SVD	08/08/13 20:12	5.54	100	CH30801
Beryllium	**0.13** (0.05)		6010B		1	SVD	08/08/13 20:12	5.54	100	CH30801
Cadmium	**0.85** (0.25)		6010B		1	SVD	08/08/13 20:12	5.54	100	CH30801
Chromium	**71.4** (0.5)		6010B		1	SVD	08/08/13 20:12	5.54	100	CH30801
Lead	**467** (2.5)		6010B		1	SVD	08/08/13 20:12	5.54	100	CH30801
Mercury	**2.70** (0.147)		7471B		10	NAR	08/09/13 14:35	1.85	40	CH30803
Nickel	**3.5** (1.2)		6010B		1	SVD	08/08/13 20:12	5.54	100	CH30801
Selenium	**4.36** (1.25)		6020A		50	JP	08/09/13 19:09	5.54	100	CH30801
Silver	**3.90** (0.25)		6010B		1	SVD	08/08/13 20:12	5.54	100	CH30801
Thallium	**1.37** (1.25)		6020A		50	JP	08/09/13 19:09	5.54	100	CH30801
Vanadium	**25.0** (0.5)		6010B		1	SVD	08/08/13 20:12	5.54	100	CH30801
Zinc	**67.5** (1.2)		6010B		1	SVD	08/08/13 20:12	5.54	100	CH30801

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-116 0.5-2ft
Date Sampled: 08/02/13 08:28
Percent Solids: 73
Initial Volume: 19.3
Final Volume: 5
Extraction Method: 3540

ESS Laboratory Work Order: 1308105
ESS Laboratory Sample ID: 1308105-08
Sample Matrix: Solid
Units: mg/kg dry
Analyst: TJ
Prepared: 8/8/13 17:00
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0356)		8082A		1	08/12/13 17:09		CH30812
Aroclor 1221	ND (0.0356)		8082A		1	08/12/13 17:09		CH30812
Aroclor 1232	ND (0.0356)		8082A		1	08/12/13 17:09		CH30812
Aroclor 1242	ND (0.0356)		8082A		1	08/12/13 17:09		CH30812
Aroclor 1248	ND (0.0356)		8082A		1	08/12/13 17:09		CH30812
Aroclor 1254	**2.94** (0.356)		8082A		10	08/13/13 16:49		CH30812
Aroclor 1260	**0.995** (0.356)		8082A		10	08/13/13 16:49		CH30812
Aroclor 1262	ND (0.0356)		8082A		1	08/12/13 17:09		CH30812
Aroclor 1268	ND (0.0356)		8082A		1	08/12/13 17:09		CH30812

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*114 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*93 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*77 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*69 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-116 0.5-2ft
Date Sampled: 08/02/13 08:28
Percent Solids: 73
Initial Volume: 30.3
Final Volume: 2
Extraction Method: 3546

ESS Laboratory Work Order: 1308105
ESS Laboratory Sample ID: 1308105-08
Sample Matrix: Solid
Units: mg/kg dry
Analyst: IBM
Prepared: 8/8/13 13:40

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.906)		8270D		1	08/08/13 23:44	CWH0106	CH30815
1,2-Dichlorobenzene	ND (0.906)		8270D		1	08/08/13 23:44	CWH0106	CH30815
1,3-Dichlorobenzene	ND (0.906)		8270D		1	08/08/13 23:44	CWH0106	CH30815
1,4-Dichlorobenzene	ND (0.906)		8270D		1	08/08/13 23:44	CWH0106	CH30815
2-Methylnaphthalene	ND (0.906)		8270D		1	08/08/13 23:44	CWH0106	CH30815
2-Methylphenol	ND (0.906)		8270D		1	08/08/13 23:44	CWH0106	CH30815
Acenaphthene	ND (0.906)		8270D		1	08/08/13 23:44	CWH0106	CH30815
Acenaphthylene	ND (0.906)		8270D		1	08/08/13 23:44	CWH0106	CH30815
Anthracene	ND (0.906)		8270D		1	08/08/13 23:44	CWH0106	CH30815
Benzo(a)anthracene	ND (0.906)		8270D		1	08/08/13 23:44	CWH0106	CH30815
Benzo(a)pyrene	ND (0.455)		8270D		1	08/08/13 23:44	CWH0106	CH30815
Benzo(b)fluoranthene	ND (0.906)		8270D		1	08/08/13 23:44	CWH0106	CH30815
Benzo(g,h,i)perylene	ND (0.906)		8270D		1	08/08/13 23:44	CWH0106	CH30815
Benzo(k)fluoranthene	ND (0.906)		8270D		1	08/08/13 23:44	CWH0106	CH30815
bis(2-Ethylhexyl)phthalate	**543** (90.6)		8270D		100	08/09/13 21:26	CWH0106	CH30815
Butylbenzylphthalate	ND (0.906)		8270D		1	08/08/13 23:44	CWH0106	CH30815
Carbazole	ND (0.906)		8270D		1	08/08/13 23:44	CWH0106	CH30815
Chrysene	ND (0.455)		8270D		1	08/08/13 23:44	CWH0106	CH30815
Dibenzo(a,h)Anthracene	ND (0.455)		8270D		1	08/08/13 23:44	CWH0106	CH30815
Dibenzofuran	ND (0.906)		8270D		1	08/08/13 23:44	CWH0106	CH30815
Diethylphthalate	ND (0.906)		8270D		1	08/08/13 23:44	CWH0106	CH30815
Dimethylphthalate	ND (0.906)		8270D		1	08/08/13 23:44	CWH0106	CH30815
Di-n-butylphthalate	ND (0.906)		8270D		1	08/08/13 23:44	CWH0106	CH30815
Di-n-octylphthalate	**34.8** (9.06)		8270D		10	08/09/13 20:53	CWH0106	CH30815
Fluoranthene	**0.981** (0.906)		8270D		1	08/08/13 23:44	CWH0106	CH30815
Fluorene	ND (0.906)		8270D		1	08/08/13 23:44	CWH0106	CH30815
Hexachlorobenzene	ND (0.906)		8270D		1	08/08/13 23:44	CWH0106	CH30815
Hexachlorocyclopentadiene	ND (4.55)		8270D		1	08/08/13 23:44	CWH0106	CH30815
Indeno(1,2,3-cd)Pyrene	ND (0.906)		8270D		1	08/08/13 23:44	CWH0106	CH30815
Naphthalene	ND (0.906)		8270D		1	08/08/13 23:44	CWH0106	CH30815
Phenanthrene	ND (0.906)		8270D		1	08/08/13 23:44	CWH0106	CH30815

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-116 0.5-2ft
Date Sampled: 08/02/13 08:28
Percent Solids: 73
Initial Volume: 30.3
Final Volume: 2
Extraction Method: 3546

ESS Laboratory Work Order: 1308105
ESS Laboratory Sample ID: 1308105-08
Sample Matrix: Solid
Units: mg/kg dry
Analyst: IBM
Prepared: 8/8/13 13:40

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Phenol	ND (0.906)		8270D		1	08/08/13 23:44	CWH0106	CH30815
Pyrene	ND (0.906)		8270D		1	08/08/13 23:44	CWH0106	CH30815

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*27 %*	*SM*	*30-130*
Surrogate: 2,4,6-Tribromophenol	*25 %*	*SM*	*30-130*
Surrogate: 2-Chlorophenol-d4	*32 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*48 %*		*30-130*
Surrogate: 2-Fluorophenol	*27 %*	*SM*	*30-130*
Surrogate: Nitrobenzene-d5	*32 %*		*30-130*
Surrogate: Phenol-d6	*35 %*		*30-130*
Surrogate: p-Terphenyl-d14	*56 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-116 0.5-2ft
Date Sampled: 08/02/13 08:28
Percent Solids: 73
Initial Volume: 15
Final Volume: 0.5
Extraction Method: 3541

ESS Laboratory Work Order: 1308105
ESS Laboratory Sample ID: 1308105-08
Sample Matrix: Solid
Units: mg/kg dry
Analyst: IBM
Prepared: 8/8/13 11:45

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.057)		8270D		5	08/10/13 14:44	CWH0128	CH30811
Acenaphthene	ND (0.057)		8270D		5	08/10/13 14:44	CWH0128	CH30811
Acenaphthylene	ND (0.057)		8270D		5	08/10/13 14:44	CWH0128	CH30811
Anthracene	**0.094** (0.057)		8270D		5	08/10/13 14:44	CWH0128	CH30811
Benzo(a)anthracene	**0.172** (0.057)		8270D		5	08/10/13 14:44	CWH0128	CH30811
Benzo(a)pyrene	**0.165** (0.057)		8270D		5	08/10/13 14:44	CWH0128	CH30811
Benzo(b)fluoranthene	**0.293** (0.057)		8270D		5	08/10/13 14:44	CWH0128	CH30811
Benzo(g,h,i)perylene	**0.144** (0.057)		8270D		5	08/10/13 14:44	CWH0128	CH30811
Benzo(k)fluoranthene	**0.085** (0.057)		8270D		5	08/10/13 14:44	CWH0128	CH30811
Chrysene	**0.234** (0.057)		8270D		5	08/10/13 14:44	CWH0128	CH30811
Dibenzo(a,h)Anthracene	ND (0.057)		8270D		5	08/10/13 14:44	CWH0128	CH30811
Fluoranthene	**0.355** (0.057)		8270D		5	08/10/13 14:44	CWH0128	CH30811
Fluorene	ND (0.057)		8270D		5	08/10/13 14:44	CWH0128	CH30811
Indeno(1,2,3-cd)Pyrene	**0.154** (0.057)		8270D		5	08/10/13 14:44	CWH0128	CH30811
Naphthalene	**0.119** (0.057)		8270D		5	08/10/13 14:44	CWH0128	CH30811
Phenanthrene	**0.167** (0.057)		8270D		5	08/10/13 14:44	CWH0128	CH30811
Pyrene	**0.383** (0.057)		8270D		5	08/10/13 14:44	CWH0128	CH30811

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*26 %*	*SM*	*30-130*
Surrogate: 2-Fluorobiphenyl	*34 %*		*30-130*
Surrogate: Nitrobenzene-d5	*26 %*	*SM*	*30-130*
Surrogate: p-Terphenyl-d14	*58 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-116 0.5-2ft
Date Sampled: 08/02/13 08:28
Percent Solids: 73

ESS Laboratory Work Order: 1308105
ESS Laboratory Sample ID: 1308105-08
Sample Matrix: Solid

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**21600** (500)		TOC-LK		1	SUB	08/14/13 0:00	mg/kg	CH31926

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-116 0.5-2ft
Date Sampled: 08/02/13 08:28
Percent Solids: 73
Initial Volume: 15.2
Final Volume: 3
Extraction Method: 3546

ESS Laboratory Work Order: 1308105
ESS Laboratory Sample ID: 1308105-08
Sample Matrix: Solid
Units: mg/kg dry

Prepared: 8/8/13 11:00

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	ND (102)		MADEP-EPH		1	SEP	08/10/13 14:50	CWH0134	CH30813
C19-C36 Aliphatics1	**154** (102)		MADEP-EPH		1	SEP	08/10/13 14:50	CWH0134	CH30813
C11-C22 Unadjusted Aromatics1	**674** (102)		EPH8270		1	IBM	08/09/13 15:02	CWH0116	CH30813
C11-C22 Aromatics1,2	**674** (102)		EPH8270			IBM	08/09/13 15:02		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*40 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*113 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*107 %*		*40-140*
Surrogate: O-Terphenyl	*62 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-116 2-4ft
Date Sampled: 08/02/13 08:28
Percent Solids: 72

ESS Laboratory Work Order: 1308105
ESS Laboratory Sample ID: 1308105-09
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	**EL** ND (125)		6010B		50	KJK	08/12/13 19:08	5.55	100	CH30801
Arsenic	**235** (1.3)		6010B		1	SVD	08/08/13 20:51	5.55	100	CH30801
Barium	**49.6** (1.3)		6010B		1	SVD	08/08/13 20:51	5.55	100	CH30801
Beryllium	ND (0.05)		6010B		1	SVD	08/08/13 20:51	5.55	100	CH30801
Cadmium	**5.25** (0.25)		6010B		1	SVD	08/08/13 20:51	5.55	100	CH30801
Chromium	**18.6** (0.5)		6010B		1	SVD	08/08/13 20:51	5.55	100	CH30801
Lead	**192** (2.5)		6010B		1	SVD	08/08/13 20:51	5.55	100	CH30801
Mercury	**2.52** (0.165)		7471B		10	NAR	08/09/13 14:37	1.67	40	CH30803
Nickel	**8.3** (1.3)		6010B		1	SVD	08/08/13 20:51	5.55	100	CH30801
Selenium	**EL** ND (125)		6010B		50	KJK	08/12/13 19:08	5.55	100	CH30801
Silver	**10.8** (0.25)		6010B		1	SVD	08/08/13 20:51	5.55	100	CH30801
Thallium	**EL** ND (250)		6010B		50	KJK	08/12/13 19:08	5.55	100	CH30801
Vanadium	**22.5** (0.5)		6010B		1	SVD	08/08/13 20:51	5.55	100	CH30801
Zinc	**469** (1.3)		6010B		1	SVD	08/08/13 20:51	5.55	100	CH30801

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-116 2-4ft
Date Sampled: 08/02/13 08:28
Percent Solids: 72
Initial Volume: 19.6
Final Volume: 5
Extraction Method: 3540

ESS Laboratory Work Order: 1308105
ESS Laboratory Sample ID: 1308105-09
Sample Matrix: Solid
Units: mg/kg dry
Analyst: TJ
Prepared: 8/8/13 17:00
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0355)		8082A		1	08/13/13 17:09		CH30812
Aroclor 1221	ND (0.0355)		8082A		1	08/13/13 17:09		CH30812
Aroclor 1232	ND (0.0355)		8082A		1	08/13/13 17:09		CH30812
Aroclor 1242	ND (0.0355)		8082A		1	08/13/13 17:09		CH30812
Aroclor 1248	ND (0.0355)		8082A		1	08/13/13 17:09		CH30812
Aroclor 1254	ND (0.0355)		8082A		1	08/13/13 17:09		CH30812
Aroclor 1260	ND (0.0355)		8082A		1	08/13/13 17:09		CH30812
Aroclor 1262	ND (0.0355)		8082A		1	08/13/13 17:09		CH30812
Aroclor 1268	ND (0.0355)		8082A		1	08/13/13 17:09		CH30812

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*137 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*111 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*51 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*46 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-116 2-4ft
Date Sampled: 08/02/13 08:28
Percent Solids: 72
Initial Volume: 30
Final Volume: 3
Extraction Method: 3546

ESS Laboratory Work Order: 1308105
ESS Laboratory Sample ID: 1308105-09
Sample Matrix: Solid
Units: mg/kg dry
Analyst: IBM
Prepared: 8/8/13 13:40

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (1.39)		8270D		1	08/09/13 0:17	CWH0106	CH30815
1,2-Dichlorobenzene	ND (1.39)		8270D		1	08/09/13 0:17	CWH0106	CH30815
1,3-Dichlorobenzene	ND (1.39)		8270D		1	08/09/13 0:17	CWH0106	CH30815
1,4-Dichlorobenzene	ND (1.39)		8270D		1	08/09/13 0:17	CWH0106	CH30815
2-Methylnaphthalene	ND (1.39)		8270D		1	08/09/13 0:17	CWH0106	CH30815
2-Methylphenol	ND (1.39)		8270D		1	08/09/13 0:17	CWH0106	CH30815
Acenaphthene	ND (1.39)		8270D		1	08/09/13 0:17	CWH0106	CH30815
Acenaphthylene	ND (1.39)		8270D		1	08/09/13 0:17	CWH0106	CH30815
Anthracene	ND (1.39)		8270D		1	08/09/13 0:17	CWH0106	CH30815
Benzo(a)anthracene	ND (1.39)		8270D		1	08/09/13 0:17	CWH0106	CH30815
Benzo(a)pyrene	ND (0.696)		8270D		1	08/09/13 0:17	CWH0106	CH30815
Benzo(b)fluoranthene	ND (1.39)		8270D		1	08/09/13 0:17	CWH0106	CH30815
Benzo(g,h,i)perylene	ND (1.39)		8270D		1	08/09/13 0:17	CWH0106	CH30815
Benzo(k)fluoranthene	ND (1.39)		8270D		1	08/09/13 0:17	CWH0106	CH30815
bis(2-Ethylhexyl)phthalate	**4.44** (1.39)		8270D		1	08/09/13 0:17	CWH0106	CH30815
Butylbenzylphthalate	ND (1.39)		8270D		1	08/09/13 0:17	CWH0106	CH30815
Carbazole	ND (1.39)		8270D		1	08/09/13 0:17	CWH0106	CH30815
Chrysene	ND (0.696)		8270D		1	08/09/13 0:17	CWH0106	CH30815
Dibenzo(a,h)Anthracene	ND (0.696)		8270D		1	08/09/13 0:17	CWH0106	CH30815
Dibenzofuran	ND (1.39)		8270D		1	08/09/13 0:17	CWH0106	CH30815
Diethylphthalate	ND (1.39)		8270D		1	08/09/13 0:17	CWH0106	CH30815
Dimethylphthalate	ND (1.39)		8270D		1	08/09/13 0:17	CWH0106	CH30815
Di-n-butylphthalate	ND (1.39)		8270D		1	08/09/13 0:17	CWH0106	CH30815
Di-n-octylphthalate	ND (1.39)		8270D		1	08/09/13 0:17	CWH0106	CH30815
Fluoranthene	ND (1.39)		8270D		1	08/09/13 0:17	CWH0106	CH30815
Fluorene	ND (1.39)		8270D		1	08/09/13 0:17	CWH0106	CH30815
Hexachlorobenzene	ND (1.39)		8270D		1	08/09/13 0:17	CWH0106	CH30815
Hexachlorocyclopentadiene	ND (6.96)		8270D		1	08/09/13 0:17	CWH0106	CH30815
Indeno(1,2,3-cd)Pyrene	ND (1.39)		8270D		1	08/09/13 0:17	CWH0106	CH30815
Naphthalene	ND (1.39)		8270D		1	08/09/13 0:17	CWH0106	CH30815
Phenanthrene	ND (1.39)		8270D		1	08/09/13 0:17	CWH0106	CH30815

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-116 2-4ft
Date Sampled: 08/02/13 08:28
Percent Solids: 72
Initial Volume: 30
Final Volume: 3
Extraction Method: 3546

ESS Laboratory Work Order: 1308105
ESS Laboratory Sample ID: 1308105-09
Sample Matrix: Solid
Units: mg/kg dry
Analyst: IBM
Prepared: 8/8/13 13:40

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Phenol	ND (1.39)		8270D		1	08/09/13 0:17	CWH0106	CH30815
Pyrene	ND (1.39)		8270D		1	08/09/13 0:17	CWH0106	CH30815

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*58 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*%*	*S-*	*30-130*
Surrogate: 2-Chlorophenol-d4	*62 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*63 %*		*30-130*
Surrogate: 2-Fluorophenol	*58 %*		*30-130*
Surrogate: Nitrobenzene-d5	*60 %*		*30-130*
Surrogate: Phenol-d6	*64 %*		*30-130*
Surrogate: p-Terphenyl-d14	*82 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-116 2-4ft
Date Sampled: 08/02/13 08:28
Percent Solids: 72
Initial Volume: 15.5
Final Volume: 3
Extraction Method: 3541

ESS Laboratory Work Order: 1308105
ESS Laboratory Sample ID: 1308105-09
Sample Matrix: Solid
Units: mg/kg dry
Analyst: IBM
Prepared: 8/8/13 11:45

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	**0.083** (0.067)		8270D		1	08/11/13 0:32	CWH0138	CH30811
Acenaphthene	ND (0.067)		8270D		1	08/11/13 0:32	CWH0138	CH30811
Acenaphthylene	**0.070** (0.067)		8270D		1	08/11/13 0:32	CWH0138	CH30811
Anthracene	**0.091** (0.067)		8270D		1	08/11/13 0:32	CWH0138	CH30811
Benzo(a)anthracene	**0.153** (0.067)		8270D		1	08/11/13 0:32	CWH0138	CH30811
Benzo(a)pyrene	**0.126** (0.067)		8270D		1	08/11/13 0:32	CWH0138	CH30811
Benzo(b)fluoranthene	**0.207** (0.067)		8270D		1	08/11/13 0:32	CWH0138	CH30811
Benzo(g,h,i)perylene	**0.089** (0.067)		8270D		1	08/11/13 0:32	CWH0138	CH30811
Benzo(k)fluoranthene	**0.078** (0.067)		8270D		1	08/11/13 0:32	CWH0138	CH30811
Chrysene	**0.175** (0.067)		8270D		1	08/11/13 0:32	CWH0138	CH30811
Dibenzo(a,h)Anthracene	ND (0.067)		8270D		1	08/11/13 0:32	CWH0138	CH30811
Fluoranthene	**0.180** (0.067)		8270D		1	08/11/13 0:32	CWH0138	CH30811
Fluorene	ND (0.067)		8270D		1	08/11/13 0:32	CWH0138	CH30811
Indeno(1,2,3-cd)Pyrene	**0.118** (0.067)		8270D		1	08/11/13 0:32	CWH0138	CH30811
Naphthalene	**0.247** (0.067)		8270D		1	08/11/13 0:32	CWH0138	CH30811
Phenanthrene	**0.315** (0.067)		8270D		1	08/11/13 0:32	CWH0138	CH30811
Pyrene	**0.242** (0.067)		8270D		1	08/11/13 0:32	CWH0138	CH30811

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*44 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*49 %*		*30-130*
Surrogate: Nitrobenzene-d5	*43 %*		*30-130*
Surrogate: p-Terphenyl-d14	*88 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-116 2-4ft
Date Sampled: 08/02/13 08:28
Percent Solids: 72

ESS Laboratory Work Order: 1308105
ESS Laboratory Sample ID: 1308105-09
Sample Matrix: Solid

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Reactive Cyanide	ND (2.0)		7.3.3.2		1	EEM	08/08/13 15:05	mg/kg	CH30841
Reactive Sulfide	ND (2.0)		7.3.4.1		1	EEM	08/08/13 15:05	mg/kg	CH30841
Total Organic Carbon	**15500** (500)		TOC-LK		1	SUB	08/14/13 0:00	mg/kg	CH31926

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-116 2-4ft
Date Sampled: 08/02/13 08:28
Percent Solids: 72
Initial Volume: 15.1
Final Volume: 3
Extraction Method: 3546

ESS Laboratory Work Order: 1308105
ESS Laboratory Sample ID: 1308105-09
Sample Matrix: Solid
Units: mg/kg dry

Prepared: 8/8/13 11:00

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	ND (104)		MADEP-EPH		1	SEP	08/10/13 15:41	CWH0134	CH30813
C19-C36 Aliphatics1	**121** (104)		MADEP-EPH		1	SEP	08/10/13 15:41	CWH0134	CH30813
C11-C22 Unadjusted Aromatics1	**141** (104)		EPH8270		1	IBM	08/09/13 15:49	CWH0116	CH30813
C11-C22 Aromatics1,2	**141** (104)		EPH8270			IBM	08/09/13 15:49		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*65 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*108 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*103 %*		*40-140*
Surrogate: O-Terphenyl	*81 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-116 4-6ft
Date Sampled: 08/02/13 08:28
Percent Solids: 65

ESS Laboratory Work Order: 1308105
ESS Laboratory Sample ID: 1308105-10
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.5)		6020A		50	JP	08/09/13 19:15	5.31	100	CH30801
Arsenic	**4.0** (1.4)		6010B		1	SVD	08/08/13 20:56	5.31	100	CH30801
Barium	**21.7** (1.4)		6010B		1	SVD	08/08/13 20:56	5.31	100	CH30801
Beryllium	**0.44** (0.06)		6010B		1	SVD	08/08/13 20:56	5.31	100	CH30801
Cadmium	**0.37** (0.29)		6010B		1	SVD	08/08/13 20:56	5.31	100	CH30801
Chromium	**20.9** (0.6)		6010B		1	SVD	08/08/13 20:56	5.31	100	CH30801
Lead	**4.3** (2.9)		6010B		1	SVD	08/08/13 20:56	5.31	100	CH30801
Mercury	ND (0.023)		7471B		1	NAR	08/09/13 15:43	1.31	40	CH30803
Nickel	**11.7** (1.4)		6010B		1	SVD	08/08/13 20:56	5.31	100	CH30801
Selenium	ND (1.45)		6020A		50	JP	08/09/13 19:15	5.31	100	CH30801
Silver	ND (0.29)		6010B		1	SVD	08/08/13 20:56	5.31	100	CH30801
Thallium	ND (1.45)		6020A		50	JP	08/09/13 19:15	5.31	100	CH30801
Vanadium	**26.5** (0.6)		6010B		1	SVD	08/08/13 20:56	5.31	100	CH30801
Zinc	**34.1** (1.4)		6010B		1	SVD	08/08/13 20:56	5.31	100	CH30801

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-116 6-8ft
Date Sampled: 08/02/13 08:28
Percent Solids: 64

ESS Laboratory Work Order: 1308105
ESS Laboratory Sample ID: 1308105-11
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.5)		6020A		50	JP	08/09/13 19:45	5.4	100	CH30801
Arsenic	**6.9** (1.5)		6010B		1	SVD	08/08/13 21:23	5.4	100	CH30801
Barium	**24.1** (1.5)		6010B		1	SVD	08/08/13 21:23	5.4	100	CH30801
Beryllium	**0.41** (0.06)		6010B		1	SVD	08/08/13 21:23	5.4	100	CH30801
Cadmium	**0.42** (0.29)		6010B		1	SVD	08/08/13 21:23	5.4	100	CH30801
Chromium	**20.1** (0.6)		6010B		1	SVD	08/08/13 21:23	5.4	100	CH30801
Lead	**22.0** (2.9)		6010B		1	SVD	08/08/13 21:23	5.4	100	CH30801
Mercury	**0.065** (0.023)		7471B		1	NAR	08/09/13 15:56	1.33	40	CH30803
Nickel	**10.9** (1.5)		6010B		1	SVD	08/08/13 21:23	5.4	100	CH30801
Selenium	ND (1.46)		6020A		50	JP	08/09/13 19:45	5.4	100	CH30801
Silver	ND (0.29)		6010B		1	SVD	08/08/13 21:23	5.4	100	CH30801
Thallium	ND (1.46)		6020A		50	JP	08/09/13 19:45	5.4	100	CH30801
Vanadium	**24.9** (0.6)		6010B		1	SVD	08/08/13 21:23	5.4	100	CH30801
Zinc	**52.0** (1.5)		6010B		1	SVD	08/08/13 21:23	5.4	100	CH30801

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-116 6-8ft
Date Sampled: 08/02/13 08:28
Percent Solids: 64
Initial Volume: 19.8
Final Volume: 5
Extraction Method: 3540

ESS Laboratory Work Order: 1308105
ESS Laboratory Sample ID: 1308105-11
Sample Matrix: Solid
Units: mg/kg dry
Analyst: TJ
Prepared: 8/8/13 17:00
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0397)		8082A		1	08/10/13 22:46		CH30812
Aroclor 1221	ND (0.0397)		8082A		1	08/10/13 22:46		CH30812
Aroclor 1232	ND (0.0397)		8082A		1	08/10/13 22:46		CH30812
Aroclor 1242	ND (0.0397)		8082A		1	08/10/13 22:46		CH30812
Aroclor 1248	ND (0.0397)		8082A		1	08/10/13 22:46		CH30812
Aroclor 1254	ND (0.0397)		8082A		1	08/10/13 22:46		CH30812
Aroclor 1260	ND (0.0397)		8082A		1	08/10/13 22:46		CH30812
Aroclor 1262	ND (0.0397)		8082A		1	08/10/13 22:46		CH30812
Aroclor 1268	ND (0.0397)		8082A		1	08/10/13 22:46		CH30812

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*103 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*77 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*69 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*64 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-116 6-8ft
Date Sampled: 08/02/13 08:28
Percent Solids: 64
Initial Volume: 30.4
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308105
ESS Laboratory Sample ID: 1308105-11
Sample Matrix: Solid
Units: mg/kg dry
Analyst: IBM
Prepared: 8/8/13 13:40

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.258)		8270D		1	08/09/13 0:51	CWH0106	CH30815
1,2-Dichlorobenzene	ND (0.258)		8270D		1	08/09/13 0:51	CWH0106	CH30815
1,3-Dichlorobenzene	ND (0.258)		8270D		1	08/09/13 0:51	CWH0106	CH30815
1,4-Dichlorobenzene	ND (0.258)		8270D		1	08/09/13 0:51	CWH0106	CH30815
2-Methylnaphthalene	ND (0.258)		8270D		1	08/09/13 0:51	CWH0106	CH30815
2-Methylphenol	ND (0.258)		8270D		1	08/09/13 0:51	CWH0106	CH30815
Acenaphthene	ND (0.258)		8270D		1	08/09/13 0:51	CWH0106	CH30815
Acenaphthylene	ND (0.258)		8270D		1	08/09/13 0:51	CWH0106	CH30815
Anthracene	ND (0.258)		8270D		1	08/09/13 0:51	CWH0106	CH30815
Benzo(a)anthracene	ND (0.258)		8270D		1	08/09/13 0:51	CWH0106	CH30815
Benzo(a)pyrene	ND (0.129)		8270D		1	08/09/13 0:51	CWH0106	CH30815
Benzo(b)fluoranthene	ND (0.258)		8270D		1	08/09/13 0:51	CWH0106	CH30815
Benzo(g,h,i)perylene	ND (0.258)		8270D		1	08/09/13 0:51	CWH0106	CH30815
Benzo(k)fluoranthene	ND (0.258)		8270D		1	08/09/13 0:51	CWH0106	CH30815
bis(2-Ethylhexyl)phthalate	ND (0.258)		8270D		1	08/09/13 0:51	CWH0106	CH30815
Butylbenzylphthalate	ND (0.258)		8270D		1	08/09/13 0:51	CWH0106	CH30815
Carbazole	ND (0.258)		8270D		1	08/09/13 0:51	CWH0106	CH30815
Chrysene	ND (0.129)		8270D		1	08/09/13 0:51	CWH0106	CH30815
Dibenzo(a,h)Anthracene	ND (0.129)		8270D		1	08/09/13 0:51	CWH0106	CH30815
Dibenzofuran	ND (0.258)		8270D		1	08/09/13 0:51	CWH0106	CH30815
Diethylphthalate	ND (0.258)		8270D		1	08/09/13 0:51	CWH0106	CH30815
Dimethylphthalate	ND (0.258)		8270D		1	08/09/13 0:51	CWH0106	CH30815
Di-n-butylphthalate	ND (0.258)		8270D		1	08/09/13 0:51	CWH0106	CH30815
Di-n-octylphthalate	ND (0.258)		8270D		1	08/09/13 0:51	CWH0106	CH30815
Fluoranthene	ND (0.258)		8270D		1	08/09/13 0:51	CWH0106	CH30815
Fluorene	ND (0.258)		8270D		1	08/09/13 0:51	CWH0106	CH30815
Hexachlorobenzene	ND (0.258)		8270D		1	08/09/13 0:51	CWH0106	CH30815
Hexachlorocyclopentadiene	ND (1.29)		8270D		1	08/09/13 0:51	CWH0106	CH30815
Indeno(1,2,3-cd)Pyrene	ND (0.258)		8270D		1	08/09/13 0:51	CWH0106	CH30815
Naphthalene	ND (0.258)		8270D		1	08/09/13 0:51	CWH0106	CH30815
Phenanthrene	ND (0.258)		8270D		1	08/09/13 0:51	CWH0106	CH30815

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-116 6-8ft
Date Sampled: 08/02/13 08:28
Percent Solids: 64
Initial Volume: 30.4
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308105
ESS Laboratory Sample ID: 1308105-11
Sample Matrix: Solid
Units: mg/kg dry
Analyst: IBM
Prepared: 8/8/13 13:40

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Phenol	ND (0.258)		8270D		1	08/09/13 0:51	CWH0106	CH30815
Pyrene	ND (0.258)		8270D		1	08/09/13 0:51	CWH0106	CH30815

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*76 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*7 %*	*S-*	*30-130*
Surrogate: 2-Chlorophenol-d4	*80 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*77 %*		*30-130*
Surrogate: 2-Fluorophenol	*75 %*		*30-130*
Surrogate: Nitrobenzene-d5	*80 %*		*30-130*
Surrogate: Phenol-d6	*81 %*		*30-130*
Surrogate: p-Terphenyl-d14	*84 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-116 6-8ft
Date Sampled: 08/02/13 08:28
Percent Solids: 64
Initial Volume: 15.6
Final Volume: 0.5
Extraction Method: 3541

ESS Laboratory Work Order: 1308105
ESS Laboratory Sample ID: 1308105-11
Sample Matrix: Solid
Units: mg/kg dry
Analyst: IBM
Prepared: 8/8/13 11:45

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.013)		8270D		1	08/11/13 1:23	CWH0138	CH30811
Acenaphthene	ND (0.013)		8270D		1	08/11/13 1:23	CWH0138	CH30811
Acenaphthylene	ND (0.013)		8270D		1	08/11/13 1:23	CWH0138	CH30811
Anthracene	ND (0.013)		8270D		1	08/11/13 1:23	CWH0138	CH30811
Benzo(a)anthracene	ND (0.013)		8270D		1	08/11/13 1:23	CWH0138	CH30811
Benzo(a)pyrene	ND (0.013)		8270D		1	08/11/13 1:23	CWH0138	CH30811
Benzo(b)fluoranthene	ND (0.013)		8270D		1	08/11/13 1:23	CWH0138	CH30811
Benzo(g,h,i)perylene	ND (0.013)		8270D		1	08/11/13 1:23	CWH0138	CH30811
Benzo(k)fluoranthene	ND (0.013)		8270D		1	08/11/13 1:23	CWH0138	CH30811
Chrysene	ND (0.013)		8270D		1	08/11/13 1:23	CWH0138	CH30811
Dibenzo(a,h)Anthracene	ND (0.013)		8270D		1	08/11/13 1:23	CWH0138	CH30811
Fluoranthene	ND (0.013)		8270D		1	08/11/13 1:23	CWH0138	CH30811
Fluorene	ND (0.013)		8270D		1	08/11/13 1:23	CWH0138	CH30811
Indeno(1,2,3-cd)Pyrene	ND (0.013)		8270D		1	08/11/13 1:23	CWH0138	CH30811
Naphthalene	ND (0.013)		8270D		1	08/11/13 1:23	CWH0138	CH30811
Phenanthrene	ND (0.013)		8270D		1	08/11/13 1:23	CWH0138	CH30811
Pyrene	ND (0.013)		8270D		1	08/11/13 1:23	CWH0138	CH30811

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*41 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*42 %*		*30-130*
Surrogate: Nitrobenzene-d5	*46 %*		*30-130*
Surrogate: p-Terphenyl-d14	*76 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-116 6-8ft
Date Sampled: 08/02/13 08:28
Percent Solids: 64

ESS Laboratory Work Order: 1308105
ESS Laboratory Sample ID: 1308105-11
Sample Matrix: Solid

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**10900** (500)		TOC-LK		1	SUB	08/14/13 0:00	mg/kg	CH31926

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-116 6-8ft
Date Sampled: 08/02/13 08:28
Percent Solids: 64
Initial Volume: 15.2
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1308105
ESS Laboratory Sample ID: 1308105-11
Sample Matrix: Solid
Units: mg/kg dry

Prepared: 8/8/13 11:00

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	ND (38.7)		MADEP-EPH		1	IBM	08/09/13 14:30	CWH0117	CH30813
C19-C36 Aliphatics1	ND (38.7)		MADEP-EPH		1	IBM	08/09/13 14:30	CWH0117	CH30813
C11-C22 Unadjusted Aromatics1	ND (38.7)		EPH8270		1	IBM	08/09/13 16:36	CWH0116	CH30813
C11-C22 Aromatics1,2	ND (38.7)		EPH8270			IBM	08/09/13 16:36		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*70 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*104 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*99 %*		*40-140*
Surrogate: O-Terphenyl	*73 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-116 8-9ft
Date Sampled: 08/02/13 08:28
Percent Solids: 62

ESS Laboratory Work Order: 1308105
ESS Laboratory Sample ID: 1308105-12
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.5)		6020A		50	JP	08/09/13 19:51	5.39	100	CH30801
Arsenic	**2.6** (1.5)		6010B		1	SVD	08/08/13 21:29	5.39	100	CH30801
Barium	**28.7** (1.5)		6010B		1	SVD	08/08/13 21:29	5.39	100	CH30801
Beryllium	**0.55** (0.06)		6010B		1	SVD	08/08/13 21:29	5.39	100	CH30801
Cadmium	**0.47** (0.30)		6010B		1	SVD	08/08/13 21:29	5.39	100	CH30801
Chromium	**24.3** (0.6)		6010B		1	SVD	08/08/13 21:29	5.39	100	CH30801
Lead	**4.5** (3.0)		6010B		1	SVD	08/08/13 21:29	5.39	100	CH30801
Mercury	ND (0.023)		7471B		1	NAR	08/09/13 15:59	1.36	40	CH30803
Nickel	**13.8** (1.5)		6010B		1	SVD	08/08/13 21:29	5.39	100	CH30801
Selenium	ND (1.50)		6020A		50	JP	08/09/13 19:51	5.39	100	CH30801
Silver	ND (0.30)		6010B		1	SVD	08/08/13 21:29	5.39	100	CH30801
Thallium	ND (1.50)		6020A		50	JP	08/09/13 19:51	5.39	100	CH30801
Vanadium	**31.7** (0.6)		6010B		1	SVD	08/08/13 21:29	5.39	100	CH30801
Zinc	**42.0** (1.5)		6010B		1	SVD	08/08/13 21:29	5.39	100	CH30801

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-117T 0-0.5ft
Date Sampled: 08/06/13 08:55
Percent Solids: 29

ESS Laboratory Work Order: 1308105
ESS Laboratory Sample ID: 1308105-13
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (3.3)		6020A		50	JP	08/09/13 19:57	5.18	100	CH30801
Arsenic	**38.6** (3.3)		6010B		1	SVD	08/08/13 21:35	5.18	100	CH30801
Barium	**74.8** (3.3)		6010B		1	SVD	08/08/13 21:35	5.18	100	CH30801
Beryllium	**0.81** (0.14)		6010B		1	SVD	08/08/13 21:35	5.18	100	CH30801
Cadmium	**2.33** (0.66)		6010B		1	SVD	08/08/13 21:35	5.18	100	CH30801
Chromium	**90.7** (1.3)		6010B		1	SVD	08/08/13 21:35	5.18	100	CH30801
Lead	**245** (6.6)		6010B		1	SVD	08/08/13 21:35	5.18	100	CH30801
Mercury	**1.12** (0.274)		7471B		5	NAR	08/09/13 13:20	1.24	40	CH30803
Nickel	**26.4** (3.3)		6010B		1	SVD	08/08/13 21:35	5.18	100	CH30801
Selenium	ND (3.32)		6020A		50	JP	08/09/13 19:57	5.18	100	CH30801
Silver	**2.30** (0.66)		6010B		1	SVD	08/08/13 21:35	5.18	100	CH30801
Thallium	ND (3.32)		6020A		50	JP	08/09/13 19:57	5.18	100	CH30801
Vanadium	**86.0** (1.3)		6010B		1	SVD	08/08/13 21:35	5.18	100	CH30801
Zinc	**392** (3.3)		6010B		1	SVD	08/08/13 21:35	5.18	100	CH30801

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-117T 0-0.5ft
Date Sampled: 08/06/13 08:55
Percent Solids: 29

ESS Laboratory Work Order: 1308105
ESS Laboratory Sample ID: 1308105-13
Sample Matrix: Solid

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**45700** (500)		TOC-LK		1	SUB	08/14/13 0:00	mg/kg	CH31926

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-117 2-4ft
Date Sampled: 08/01/13 13:19
Percent Solids: 35

ESS Laboratory Work Order: 1308105
ESS Laboratory Sample ID: 1308105-14
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (2.7)		6020A		50	JP	08/09/13 20:03	5.33	100	CH30801
Arsenic	**153** (2.7)		6010B		1	SVD	08/08/13 21:40	5.33	100	CH30801
Barium	**63.2** (2.7)		6010B		1	SVD	08/08/13 21:40	5.33	100	CH30801
Beryllium	**0.90** (0.11)		6010B		1	SVD	08/08/13 21:40	5.33	100	CH30801
Cadmium	**4.31** (0.54)		6010B		1	SVD	08/08/13 21:40	5.33	100	CH30801
Chromium	**150** (1.1)		6010B		1	SVD	08/08/13 21:40	5.33	100	CH30801
Lead	**350** (5.3)		6010B		1	SVD	08/08/13 21:40	5.33	100	CH30801
Mercury	**2.34** (0.210)		7471B		5	NAR	08/09/13 13:28	1.34	40	CH30803
Nickel	**34.6** (2.7)		6010B		1	SVD	08/08/13 21:40	5.33	100	CH30801
Selenium	ND (2.68)		6020A		50	JP	08/09/13 20:03	5.33	100	CH30801
Silver	**4.04** (0.54)		6010B		1	SVD	08/08/13 21:40	5.33	100	CH30801
Thallium	ND (2.68)		6020A		50	JP	08/09/13 20:03	5.33	100	CH30801
Vanadium	**307** (1.1)		6010B		1	SVD	08/08/13 21:40	5.33	100	CH30801
Zinc	**531** (2.7)		6010B		1	SVD	08/08/13 21:40	5.33	100	CH30801

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-117 4-6ft
Date Sampled: 08/01/13 13:19
Percent Solids: 34

ESS Laboratory Work Order: 1308105
ESS Laboratory Sample ID: 1308105-15
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (2.9)		6020A		50	JP	08/09/13 20:21	5.04	100	CH30801
Arsenic	**112** (2.9)		6010B		1	SVD	08/08/13 21:54	5.04	100	CH30801
Barium	**44.4** (2.9)		6010B		1	SVD	08/08/13 21:54	5.04	100	CH30801
Beryllium	**0.55** (0.12)		6010B		1	SVD	08/08/13 21:54	5.04	100	CH30801
Cadmium	**2.03** (0.58)		6010B		1	SVD	08/08/13 21:54	5.04	100	CH30801
Chromium	**120** (1.2)		6010B		1	SVD	08/08/13 21:54	5.04	100	CH30801
Lead	**164** (5.8)		6010B		1	SVD	08/08/13 21:54	5.04	100	CH30801
Mercury	**2.31** (0.225)		7471B		5	NAR	08/09/13 13:31	1.28	40	CH30803
Nickel	**20.4** (2.9)		6010B		1	SVD	08/08/13 21:54	5.04	100	CH30801
Selenium	ND (2.90)		6020A		50	JP	08/09/13 20:21	5.04	100	CH30801
Silver	**2.22** (0.58)		6010B		1	SVD	08/08/13 21:54	5.04	100	CH30801
Thallium	ND (2.90)		6020A		50	JP	08/09/13 20:21	5.04	100	CH30801
Vanadium	**235** (1.2)		6010B		1	SVD	08/08/13 21:54	5.04	100	CH30801
Zinc	**221** (2.9)		6010B		1	SVD	08/08/13 21:54	5.04	100	CH30801

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-118A 0-0.5ft
Date Sampled: 08/05/13 11:35
Percent Solids: 71

ESS Laboratory Work Order: 1308105
ESS Laboratory Sample ID: 1308105-16
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.3)		6020A		50	JP	08/09/13 20:27	5.48	100	CH30801
Arsenic	**155** (1.3)		6010B		1	SVD	08/08/13 22:00	5.48	100	CH30801
Barium	**23.5** (1.3)		6010B		1	SVD	08/08/13 22:00	5.48	100	CH30801
Beryllium	**0.25** (0.05)		6010B		1	SVD	08/08/13 22:00	5.48	100	CH30801
Cadmium	**0.59** (0.26)		6010B		1	SVD	08/08/13 22:00	5.48	100	CH30801
Chromium	**15.1** (0.5)		6010B		1	SVD	08/08/13 22:00	5.48	100	CH30801
Lead	**80.6** (2.6)		6010B		1	SVD	08/08/13 22:00	5.48	100	CH30801
Mercury	**0.249** (0.085)		7471B		5	NAR	08/09/13 13:33	1.65	40	CH30803
Nickel	**7.4** (1.3)		6010B		1	SVD	08/08/13 22:00	5.48	100	CH30801
Selenium	ND (1.30)		6020A		50	JP	08/09/13 20:27	5.48	100	CH30801
Silver	**0.67** (0.26)		6010B		1	SVD	08/08/13 22:00	5.48	100	CH30801
Thallium	ND (1.30)		6020A		50	JP	08/09/13 20:27	5.48	100	CH30801
Vanadium	**32.8** (0.5)		6010B		1	SVD	08/08/13 22:00	5.48	100	CH30801
Zinc	**73.3** (1.3)		6010B		1	SVD	08/08/13 22:00	5.48	100	CH30801

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-118A 0-0.5ft
Date Sampled: 08/05/13 11:35
Percent Solids: 71

ESS Laboratory Work Order: 1308105
ESS Laboratory Sample ID: 1308105-16
Sample Matrix: Solid

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**33700** (500)		TOC-LK		1	SUB	08/14/13 0:00	mg/kg	CH31926

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-118A 0.5-1ft
Date Sampled: 08/05/13 11:35
Percent Solids: 79

ESS Laboratory Work Order: 1308105
ESS Laboratory Sample ID: 1308105-17
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.2)		6020A		50	JP	08/09/13 20:33	5.12	100	CH30801
Arsenic	**106** (1.2)		6010B		1	SVD	08/08/13 22:05	5.12	100	CH30801
Barium	**25.2** (1.2)		6010B		1	SVD	08/08/13 22:05	5.12	100	CH30801
Beryllium	**0.29** (0.05)		6010B		1	SVD	08/08/13 22:05	5.12	100	CH30801
Cadmium	**0.46** (0.25)		6010B		1	SVD	08/08/13 22:05	5.12	100	CH30801
Chromium	**17.7** (0.5)		6010B		1	SVD	08/08/13 22:05	5.12	100	CH30801
Lead	**69.0** (2.5)		6010B		1	SVD	08/08/13 22:05	5.12	100	CH30801
Mercury	**0.276** (0.093)		7471B		5	NAR	08/09/13 13:36	1.34	40	CH30803
Nickel	**8.6** (1.2)		6010B		1	SVD	08/08/13 22:05	5.12	100	CH30801
Selenium	ND (1.24)		6020A		50	JP	08/09/13 20:33	5.12	100	CH30801
Silver	**0.57** (0.25)		6010B		1	SVD	08/08/13 22:05	5.12	100	CH30801
Thallium	ND (1.24)		6020A		50	JP	08/09/13 20:33	5.12	100	CH30801
Vanadium	**34.5** (0.5)		6010B		1	SVD	08/08/13 22:05	5.12	100	CH30801
Zinc	**70.9** (1.2)		6010B		1	SVD	08/08/13 22:05	5.12	100	CH30801

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-119T 0-0.5ft
Date Sampled: 08/01/13 10:39
Percent Solids: 31

ESS Laboratory Work Order: 1308105
ESS Laboratory Sample ID: 1308105-18
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (2.8)		6020A		50	JP	08/09/13 20:39	5.83	100	CH30801
Arsenic	**33.0** (2.8)		6010B		1	SVD	08/08/13 22:10	5.83	100	CH30801
Barium	**65.4** (2.8)		6010B		1	SVD	08/08/13 22:10	5.83	100	CH30801
Beryllium	**0.70** (0.12)		6010B		1	SVD	08/08/13 22:10	5.83	100	CH30801
Cadmium	**2.23** (0.56)		6010B		1	SVD	08/08/13 22:10	5.83	100	CH30801
Chromium	**79.8** (1.1)		6010B		1	SVD	08/08/13 22:10	5.83	100	CH30801
Lead	**213** (5.6)		6010B		1	SVD	08/08/13 22:10	5.83	100	CH30801
Mercury	**1.11** (0.284)		7471B		5	NAR	08/09/13 13:39	1.14	40	CH30803
Nickel	**22.4** (2.8)		6010B		1	SVD	08/08/13 22:10	5.83	100	CH30801
Selenium	ND (2.82)		6020A		50	JP	08/09/13 20:39	5.83	100	CH30801
Silver	**2.03** (0.56)		6010B		1	SVD	08/08/13 22:10	5.83	100	CH30801
Thallium	ND (2.82)		6020A		50	JP	08/09/13 20:39	5.83	100	CH30801
Vanadium	**70.5** (1.1)		6010B		1	SVD	08/08/13 22:10	5.83	100	CH30801
Zinc	**369** (2.8)		6010B		1	SVD	08/08/13 22:10	5.83	100	CH30801

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-119T 0-0.5ft
Date Sampled: 08/01/13 10:39
Percent Solids: 31
Initial Volume: 19.3
Final Volume: 5
Extraction Method: 3540

ESS Laboratory Work Order: 1308105
ESS Laboratory Sample ID: 1308105-18
Sample Matrix: Solid
Units: mg/kg dry
Analyst: TJ
Prepared: 8/8/13 17:00
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0849)		8082A		1	08/12/13 20:38		CH30812
Aroclor 1221	ND (0.0849)		8082A		1	08/12/13 20:38		CH30812
Aroclor 1232	ND (0.0849)		8082A		1	08/12/13 20:38		CH30812
Aroclor 1242	ND (0.0849)		8082A		1	08/12/13 20:38		CH30812
Aroclor 1248	**1.53** (0.0849)		8082A		1	08/12/13 20:38		CH30812
Aroclor 1254	**1.29** (0.0849)		8082A		1	08/12/13 20:38		CH30812
Aroclor 1260	**0.569** (0.0849)		8082A		1	08/12/13 20:38		CH30812
Aroclor 1262	ND (0.0849)		8082A		1	08/12/13 20:38		CH30812
Aroclor 1268	ND (0.0849)		8082A		1	08/12/13 20:38		CH30812

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*89 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*83 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*31 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*21 %*	*S-*	*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-119T 0-0.5ft
Date Sampled: 08/01/13 10:39
Percent Solids: 31
Initial Volume: 30.1
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308105
ESS Laboratory Sample ID: 1308105-18
Sample Matrix: Solid
Units: mg/kg dry
Analyst: IBM
Prepared: 8/8/13 13:40

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.544)		8270D		1	08/09/13 1:58	CWH0106	CH30815
1,2-Dichlorobenzene	ND (0.544)		8270D		1	08/09/13 1:58	CWH0106	CH30815
1,3-Dichlorobenzene	ND (0.544)		8270D		1	08/09/13 1:58	CWH0106	CH30815
1,4-Dichlorobenzene	ND (0.544)		8270D		1	08/09/13 1:58	CWH0106	CH30815
2-Methylnaphthalene	ND (0.544)		8270D		1	08/09/13 1:58	CWH0106	CH30815
2-Methylphenol	ND (0.544)		8270D		1	08/09/13 1:58	CWH0106	CH30815
Acenaphthene	ND (0.544)		8270D		1	08/09/13 1:58	CWH0106	CH30815
Acenaphthylene	ND (0.544)		8270D		1	08/09/13 1:58	CWH0106	CH30815
Anthracene	ND (0.544)		8270D		1	08/09/13 1:58	CWH0106	CH30815
Benzo(a)anthracene	**0.715** (0.544)		8270D		1	08/09/13 1:58	CWH0106	CH30815
Benzo(a)pyrene	**1.03** (0.273)		8270D		1	08/09/13 1:58	CWH0106	CH30815
Benzo(b)fluoranthene	**1.62** (0.544)		8270D		1	08/09/13 1:58	CWH0106	CH30815
Benzo(g,h,i)perylene	ND (0.544)		8270D		1	08/09/13 1:58	CWH0106	CH30815
Benzo(k)fluoranthene	**0.724** (0.544)		8270D		1	08/09/13 1:58	CWH0106	CH30815
bis(2-Ethylhexyl)phthalate	**131** (5.44)		8270D		10	08/09/13 23:07	CWH0106	CH30815
Butylbenzylphthalate	ND (0.544)		8270D		1	08/09/13 1:58	CWH0106	CH30815
Carbazole	ND (0.544)		8270D		1	08/09/13 1:58	CWH0106	CH30815
Chrysene	**1.15** (0.273)		8270D		1	08/09/13 1:58	CWH0106	CH30815
Dibenzo(a,h)Anthracene	ND (0.273)		8270D		1	08/09/13 1:58	CWH0106	CH30815
Dibenzofuran	ND (0.544)		8270D		1	08/09/13 1:58	CWH0106	CH30815
Diethylphthalate	ND (0.544)		8270D		1	08/09/13 1:58	CWH0106	CH30815
Dimethylphthalate	ND (0.544)		8270D		1	08/09/13 1:58	CWH0106	CH30815
Di-n-butylphthalate	ND (0.544)		8270D		1	08/09/13 1:58	CWH0106	CH30815
Di-n-octylphthalate	**7.86** (5.44)		8270D		10	08/09/13 23:07	CWH0106	CH30815
Fluoranthene	**1.89** (0.544)		8270D		1	08/09/13 1:58	CWH0106	CH30815
Fluorene	ND (0.544)		8270D		1	08/09/13 1:58	CWH0106	CH30815
Hexachlorobenzene	ND (0.544)		8270D		1	08/09/13 1:58	CWH0106	CH30815
Hexachlorocyclopentadiene	ND (2.73)		8270D		1	08/09/13 1:58	CWH0106	CH30815
Indeno(1,2,3-cd)Pyrene	ND (0.544)		8270D		1	08/09/13 1:58	CWH0106	CH30815
Naphthalene	ND (0.544)		8270D		1	08/09/13 1:58	CWH0106	CH30815
Phenanthrene	**0.621** (0.544)		8270D		1	08/09/13 1:58	CWH0106	CH30815

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-119T 0-0.5ft
Date Sampled: 08/01/13 10:39
Percent Solids: 31
Initial Volume: 30.1
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308105
ESS Laboratory Sample ID: 1308105-18
Sample Matrix: Solid
Units: mg/kg dry
Analyst: IBM
Prepared: 8/8/13 13:40

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Phenol	ND (0.544)		8270D		1	08/09/13 1:58	CWH0106	CH30815
Pyrene	**1.56** (0.544)		8270D		1	08/09/13 1:58	CWH0106	CH30815

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*45 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*29 %*	*S-*	*30-130*
Surrogate: 2-Chlorophenol-d4	*50 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*50 %*		*30-130*
Surrogate: 2-Fluorophenol	*44 %*		*30-130*
Surrogate: Nitrobenzene-d5	*47 %*		*30-130*
Surrogate: Phenol-d6	*50 %*		*30-130*
Surrogate: p-Terphenyl-d14	*63 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-119T 0-0.5ft
Date Sampled: 08/01/13 10:39
Percent Solids: 31
Initial Volume: 15.4
Final Volume: 0.5
Extraction Method: 3541

ESS Laboratory Work Order: 1308105
ESS Laboratory Sample ID: 1308105-18
Sample Matrix: Solid
Units: mg/kg dry
Analyst: IBM
Prepared: 8/8/13 11:45

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.133)		8270D		5	08/10/13 8:10	CWH0128	CH30811
Acenaphthene	ND (0.133)		8270D		5	08/10/13 8:10	CWH0128	CH30811
Acenaphthylene	ND (0.133)		8270D		5	08/10/13 8:10	CWH0128	CH30811
Anthracene	ND (0.133)		8270D		5	08/10/13 8:10	CWH0128	CH30811
Benzo(a)anthracene	**0.144** (0.133)		8270D		5	08/10/13 8:10	CWH0128	CH30811
Benzo(a)pyrene	**0.191** (0.133)		8270D		5	08/10/13 8:10	CWH0128	CH30811
Benzo(b)fluoranthene	**0.266** (0.133)		8270D		5	08/10/13 8:10	CWH0128	CH30811
Benzo(g,h,i)perylene	**0.175** (0.133)		8270D		5	08/10/13 8:10	CWH0128	CH30811
Benzo(k)fluoranthene	ND (0.133)		8270D		5	08/10/13 8:10	CWH0128	CH30811
Chrysene	**0.197** (0.133)		8270D		5	08/10/13 8:10	CWH0128	CH30811
Dibenzo(a,h)Anthracene	ND (0.133)		8270D		5	08/10/13 8:10	CWH0128	CH30811
Fluoranthene	**0.266** (0.133)		8270D		5	08/10/13 8:10	CWH0128	CH30811
Fluorene	ND (0.133)		8270D		5	08/10/13 8:10	CWH0128	CH30811
Indeno(1,2,3-cd)Pyrene	**0.191** (0.133)		8270D		5	08/10/13 8:10	CWH0128	CH30811
Naphthalene	ND (0.133)		8270D		5	08/10/13 8:10	CWH0128	CH30811
Phenanthrene	ND (0.133)		8270D		5	08/10/13 8:10	CWH0128	CH30811
Pyrene	**0.314** (0.133)		8270D		5	08/10/13 8:10	CWH0128	CH30811

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*34 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*30 %*		*30-130*
Surrogate: Nitrobenzene-d5	*26 %*	*S-*	*30-130*
Surrogate: p-Terphenyl-d14	*57 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-119T 0-0.5ft
Date Sampled: 08/01/13 10:39
Percent Solids: 31

ESS Laboratory Work Order: 1308105
ESS Laboratory Sample ID: 1308105-18
Sample Matrix: Solid

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**49400** (500)		TOC-LK		1	SUB	08/14/13 0:00	mg/kg	CH31926

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-119T 0-0.5ft
Date Sampled: 08/01/13 10:39
Percent Solids: 31
Initial Volume: 15.3
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1308105
ESS Laboratory Sample ID: 1308105-18
Sample Matrix: Solid
Units: mg/kg dry

Prepared: 8/8/13 11:00

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	ND (80.3)		MADEP-EPH		1	IBM	08/09/13 16:12	CWH0117	CH30813
C19-C36 Aliphatics1	**99.9** (80.3)		MADEP-EPH		1	IBM	08/09/13 16:12	CWH0117	CH30813
C11-C22 Unadjusted Aromatics1	**155** (80.3)		EPH8270		1	SEP	08/10/13 17:45	CWH0135	CH30813
C11-C22 Aromatics1,2	**155** (80.3)		EPH8270			SEP	08/10/13 17:45		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*62 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*108 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*101 %*		*40-140*
Surrogate: O-Terphenyl	*83 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-119 2-4ft
Date Sampled: 08/01/13 13:33
Percent Solids: 20

ESS Laboratory Work Order: 1308105
ESS Laboratory Sample ID: 1308105-19
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (4.9)		6020A		50	JP	08/09/13 20:45	5.05	100	CH30801
Arsenic	**93.1** (4.9)		6010B		1	SVD	08/08/13 22:16	5.05	100	CH30801
Barium	**66.7** (4.9)		6010B		1	SVD	08/08/13 22:16	5.05	100	CH30801
Beryllium	**0.85** (0.20)		6010B		1	SVD	08/08/13 22:16	5.05	100	CH30801
Cadmium	**2.35** (0.98)		6010B		1	SVD	08/08/13 22:16	5.05	100	CH30801
Chromium	**133** (1.9)		6010B		1	SVD	08/08/13 22:16	5.05	100	CH30801
Lead	**202** (9.7)		6010B		1	SVD	08/08/13 22:16	5.05	100	CH30801
Mercury	**1.51** (0.358)		7471B		5	NAR	08/09/13 13:41	1.36	40	CH30803
Nickel	**17.2** (4.9)		6010B		1	SVD	08/08/13 22:16	5.05	100	CH30801
Selenium	ND (4.89)		6020A		50	JP	08/09/13 20:45	5.05	100	CH30801
Silver	**1.63** (0.98)		6010B		1	SVD	08/08/13 22:16	5.05	100	CH30801
Thallium	ND (4.89)		6020A		50	JP	08/09/13 20:45	5.05	100	CH30801
Vanadium	**134** (1.9)		6010B		1	SVD	08/08/13 22:16	5.05	100	CH30801
Zinc	**272** (4.9)		6010B		1	SVD	08/08/13 22:16	5.05	100	CH30801

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-119 2-4ft
Date Sampled: 08/01/13 13:33
Percent Solids: 20
Initial Volume: 19.1
Final Volume: 5
Extraction Method: 3540

ESS Laboratory Work Order: 1308105
ESS Laboratory Sample ID: 1308105-19
Sample Matrix: Solid
Units: mg/kg dry
Analyst: TJ
Prepared: 8/8/13 17:00
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.129)		8082A		1	08/12/13 20:57		CH30812
Aroclor 1221	ND (0.129)		8082A		1	08/12/13 20:57		CH30812
Aroclor 1232	ND (0.129)		8082A		1	08/12/13 20:57		CH30812
Aroclor 1242	ND (0.129)		8082A		1	08/12/13 20:57		CH30812
Aroclor 1248	**2.07** (0.129)		8082A		1	08/12/13 20:57		CH30812
Aroclor 1254	**3.88** (0.644)		8082A		5	08/14/13 16:40		CH30812
Aroclor 1260	ND (0.129)		8082A		1	08/12/13 20:57		CH30812
Aroclor 1262	ND (0.129)		8082A		1	08/12/13 20:57		CH30812
Aroclor 1268	ND (0.129)		8082A		1	08/12/13 20:57		CH30812

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*120 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*92 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*115 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*102 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-119 2-4ft
Date Sampled: 08/01/13 13:33
Percent Solids: 20
Initial Volume: 30.2
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308105
ESS Laboratory Sample ID: 1308105-19
Sample Matrix: Solid
Units: mg/kg dry
Analyst: IBM
Prepared: 8/8/13 13:40

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.813)		8270D		1	08/09/13 2:31	CWH0106	CH30815
1,2-Dichlorobenzene	ND (0.813)		8270D		1	08/09/13 2:31	CWH0106	CH30815
1,3-Dichlorobenzene	ND (0.813)		8270D		1	08/09/13 2:31	CWH0106	CH30815
1,4-Dichlorobenzene	ND (0.813)		8270D		1	08/09/13 2:31	CWH0106	CH30815
2-Methylnaphthalene	ND (0.813)		8270D		1	08/09/13 2:31	CWH0106	CH30815
2-Methylphenol	ND (0.813)		8270D		1	08/09/13 2:31	CWH0106	CH30815
Acenaphthene	ND (0.813)		8270D		1	08/09/13 2:31	CWH0106	CH30815
Acenaphthylene	ND (0.813)		8270D		1	08/09/13 2:31	CWH0106	CH30815
Anthracene	ND (0.813)		8270D		1	08/09/13 2:31	CWH0106	CH30815
Benzo(a)anthracene	ND (0.813)		8270D		1	08/09/13 2:31	CWH0106	CH30815
Benzo(a)pyrene	ND (0.408)		8270D		1	08/09/13 2:31	CWH0106	CH30815
Benzo(b)fluoranthene	ND (0.813)		8270D		1	08/09/13 2:31	CWH0106	CH30815
Benzo(g,h,i)perylene	ND (0.813)		8270D		1	08/09/13 2:31	CWH0106	CH30815
Benzo(k)fluoranthene	ND (0.813)		8270D		1	08/09/13 2:31	CWH0106	CH30815
bis(2-Ethylhexyl)phthalate	**1170** (81.3)		8270D		100	08/10/13 0:14	CWH0106	CH30815
Butylbenzylphthalate	ND (0.813)		8270D		1	08/09/13 2:31	CWH0106	CH30815
Carbazole	ND (0.813)		8270D		1	08/09/13 2:31	CWH0106	CH30815
Chrysene	ND (0.408)		8270D		1	08/09/13 2:31	CWH0106	CH30815
Dibenzo(a,h)Anthracene	ND (0.408)		8270D		1	08/09/13 2:31	CWH0106	CH30815
Dibenzofuran	ND (0.813)		8270D		1	08/09/13 2:31	CWH0106	CH30815
Diethylphthalate	ND (0.813)		8270D		1	08/09/13 2:31	CWH0106	CH30815
Dimethylphthalate	ND (0.813)		8270D		1	08/09/13 2:31	CWH0106	CH30815
Di-n-butylphthalate	ND (0.813)		8270D		1	08/09/13 2:31	CWH0106	CH30815
Di-n-octylphthalate	**2.34** (0.813)		8270D		1	08/09/13 2:31	CWH0106	CH30815
Fluoranthene	ND (0.813)		8270D		1	08/09/13 2:31	CWH0106	CH30815
Fluorene	ND (0.813)		8270D		1	08/09/13 2:31	CWH0106	CH30815
Hexachlorobenzene	ND (0.813)		8270D		1	08/09/13 2:31	CWH0106	CH30815
Hexachlorocyclopentadiene	ND (4.08)		8270D		1	08/09/13 2:31	CWH0106	CH30815
Indeno(1,2,3-cd)Pyrene	ND (0.813)		8270D		1	08/09/13 2:31	CWH0106	CH30815
Naphthalene	**1.05** (0.813)		8270D		1	08/09/13 2:31	CWH0106	CH30815
Phenanthrene	ND (0.813)		8270D		1	08/09/13 2:31	CWH0106	CH30815

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-119 2-4ft
Date Sampled: 08/01/13 13:33
Percent Solids: 20
Initial Volume: 30.2
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308105
ESS Laboratory Sample ID: 1308105-19
Sample Matrix: Solid
Units: mg/kg dry
Analyst: IBM
Prepared: 8/8/13 13:40

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Phenol	ND (0.813)		8270D		1	08/09/13 2:31	CWH0106	CH30815
Pyrene	ND (0.813)		8270D		1	08/09/13 2:31	CWH0106	CH30815

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*73 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*74 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*78 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*76 %*		*30-130*
Surrogate: 2-Fluorophenol	*73 %*		*30-130*
Surrogate: Nitrobenzene-d5	*75 %*		*30-130*
Surrogate: Phenol-d6	*77 %*		*30-130*
Surrogate: p-Terphenyl-d14	*69 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-119 2-4ft
Date Sampled: 08/01/13 13:33
Percent Solids: 20
Initial Volume: 15
Final Volume: 0.5
Extraction Method: 3541

ESS Laboratory Work Order: 1308105
ESS Laboratory Sample ID: 1308105-19
Sample Matrix: Solid
Units: mg/kg dry
Analyst: IBM
Prepared: 8/8/13 11:45

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	**0.218** (0.041)		8270D		1	08/10/13 16:24	CWH0128	CH30811
Acenaphthene	**0.070** (0.041)		8270D		1	08/10/13 16:24	CWH0128	CH30811
Acenaphthylene	**0.067** (0.041)		8270D		1	08/10/13 16:24	CWH0128	CH30811
Anthracene	**0.154** (0.041)		8270D		1	08/10/13 16:24	CWH0128	CH30811
Benzo(a)anthracene	**0.151** (0.041)		8270D		1	08/10/13 16:24	CWH0128	CH30811
Benzo(a)pyrene	**0.121** (0.041)		8270D		1	08/10/13 16:24	CWH0128	CH30811
Benzo(b)fluoranthene	**0.252** (0.041)		8270D		1	08/10/13 16:24	CWH0128	CH30811
Benzo(g,h,i)perylene	**0.098** (0.041)		8270D		1	08/10/13 16:24	CWH0128	CH30811
Benzo(k)fluoranthene	**0.113** (0.041)		8270D		1	08/10/13 16:24	CWH0128	CH30811
Chrysene	**0.182** (0.041)		8270D		1	08/10/13 16:24	CWH0128	CH30811
Dibenzo(a,h)Anthracene	ND (0.041)		8270D		1	08/10/13 16:24	CWH0128	CH30811
Fluoranthene	**0.364** (0.041)		8270D		1	08/10/13 16:24	CWH0128	CH30811
Fluorene	**0.157** (0.041)		8270D		1	08/10/13 16:24	CWH0128	CH30811
Indeno(1,2,3-cd)Pyrene	**0.111** (0.041)		8270D		1	08/10/13 16:24	CWH0128	CH30811
Naphthalene	**0.808** (0.041)		8270D		1	08/10/13 16:24	CWH0128	CH30811
Phenanthrene	**0.767** (0.041)		8270D		1	08/10/13 16:24	CWH0128	CH30811
Pyrene	**0.446** (0.041)		8270D		1	08/10/13 16:24	CWH0128	CH30811

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*37 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*44 %*		*30-130*
Surrogate: Nitrobenzene-d5	*51 %*		*30-130*
Surrogate: p-Terphenyl-d14	*70 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-119 2-4ft
Date Sampled: 08/01/13 13:33
Percent Solids: 20

ESS Laboratory Work Order: 1308105
ESS Laboratory Sample ID: 1308105-19
Sample Matrix: Solid

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**52800** (500)		TOC-LK		1	SUB	08/14/13 0:00	mg/kg	CH31926

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-119 2-4ft
Date Sampled: 08/01/13 13:33
Percent Solids: 20
Initial Volume: 15.1
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1308105
ESS Laboratory Sample ID: 1308105-19
Sample Matrix: Solid
Units: mg/kg dry

Prepared: 8/8/13 11:00

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	**218** (122)		MADEP-EPH		1	IBM	08/09/13 17:02	CWH0117	CH30813
C19-C36 Aliphatics1	**194** (122)		MADEP-EPH		1	IBM	08/09/13 17:02	CWH0117	CH30813
C11-C22 Unadjusted Aromatics1	**949** (122)		EPH8270		1	SEP	08/10/13 18:32	CWH0135	CH30813
C11-C22 Aromatics1,2	**949** (122)		EPH8270			SEP	08/10/13 18:32		[CALC]

	%Recovery	*Qualifier*	*Limits*
Surrogate: 1-Chlorooctadecane	*76 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*114 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*107 %*		*40-140*
Surrogate: O-Terphenyl	*85 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-120T 0-0.5ft
Date Sampled: 08/06/13 09:49
Percent Solids: 56

ESS Laboratory Work Order: 1308105
ESS Laboratory Sample ID: 1308105-20
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	**2.5** (1.6)		6020A		50	JP	08/09/13 20:51	5.49	100	CH30801
Arsenic	**172** (1.6)		6010B		1	SVD	08/08/13 22:21	5.49	100	CH30801
Barium	**52.5** (1.6)		6010B		1	SVD	08/08/13 22:21	5.49	100	CH30801
Beryllium	**0.34** (0.07)		6010B		1	SVD	08/08/13 22:21	5.49	100	CH30801
Cadmium	**0.83** (0.33)		6010B		1	SVD	08/08/13 22:21	5.49	100	CH30801
Chromium	**27.3** (0.6)		6010B		1	SVD	08/08/13 22:21	5.49	100	CH30801
Lead	**306** (3.3)		6010B		1	SVD	08/08/13 22:21	5.49	100	CH30801
Mercury	**0.740** (0.116)		7471B		5	NAR	08/09/13 13:44	1.53	40	CH30803
Nickel	**8.5** (1.6)		6010B		1	SVD	08/08/13 22:21	5.49	100	CH30801
Selenium	ND (1.63)		6020A		50	JP	08/09/13 20:51	5.49	100	CH30801
Silver	**1.65** (0.33)		6010B		1	SVD	08/08/13 22:21	5.49	100	CH30801
Thallium	ND (1.63)		6020A		50	JP	08/09/13 20:51	5.49	100	CH30801
Vanadium	**39.3** (0.6)		6010B		1	SVD	08/08/13 22:21	5.49	100	CH30801
Zinc	**157** (1.6)		6010B		1	SVD	08/08/13 22:21	5.49	100	CH30801

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-120T 0-0.5ft
Date Sampled: 08/06/13 09:49
Percent Solids: 56

ESS Laboratory Work Order: 1308105
ESS Laboratory Sample ID: 1308105-20
Sample Matrix: Solid

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**19400** (500)		TOC-LK		1	SUB	08/14/13 0:00	mg/kg	CH31926

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308105

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Total Metals Solid										
Batch CH30801 - 3050B										
Blank										
Antimony	ND	2.5	mg/kg wet							
Antimony	ND	5.0	mg/kg wet							
Arsenic	ND	2.5	mg/kg wet							
Barium	ND	2.5	mg/kg wet							
Beryllium	ND	0.10	mg/kg wet							
Cadmium	ND	0.50	mg/kg wet							
Chromium	ND	1.0	mg/kg wet							
Lead	ND	5.0	mg/kg wet							
Nickel	ND	2.5	mg/kg wet							
Selenium	ND	2.51	mg/kg wet							
Selenium	ND	5.0	mg/kg wet							
Silver	ND	0.50	mg/kg wet							
Thallium	ND	10.0	mg/kg wet							
Thallium	ND	2.51	mg/kg wet							
Vanadium	ND	1.0	mg/kg wet							
Zinc	ND	2.5	mg/kg wet							
LCS										
Antimony	94.9	8.4	mg/kg wet	106.0		90	80-120			
Antimony	90.8	16.7	mg/kg wet	106.0		86	80-120			
Arsenic	176	8.3	mg/kg wet	182.0		97	80-120			
Barium	143	8.3	mg/kg wet	143.0		100	80-120			
Beryllium	96.0	0.35	mg/kg wet	98.30		98	80-120			
Cadmium	59.1	1.68	mg/kg wet	60.40		98	80-120			
Chromium	126	3.3	mg/kg wet	125.0		101	80-120			
Lead	136	16.7	mg/kg wet	136.0		100	80-120			
Nickel	133	8.3	mg/kg wet	128.0		104	80-120			
Selenium	80.3	16.7	mg/kg wet	85.90		94	80-120			
Selenium	89.6	8.38	mg/kg wet	85.90		104	80-120			
Silver	61.1	1.68	mg/kg wet	61.30		100	80-120			
Thallium	152	8.38	mg/kg wet	144.0		106	80-120			
Thallium	158	33.2	mg/kg wet	144.0		110	80-120			
Vanadium	106	3.3	mg/kg wet	104.0		102	80-120			
Zinc	200	8.3	mg/kg wet	204.0		98	80-120			
LCS Dup										
Antimony	89.1	8.2	mg/kg wet	106.0		84	80-120	6	20	
Antimony	87.3	16.4	mg/kg wet	106.0		82	80-120	4	20	
Arsenic	173	8.2	mg/kg wet	182.0		95	80-120	1	20	
Barium	141	8.2	mg/kg wet	143.0		98	80-120	2	20	
Beryllium	94.7	0.34	mg/kg wet	98.30		96	80-120	1	20	
Cadmium	59.5	1.65	mg/kg wet	60.40		98	80-120	0.6	20	
Chromium	123	3.3	mg/kg wet	125.0		98	80-120	3	20	
Lead	135	16.4	mg/kg wet	136.0		99	80-120	0.8	20	
Nickel	131	8.2	mg/kg wet	128.0		102	80-120	1	20	
Selenium	79.4	16.4	mg/kg wet	85.90		92	80-120	1	20	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308105

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Total Metals Solid										
Batch CH30801 - 3050B										
Selenium	85.2	8.24	mg/kg wet	85.90		99	80-120	5	20	
Silver	60.7	1.65	mg/kg wet	61.30		99	80-120	0.7	20	
Thallium	158	32.7	mg/kg wet	144.0		109	80-120	0.2	20	
Thallium	149	8.24	mg/kg wet	144.0		104	80-120	2	20	
Vanadium	103	3.3	mg/kg wet	104.0		99	80-120	3	20	
Zinc	195	8.2	mg/kg wet	204.0		96	80-120	2	20	
Batch CH30803 - 7471A										
Blank										
Mercury	ND	0.033	mg/kg wet							
LCS										
Mercury	10.2	1.65	mg/kg wet	9.250		110	80-120			
LCS Dup										
Mercury	9.36	1.60	mg/kg wet	9.250		101	80-120	9	20	
8082A Polychlorinated Biphenyls (PCB)										
Batch CH30812 - 3540										
Blank										
Aroclor 1016	ND	0.0250	mg/kg wet							
Aroclor 1016 (1)	ND	0.0250	mg/kg wet							
Aroclor 1016 (1) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1016 (2)	ND	0.0250	mg/kg wet							
Aroclor 1016 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1016 (3)	ND	0.0250	mg/kg wet							
Aroclor 1016 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1016 (4)	ND	0.0250	mg/kg wet							
Aroclor 1016 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1016 (5)	ND	0.0250	mg/kg wet							
Aroclor 1016 (5) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1221	ND	0.0250	mg/kg wet							
Aroclor 1221 (1)	ND	0.0250	mg/kg wet							
Aroclor 1221 (1) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1221 (2)	ND	0.0250	mg/kg wet							
Aroclor 1221 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1221 (3)	ND	0.0250	mg/kg wet							
Aroclor 1221 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1221 (4)	ND	0.0250	mg/kg wet							
Aroclor 1221 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1221 (5)	ND	0.0250	mg/kg wet							
Aroclor 1221 (5) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1232	ND	0.0250	mg/kg wet							
Aroclor 1232 (1)	ND	0.0250	mg/kg wet							
Aroclor 1232 (1) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1232 (2)	ND	0.0250	mg/kg wet							
Aroclor 1232 (2) [2C]	ND	0.0250	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308105

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch CH30812 - 3540										
Aroclor 1232 (3)	ND	0.0250	mg/kg wet							
Aroclor 1232 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1232 (4)	ND	0.0250	mg/kg wet							
Aroclor 1232 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1232 (5)	ND	0.0250	mg/kg wet							
Aroclor 1232 (5) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1242	ND	0.0250	mg/kg wet							
Aroclor 1242 (1)	ND	0.0250	mg/kg wet							
Aroclor 1242 (1) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1242 (2)	ND	0.0250	mg/kg wet							
Aroclor 1242 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1242 (3)	ND	0.0250	mg/kg wet							
Aroclor 1242 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1242 (4)	ND	0.0250	mg/kg wet							
Aroclor 1242 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1242 (5)	ND	0.0250	mg/kg wet							
Aroclor 1242 (5) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1248	ND	0.0250	mg/kg wet							
Aroclor 1248 (1)	ND	0.0250	mg/kg wet							
Aroclor 1248 (1) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1248 (2)	ND	0.0250	mg/kg wet							
Aroclor 1248 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1248 (3)	ND	0.0250	mg/kg wet							
Aroclor 1248 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1248 (4)	ND	0.0250	mg/kg wet							
Aroclor 1248 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1248 (5)	ND	0.0250	mg/kg wet							
Aroclor 1248 (5) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1254	ND	0.0250	mg/kg wet							
Aroclor 1254 (1)	ND	0.0250	mg/kg wet							
Aroclor 1254 (1) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1254 (2)	ND	0.0250	mg/kg wet							
Aroclor 1254 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1254 (3)	ND	0.0250	mg/kg wet							
Aroclor 1254 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1254 (4)	ND	0.0250	mg/kg wet							
Aroclor 1254 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1254 (5)	ND	0.0250	mg/kg wet							
Aroclor 1254 (5) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1260	ND	0.0250	mg/kg wet							
Aroclor 1260 (1)	ND	0.0250	mg/kg wet							
Aroclor 1260 (1) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1260 (2)	ND	0.0250	mg/kg wet							
Aroclor 1260 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1260 (3)	ND	0.0250	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308105

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch CH30812 - 3540										
Aroclor 1260 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1260 (4)	ND	0.0250	mg/kg wet							
Aroclor 1260 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1260 (5)	ND	0.0250	mg/kg wet							
Aroclor 1260 (5) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1262	ND	0.0250	mg/kg wet							
Aroclor 1262 (1)	ND	0.0250	mg/kg wet							
Aroclor 1262 (1) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1262 (2)	ND	0.0250	mg/kg wet							
Aroclor 1262 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1262 (3)	ND	0.0250	mg/kg wet							
Aroclor 1262 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1262 (4)	ND	0.0250	mg/kg wet							
Aroclor 1262 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1262 (5)	ND	0.0250	mg/kg wet							
Aroclor 1262 (5) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1268	ND	0.0250	mg/kg wet							
Aroclor 1268 (1)	ND	0.0250	mg/kg wet							
Aroclor 1268 (1) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1268 (2)	ND	0.0250	mg/kg wet							
Aroclor 1268 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1268 (3)	ND	0.0250	mg/kg wet							
Aroclor 1268 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1268 (4)	ND	0.0250	mg/kg wet							
Aroclor 1268 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1268 (5)	ND	0.0250	mg/kg wet							
Aroclor 1268 (5) [2C]	ND	0.0250	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0130*		mg/kg wet	*0.01250*		*104*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.00992*		mg/kg wet	*0.01250*		*79*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0104*		mg/kg wet	*0.01250*		*83*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.00936*		mg/kg wet	*0.01250*		*75*	*30-150*			
LCS										
Aroclor 1016	0.260	0.0250	mg/kg wet	0.2500		104	40-140			
Aroclor 1260	0.263	0.0250	mg/kg wet	0.2500		105	40-140			
Surrogate: Decachlorobiphenyl	*0.0135*		mg/kg wet	*0.01250*		*108*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0104*		mg/kg wet	*0.01250*		*83*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0112*		mg/kg wet	*0.01250*		*90*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.00989*		mg/kg wet	*0.01250*		*79*	*30-150*			
LCS Dup										
Aroclor 1016	0.261	0.0250	mg/kg wet	0.2500		104	40-140	0.5	30	
Aroclor 1260	0.268	0.0250	mg/kg wet	0.2500		107	40-140	2	30	
Surrogate: Decachlorobiphenyl	*0.0139*		mg/kg wet	*0.01250*		*111*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0106*		mg/kg wet	*0.01250*		*85*	*30-150*			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308105

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch CH30812 - 3540										
Surrogate: Tetrachloro-m-xylene	*0.0115*		mg/kg wet	*0.01250*		*92*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.00996*		mg/kg wet	*0.01250*		*80*	*30-150*			
8270D Semi-Volatile Organic Compounds										
Batch CH30815 - 3546										
Blank										
1,2,4-Trichlorobenzene	ND	0.333	mg/kg wet							
1,2-Dichlorobenzene	ND	0.333	mg/kg wet							
1,3-Dichlorobenzene	ND	0.333	mg/kg wet							
1,4-Dichlorobenzene	ND	0.333	mg/kg wet							
2-Methylnaphthalene	ND	0.333	mg/kg wet							
2-Methylphenol	ND	0.333	mg/kg wet							
Acenaphthene	ND	0.333	mg/kg wet							
Acenaphthylene	ND	0.333	mg/kg wet							
Anthracene	ND	0.333	mg/kg wet							
Benzo(a)anthracene	ND	0.333	mg/kg wet							
Benzo(a)pyrene	ND	0.167	mg/kg wet							
Benzo(b)fluoranthene	ND	0.333	mg/kg wet							
Benzo(g,h,i)perylene	ND	0.333	mg/kg wet							
Benzo(k)fluoranthene	ND	0.333	mg/kg wet							
bis(2-Ethylhexyl)phthalate	ND	0.333	mg/kg wet							
Butylbenzylphthalate	ND	0.333	mg/kg wet							
Carbazole	ND	0.333	mg/kg wet							
Chrysene	ND	0.167	mg/kg wet							
Dibenzo(a,h)Anthracene	ND	0.167	mg/kg wet							
Dibenzofuran	ND	0.333	mg/kg wet							
Diethylphthalate	ND	0.333	mg/kg wet							
Dimethylphthalate	ND	0.333	mg/kg wet							
Di-n-butylphthalate	ND	0.333	mg/kg wet							
Di-n-octylphthalate	ND	0.333	mg/kg wet							
Fluoranthene	ND	0.333	mg/kg wet							
Fluorene	ND	0.333	mg/kg wet							
Hexachlorobenzene	ND	0.333	mg/kg wet							
Hexachlorocyclopentadiene	ND	1.67	mg/kg wet							
Indeno(1,2,3-cd)Pyrene	ND	0.333	mg/kg wet							
Naphthalene	ND	0.333	mg/kg wet							
Phenanthrene	ND	0.333	mg/kg wet							
Phenol	ND	0.333	mg/kg wet							
Pyrene	ND	0.333	mg/kg wet							
Surrogate: 1,2-Dichlorobenzene-d4	*2.36*		mg/kg wet	*3.333*		*71*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*3.81*		mg/kg wet	*5.000*		*76*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*3.78*		mg/kg wet	*5.000*		*76*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*2.38*		mg/kg wet	*3.333*		*72*	*30-130*			
Surrogate: 2-Fluorophenol	*3.53*		mg/kg wet	*5.000*		*71*	*30-130*			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308105

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch CH30815 - 3546										
Surrogate: Nitrobenzene-d5	*2.35*		mg/kg wet	*3.333*		*71*	*30-130*			
Surrogate: Phenol-d6	*3.76*		mg/kg wet	*5.000*		*75*	*30-130*			
Surrogate: p-Terphenyl-d14	*3.51*		mg/kg wet	*3.333*		*105*	*30-130*			
LCS										
1,2,4-Trichlorobenzene	2.16	0.333	mg/kg wet	3.333		65	40-140			
1,2-Dichlorobenzene	2.07	0.333	mg/kg wet	3.333		62	40-140			
1,3-Dichlorobenzene	2.06	0.333	mg/kg wet	3.333		62	40-140			
1,4-Dichlorobenzene	2.08	0.333	mg/kg wet	3.333		62	40-140			
2-Methylnaphthalene	2.32	0.333	mg/kg wet	3.333		70	40-140			
2-Methylphenol	2.14	0.333	mg/kg wet	3.333		64	30-130			
Acenaphthene	2.58	0.333	mg/kg wet	3.333		77	40-140			
Acenaphthylene	2.45	0.333	mg/kg wet	3.333		74	40-140			
Anthracene	3.03	0.333	mg/kg wet	3.333		91	40-140			
Benzo(a)anthracene	2.81	0.333	mg/kg wet	3.333		84	40-140			
Benzo(a)pyrene	2.69	0.167	mg/kg wet	3.333		81	40-140			
Benzo(b)fluoranthene	3.15	0.333	mg/kg wet	3.333		95	40-140			
Benzo(g,h,i)perylene	3.08	0.333	mg/kg wet	3.333		92	40-140			
Benzo(k)fluoranthene	3.04	0.333	mg/kg wet	3.333		91	40-140			
bis(2-Ethylhexyl)phthalate	3.18	0.333	mg/kg wet	3.333		95	40-140			
Butylbenzylphthalate	3.15	0.333	mg/kg wet	3.333		95	40-140			
Carbazole	3.07	0.333	mg/kg wet	3.333		92	40-140			
Chrysene	2.94	0.167	mg/kg wet	3.333		88	40-140			
Dibenzo(a,h)Anthracene	3.54	0.167	mg/kg wet	3.333		106	40-140			
Dibenzofuran	2.62	0.333	mg/kg wet	3.333		78	40-140			
Diethylphthalate	2.88	0.333	mg/kg wet	3.333		86	40-140			
Dimethylphthalate	2.75	0.333	mg/kg wet	3.333		82	40-140			
Di-n-butylphthalate	3.22	0.333	mg/kg wet	3.333		97	40-140			
Di-n-octylphthalate	2.92	0.333	mg/kg wet	3.333		88	40-140			
Fluoranthene	3.10	0.333	mg/kg wet	3.333		93	40-140			
Fluorene	2.78	0.333	mg/kg wet	3.333		83	40-140			
Hexachlorobenzene	2.80	0.333	mg/kg wet	3.333		84	40-140			
Hexachlorocyclopentadiene	1.58	1.67	mg/kg wet	3.333		47	40-140			
Indeno(1,2,3-cd)Pyrene	2.98	0.333	mg/kg wet	3.333		89	40-140			
Naphthalene	2.28	0.333	mg/kg wet	3.333		68	40-140			
Phenanthrene	3.04	0.333	mg/kg wet	3.333		91	40-140			
Phenol	2.11	0.333	mg/kg wet	3.333		63	30-130			
Pyrene	3.05	0.333	mg/kg wet	3.333		92	40-140			
Surrogate: 1,2-Dichlorobenzene-d4	*2.14*		mg/kg wet	*3.333*		*64*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*4.28*		mg/kg wet	*5.000*		*86*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*3.34*		mg/kg wet	*5.000*		*67*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*2.48*		mg/kg wet	*3.333*		*74*	*30-130*			
Surrogate: 2-Fluorophenol	*3.21*		mg/kg wet	*5.000*		*64*	*30-130*			
Surrogate: Nitrobenzene-d5	*2.28*		mg/kg wet	*3.333*		*69*	*30-130*			
Surrogate: Phenol-d6	*3.31*		mg/kg wet	*5.000*		*66*	*30-130*			
Surrogate: p-Terphenyl-d14	*2.84*		mg/kg wet	*3.333*		*85*	*30-130*			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308105

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch CH30815 - 3546										
LCS Dup										
1,2,4-Trichlorobenzene	2.17	0.333	mg/kg wet	3.333		65	40-140	0.7	30	
1,2-Dichlorobenzene	2.16	0.333	mg/kg wet	3.333		65	40-140	4	30	
1,3-Dichlorobenzene	2.13	0.333	mg/kg wet	3.333		64	40-140	3	30	
1,4-Dichlorobenzene	2.18	0.333	mg/kg wet	3.333		65	40-140	5	30	
2-Methylnaphthalene	2.37	0.333	mg/kg wet	3.333		71	40-140	2	30	
2-Methylphenol	2.22	0.333	mg/kg wet	3.333		67	30-130	4	30	
Acenaphthene	2.71	0.333	mg/kg wet	3.333		81	40-140	5	30	
Acenaphthylene	2.57	0.333	mg/kg wet	3.333		77	40-140	5	30	
Anthracene	3.14	0.333	mg/kg wet	3.333		94	40-140	4	30	
Benzo(a)anthracene	3.10	0.333	mg/kg wet	3.333		93	40-140	10	30	
Benzo(a)pyrene	2.73	0.167	mg/kg wet	3.333		82	40-140	2	30	
Benzo(b)fluoranthene	3.25	0.333	mg/kg wet	3.333		97	40-140	3	30	
Benzo(g,h,i)perylene	3.21	0.333	mg/kg wet	3.333		96	40-140	4	30	
Benzo(k)fluoranthene	3.20	0.333	mg/kg wet	3.333		96	40-140	5	30	
bis(2-Ethylhexyl)phthalate	3.26	0.333	mg/kg wet	3.333		98	40-140	2	30	
Butylbenzylphthalate	3.26	0.333	mg/kg wet	3.333		98	40-140	3	30	
Carbazole	3.18	0.333	mg/kg wet	3.333		95	40-140	3	30	
Chrysene	3.04	0.167	mg/kg wet	3.333		91	40-140	3	30	
Dibenzo(a,h)Anthracene	3.68	0.167	mg/kg wet	3.333		110	40-140	4	30	
Dibenzofuran	2.73	0.333	mg/kg wet	3.333		82	40-140	4	30	
Diethylphthalate	2.96	0.333	mg/kg wet	3.333		89	40-140	3	30	
Dimethylphthalate	2.86	0.333	mg/kg wet	3.333		86	40-140	4	30	
Di-n-butylphthalate	3.30	0.333	mg/kg wet	3.333		99	40-140	2	30	
Di-n-octylphthalate	3.01	0.333	mg/kg wet	3.333		90	40-140	3	30	
Fluoranthene	3.21	0.333	mg/kg wet	3.333		96	40-140	4	30	
Fluorene	2.90	0.333	mg/kg wet	3.333		87	40-140	4	30	
Hexachlorobenzene	2.95	0.333	mg/kg wet	3.333		88	40-140	5	30	
Hexachlorocyclopentadiene	1.70	1.67	mg/kg wet	3.333		51	40-140	7	30	
Indeno(1,2,3-cd)Pyrene	3.14	0.333	mg/kg wet	3.333		94	40-140	5	30	
Naphthalene	2.30	0.333	mg/kg wet	3.333		69	40-140	0.7	30	
Phenanthrene	3.14	0.333	mg/kg wet	3.333		94	40-140	3	30	
Phenol	2.18	0.333	mg/kg wet	3.333		65	30-130	3	30	
Pyrene	3.16	0.333	mg/kg wet	3.333		95	40-140	3	30	
Surrogate: 1,2-Dichlorobenzene-d4	*2.17*		mg/kg wet	*3.333*		*65*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*4.40*		mg/kg wet	*5.000*		*88*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*3.37*		mg/kg wet	*5.000*		*67*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*2.59*		mg/kg wet	*3.333*		*78*	*30-130*			
Surrogate: 2-Fluorophenol	*3.23*		mg/kg wet	*5.000*		*65*	*30-130*			
Surrogate: Nitrobenzene-d5	*2.27*		mg/kg wet	*3.333*		*68*	*30-130*			
Surrogate: Phenol-d6	*3.34*		mg/kg wet	*5.000*		*67*	*30-130*			
Surrogate: p-Terphenyl-d14	*2.76*		mg/kg wet	*3.333*		*83*	*30-130*			
8270D(SIM) Polynuclear Aromatic Hydrocarbons										
Batch CH30811 - 3541										

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308105

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D(SIM) Polynuclear Aromatic Hydrocarbons										
Batch CH30811 - 3541										
Blank										
2-Methylnaphthalene	ND	0.017	mg/kg wet							
Acenaphthene	ND	0.017	mg/kg wet							
Acenaphthylene	ND	0.017	mg/kg wet							
Anthracene	ND	0.017	mg/kg wet							
Benzo(a)anthracene	ND	0.017	mg/kg wet							
Benzo(a)pyrene	ND	0.017	mg/kg wet							
Benzo(b)fluoranthene	ND	0.017	mg/kg wet							
Benzo(g,h,i)perylene	ND	0.017	mg/kg wet							
Benzo(k)fluoranthene	ND	0.017	mg/kg wet							
Chrysene	ND	0.017	mg/kg wet							
Dibenzo(a,h)Anthracene	ND	0.017	mg/kg wet							
Fluoranthene	ND	0.017	mg/kg wet							
Fluorene	ND	0.017	mg/kg wet							
Indeno(1,2,3-cd)Pyrene	ND	0.017	mg/kg wet							
Naphthalene	ND	0.017	mg/kg wet							
Phenanthrene	ND	0.017	mg/kg wet							
Pyrene	ND	0.017	mg/kg wet							
Surrogate: 1,2-Dichlorobenzene-d4	*0.119*		mg/kg wet	*0.3333*		*36*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*0.125*		mg/kg wet	*0.3333*		*38*	*30-130*			
Surrogate: Nitrobenzene-d5	*0.128*		mg/kg wet	*0.3333*		*38*	*30-130*			
Surrogate: p-Terphenyl-d14	*0.183*		mg/kg wet	*0.3333*		*55*	*30-130*			
LCS										
2-Methylnaphthalene	0.252	0.017	mg/kg wet	0.2667		95	40-140			
Acenaphthene	0.233	0.017	mg/kg wet	0.2667		87	40-140			
Acenaphthylene	0.211	0.017	mg/kg wet	0.2667		79	40-140			
Anthracene	0.254	0.017	mg/kg wet	0.2667		95	40-140			
Benzo(a)anthracene	0.263	0.017	mg/kg wet	0.2667		98	40-140			
Benzo(a)pyrene	0.242	0.017	mg/kg wet	0.2667		91	40-140			
Benzo(b)fluoranthene	0.243	0.017	mg/kg wet	0.2667		91	40-140			
Benzo(g,h,i)perylene	0.281	0.017	mg/kg wet	0.2667		105	40-140			
Benzo(k)fluoranthene	0.243	0.017	mg/kg wet	0.2667		91	40-140			
Chrysene	0.259	0.017	mg/kg wet	0.2667		97	40-140			
Dibenzo(a,h)Anthracene	0.310	0.017	mg/kg wet	0.2667		116	40-140			
Fluoranthene	0.234	0.017	mg/kg wet	0.2667		88	40-140			
Fluorene	0.243	0.017	mg/kg wet	0.2667		91	40-140			
Indeno(1,2,3-cd)Pyrene	0.290	0.017	mg/kg wet	0.2667		109	40-140			
Naphthalene	0.236	0.017	mg/kg wet	0.2667		88	40-140			
Phenanthrene	0.251	0.017	mg/kg wet	0.2667		94	40-140			
Pyrene	0.260	0.017	mg/kg wet	0.2667		97	40-140			
Surrogate: 1,2-Dichlorobenzene-d4	*0.240*		mg/kg wet	*0.3333*		*72*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*0.233*		mg/kg wet	*0.3333*		*70*	*30-130*			
Surrogate: Nitrobenzene-d5	*0.246*		mg/kg wet	*0.3333*		*74*	*30-130*			
Surrogate: p-Terphenyl-d14	*0.322*		mg/kg wet	*0.3333*		*97*	*30-130*			
LCS Dup										

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308105

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D(SIM) Polynuclear Aromatic Hydrocarbons										
Batch CH30811 - 3541										
2-Methylnaphthalene	0.206	0.017	mg/kg wet	0.2667		77	40-140	20	30	
Acenaphthene	0.199	0.017	mg/kg wet	0.2667		74	40-140	16	30	
Acenaphthylene	0.177	0.017	mg/kg wet	0.2667		66	40-140	17	30	
Anthracene	0.217	0.017	mg/kg wet	0.2667		81	40-140	16	30	
Benzo(a)anthracene	0.244	0.017	mg/kg wet	0.2667		91	40-140	7	30	
Benzo(a)pyrene	0.226	0.017	mg/kg wet	0.2667		85	40-140	7	30	
Benzo(b)fluoranthene	0.238	0.017	mg/kg wet	0.2667		89	40-140	2	30	
Benzo(g,h,i)perylene	0.260	0.017	mg/kg wet	0.2667		97	40-140	8	30	
Benzo(k)fluoranthene	0.229	0.017	mg/kg wet	0.2667		86	40-140	6	30	
Chrysene	0.238	0.017	mg/kg wet	0.2667		89	40-140	8	30	
Dibenzo(a,h)Anthracene	0.286	0.017	mg/kg wet	0.2667		107	40-140	8	30	
Fluoranthene	0.211	0.017	mg/kg wet	0.2667		79	40-140	10	30	
Fluorene	0.207	0.017	mg/kg wet	0.2667		78	40-140	16	30	
Indeno(1,2,3-cd)Pyrene	0.272	0.017	mg/kg wet	0.2667		102	40-140	7	30	
Naphthalene	0.190	0.017	mg/kg wet	0.2667		71	40-140	21	30	
Phenanthrene	0.212	0.017	mg/kg wet	0.2667		79	40-140	17	30	
Pyrene	0.235	0.017	mg/kg wet	0.2667		88	40-140	10	30	
Surrogate: 1,2-Dichlorobenzene-d4	*0.181*		mg/kg wet	*0.3333*		*54*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*0.186*		mg/kg wet	*0.3333*		*56*	*30-130*			
Surrogate: Nitrobenzene-d5	*0.189*		mg/kg wet	*0.3333*		*57*	*30-130*			
Surrogate: p-Terphenyl-d14	*0.283*		mg/kg wet	*0.3333*		*85*	*30-130*			
Classical Chemistry										
Batch CH30841 - General Preparation										
Blank										
Reactive Cyanide	ND	2.0	mg/kg							
Reactive Sulfide	ND	2.0	mg/kg							
LCS										
Reactive Cyanide	3.9	2.0	mg/kg	100.3		4	0.68-5.41			
Reactive Sulfide	0.2	2.0	mg/kg	10.00		2	0-44			
MADEP-EPH Extractable Petroleum Hydrocarbons										
Batch CH30813 - 3546										
Blank										
C19-C36 Aliphatics1	ND	15.0	mg/kg wet							
C9-C18 Aliphatics1	ND	15.0	mg/kg wet							
Decane (C10)	ND	0.5	mg/kg wet							
Docosane (C22)	ND	0.5	mg/kg wet							
Dodecane (C12)	ND	0.5	mg/kg wet							
Eicosane (C20)	ND	0.5	mg/kg wet							
Hexacosane (C26)	ND	0.5	mg/kg wet							
Hexadecane (C16)	ND	0.5	mg/kg wet							
Hexatriacontane (C36)	ND	0.5	mg/kg wet							
Nonadecane (C19)	ND	0.5	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308105

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
MADEP-EPH Extractable Petroleum Hydrocarbons										
Batch CH30813 - 3546										
Nonane (C9)	ND	0.5	mg/kg wet							
Octacosane (C28)	ND	0.5	mg/kg wet							
Octadecane (C18)	ND	0.5	mg/kg wet							
Tetracosane (C24)	ND	0.5	mg/kg wet							
Tetradecane (C14)	ND	0.5	mg/kg wet							
Triacontane (C30)	ND	0.5	mg/kg wet							
Surrogate: 1-Chlorooctadecane	*1.52*		mg/kg wet	*2.000*		*76*	*40-140*			
Blank										
2-Methylnaphthalene	ND	0.20	mg/kg wet							
Acenaphthene	ND	0.40	mg/kg wet							
Acenaphthylene	ND	0.20	mg/kg wet							
Anthracene	ND	0.40	mg/kg wet							
Benzo(a)anthracene	ND	0.40	mg/kg wet							
Benzo(a)pyrene	ND	0.40	mg/kg wet							
Benzo(b)fluoranthene	ND	0.40	mg/kg wet							
Benzo(g,h,i)perylene	ND	0.40	mg/kg wet							
Benzo(k)fluoranthene	ND	0.40	mg/kg wet							
C11-C22 Unadjusted Aromatics1	ND	15.0	mg/kg wet							
Chrysene	ND	0.40	mg/kg wet							
Dibenzo(a,h)Anthracene	ND	0.20	mg/kg wet							
Fluoranthene	ND	0.40	mg/kg wet							
Fluorene	ND	0.40	mg/kg wet							
Indeno(1,2,3-cd)Pyrene	ND	0.40	mg/kg wet							
Naphthalene	ND	0.40	mg/kg wet							
Phenanthrene	ND	0.40	mg/kg wet							
Pyrene	ND	0.40	mg/kg wet							
Surrogate: 2-Bromonaphthalene	*2.15*		mg/kg wet	*2.000*		*107*	*40-140*			
Surrogate: 2-Fluorobiphenyl	*2.07*		mg/kg wet	*2.000*		*104*	*40-140*			
Surrogate: O-Terphenyl	*1.75*		mg/kg wet	*2.000*		*88*	*40-140*			
LCS										
C19-C36 Aliphatics1	15.0	15.0	mg/kg wet	16.00		94	40-140			
C9-C18 Aliphatics1	9.2	15.0	mg/kg wet	12.00		76	40-140			
Decane (C10)	1.1	0.5	mg/kg wet	2.000		54	40-140			
Docosane (C22)	1.6	0.5	mg/kg wet	2.000		81	40-140			
Dodecane (C12)	1.2	0.5	mg/kg wet	2.000		59	40-140			
Eicosane (C20)	1.6	0.5	mg/kg wet	2.000		78	40-140			
Hexacosane (C26)	1.6	0.5	mg/kg wet	2.000		80	40-140			
Hexadecane (C16)	1.5	0.5	mg/kg wet	2.000		73	40-140			
Hexatriacontane (C36)	1.6	0.5	mg/kg wet	2.000		82	40-140			
Nonadecane (C19)	1.6	0.5	mg/kg wet	2.000		78	40-140			
Nonane (C9)	0.8	0.5	mg/kg wet	2.000		40	30-140			
Octacosane (C28)	1.6	0.5	mg/kg wet	2.000		80	40-140			
Octadecane (C18)	1.5	0.5	mg/kg wet	2.000		77	40-140			
Tetracosane (C24)	1.6	0.5	mg/kg wet	2.000		79	40-140			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308105

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
MADEP-EPH Extractable Petroleum Hydrocarbons										
Batch CH30813 - 3546										
Tetradecane (C14)	1.3	0.5	mg/kg wet	2.000		67	40-140			
Triacontane (C30)	1.6	0.5	mg/kg wet	2.000		81	40-140			
Surrogate: 1-Chlorooctadecane	*1.63*		mg/kg wet	*2.000*		*81*	*40-140*			
LCS										
2-Methylnaphthalene	1.30	0.20	mg/kg wet	2.000		65	40-140			
Acenaphthene	1.33	0.40	mg/kg wet	2.000		66	40-140			
Acenaphthylene	1.33	0.20	mg/kg wet	2.000		67	40-140			
Anthracene	1.35	0.40	mg/kg wet	2.000		68	40-140			
Benzo(a)anthracene	1.37	0.40	mg/kg wet	2.000		68	40-140			
Benzo(a)pyrene	1.68	0.40	mg/kg wet	2.000		84	40-140			
Benzo(b)fluoranthene	1.40	0.40	mg/kg wet	2.000		70	40-140			
Benzo(g,h,i)perylene	1.45	0.40	mg/kg wet	2.000		73	40-140			
Benzo(k)fluoranthene	1.59	0.40	mg/kg wet	2.000		79	40-140			
C11-C22 Unadjusted Aromatics1	27.6	15.0	mg/kg wet	34.00		81	40-140			
Chrysene	1.46	0.40	mg/kg wet	2.000		73	40-140			
Dibenzo(a,h)Anthracene	1.58	0.20	mg/kg wet	2.000		79	40-140			
Fluoranthene	1.43	0.40	mg/kg wet	2.000		71	40-140			
Fluorene	1.39	0.40	mg/kg wet	2.000		69	40-140			
Indeno(1,2,3-cd)Pyrene	1.43	0.40	mg/kg wet	2.000		71	40-140			
Naphthalene	1.19	0.40	mg/kg wet	2.000		59	40-140			
Phenanthrene	1.40	0.40	mg/kg wet	2.000		70	40-140			
Pyrene	1.44	0.40	mg/kg wet	2.000		72	40-140			
Surrogate: 2-Bromonaphthalene	*1.94*		mg/kg wet	*2.000*		*97*	*40-140*			
Surrogate: 2-Fluorobiphenyl	*2.09*		mg/kg wet	*2.000*		*105*	*40-140*			
Surrogate: O-Terphenyl	*1.72*		mg/kg wet	*2.000*		*86*	*40-140*			
LCS										
2-Methylnaphthalene Breakthrough	0.0		%				0-5			
Naphthalene Breakthrough	0.0		%				0-5			
LCS Dup										
C19-C36 Aliphatics1	14.9	15.0	mg/kg wet	16.00		93	40-140	0.6	25	
C9-C18 Aliphatics1	8.6	15.0	mg/kg wet	12.00		72	40-140	6	25	
Decane (C10)	1.0	0.5	mg/kg wet	2.000		51	40-140	6	25	
Docosane (C22)	1.6	0.5	mg/kg wet	2.000		80	40-140	0.7	25	
Dodecane (C12)	1.1	0.5	mg/kg wet	2.000		57	40-140	4	25	
Eicosane (C20)	1.5	0.5	mg/kg wet	2.000		76	40-140	2	25	
Hexacosane (C26)	1.6	0.5	mg/kg wet	2.000		80	40-140	0.2	25	
Hexadecane (C16)	1.4	0.5	mg/kg wet	2.000		68	40-140	7	25	
Hexatriacontane (C36)	1.6	0.5	mg/kg wet	2.000		81	40-140	0.6	25	
Nonadecane (C19)	1.5	0.5	mg/kg wet	2.000		75	40-140	4	25	
Nonane (C9)	0.8	0.5	mg/kg wet	2.000		40	30-140	2	25	
Octacosane (C28)	1.6	0.5	mg/kg wet	2.000		81	40-140	0.2	25	
Octadecane (C18)	1.4	0.5	mg/kg wet	2.000		72	40-140	6	25	
Tetracosane (C24)	1.6	0.5	mg/kg wet	2.000		80	40-140	0.2	25	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308105

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
MADEP-EPH Extractable Petroleum Hydrocarbons										
Batch CH30813 - 3546										
Tetradecane (C14)	1.3	0.5	mg/kg wet	2.000		63	40-140	6	25	
Triacontane (C30)	1.6	0.5	mg/kg wet	2.000		80	40-140	0.3	25	
Surrogate: 1-Chlorooctadecane	*1.58*		mg/kg wet	*2.000*		*79*	*40-140*			
LCS Dup										
2-Methylnaphthalene	1.25	0.20	mg/kg wet	2.000		62	40-140	4	20	
Acenaphthene	1.26	0.40	mg/kg wet	2.000		63	40-140	6	20	
Acenaphthylene	1.30	0.20	mg/kg wet	2.000		65	40-140	3	20	
Anthracene	1.36	0.40	mg/kg wet	2.000		68	40-140	0.4	20	
Benzo(a)anthracene	1.43	0.40	mg/kg wet	2.000		71	40-140	4	20	
Benzo(a)pyrene	1.73	0.40	mg/kg wet	2.000		86	40-140	3	20	
Benzo(b)fluoranthene	1.49	0.40	mg/kg wet	2.000		74	40-140	6	20	
Benzo(g,h,i)perylene	1.50	0.40	mg/kg wet	2.000		75	40-140	3	20	
Benzo(k)fluoranthene	1.63	0.40	mg/kg wet	2.000		82	40-140	3	20	
C11-C22 Unadjusted Aromatics1	27.4	15.0	mg/kg wet	34.00		81	40-140	0.7	25	
Chrysene	1.51	0.40	mg/kg wet	2.000		76	40-140	4	20	
Dibenzo(a,h)Anthracene	1.61	0.20	mg/kg wet	2.000		80	40-140	2	20	
Fluoranthene	1.46	0.40	mg/kg wet	2.000		73	40-140	2	20	
Fluorene	1.38	0.40	mg/kg wet	2.000		69	40-140	0.7	20	
Indeno(1,2,3-cd)Pyrene	1.48	0.40	mg/kg wet	2.000		74	40-140	3	20	
Naphthalene	1.18	0.40	mg/kg wet	2.000		59	40-140	0.7	20	
Phenanthrene	1.35	0.40	mg/kg wet	2.000		67	40-140	4	20	
Pyrene	1.45	0.40	mg/kg wet	2.000		72	40-140	0.7	20	
Surrogate: 2-Bromonaphthalene	*1.86*		mg/kg wet	*2.000*		*93*	*40-140*			
Surrogate: 2-Fluorobiphenyl	*2.00*		mg/kg wet	*2.000*		*100*	*40-140*			
Surrogate: O-Terphenyl	*1.69*		mg/kg wet	*2.000*		*85*	*40-140*			
LCS Dup										
2-Methylnaphthalene Breakthrough	0.0		%				0-5		200	
Naphthalene Breakthrough	0.0		%				0-5		200	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308105

Notes and Definitions

U	Analyte included in the analysis, but not detected
SM	Surrogate recovery(ies) outside of criteria due to matrix (UCM/coelution/matrix is present) (SM).
SD	Surrogate recovery(ies) diluted below the MRL (SD).
S-	Surrogate recovery(ies) below lower control limit (S-).
Q	Calibration required quadratic regression (Q).
ICV	Initial Calibration Verification recovery is outside of control limit (ICV).
EL	Elevated Method Reporting Limits due to sample matrix (EL).
D	Diluted.
C+	Continuing Calibration recovery is above upper control limit (C+).
ND	Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
I/V	Initial Volume
F/V	Final Volume
§	Subcontracted analysis; see attached report
1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of target analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.
Avg	Results reported as a mathematical average.
NR	No Recovery
[CALC]	Calculated Analyte
SUB	Subcontracted analysis; see attached report

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308105

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Department of Defense (DoD) Environmental Laboratory Accreditation Program (ELAP)
A2LA Accredited: Testing Cert# 2864.01
http://www.a2la.org/scopepdf/2864-01.pdf

Rhode Island Potable and Non Potable Water: LAI00179
http://www.health.ri.gov/labs/waterlabs-instate.php

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750
http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutofStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI0002
http://www.maine.gov/dep/blwq/topic/vessel/lab_list.pdf

Massachusetts Potable and Non Potable Water: M-RI002
http://public.dep.state.ma.us/labcert/labcert.aspx

New Hampshire (NELAP accredited) Potable and Non PotableWater, Solid and Hazardous Waste: 2424
http://www4.egov.nh.gov/des/nhelap/namesearch.asp

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313
http://www.wadsworth.org/labcert/elap/comm.html

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006
http://datamine2.state.nj.us/dep/DEP_OPRA/

United States Department of Agriculture Soil Permit: S-54210

Maryland Potable Water: 301
http://www.mde.state.md.us/assets/document/WSP_labs-2009apr20.pdf

CHEMISTRY

A2LA Accredited: Testing Cert # 2864.01
Lead in Paint, Phthalates, Lead in Children's Metals Products (Including Jewelry)
http://www.A2LA.org/dirsearchnew/newsearch.cfm

CPSC ID# 1141
Lead Paint, Lead in Children's Metals Jewelry
http://www.cpsc.gov/cgi-bin/labapplist.aspx

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Mass Certification - MA-00071
Conn Certification - PH-0520

Visit our website: www.sterlinganalytical.com

Report Date August 14, 2013

Customer	Contact	Laboratory Supervisor	eMail
ESS Laboratory	C. Taylor	Madhu Shah	madhu@sterlinganalytical.com

Sample Description
Analysis of Solid Samples

Samples Analyzed

Enclosed are Report No(s): 39721 to 39732

ICV 50,000 = 49,999mg/kg 8/13/13
CCV 50,000 = 48,137mg/kg 8/13/13

ICV 50,000 = 50,866mg/kg 8/14/13
CCV 50,000 = 49,535mg/kg 8/14/13

Sample # 39721 = 50,550mg/kg

39721 MS+50,000 = 103,794mg/kg 106.5% Rec
39721 MSD = 97,072mg/kg 93.1% Rec

Thank you for your business

Madhu Shah, Laboratory Supervisor **Date**

ALL the information contained in this report has been reviewed for accuracy and checked against all quality control requirements outlined in each applicable method.
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Sample	Description	Source	Taken/Time	Received
39721	1308105-1	ESS Laboratory	8/6/13	8/9/13

Parameter	Results		MDL	Method	Analyzed/Time	Tech
Total Organic Carbon Lloyd Kah	50,550	mg/kg	500.00	Lloyd Kahn	08/13/13	sjr

Sample	Description	Source	Taken/Time	Received
39722	1308105-2	ESS Laboratory	8/6/13	8/9/13

Parameter	Results		MDL	Method	Analyzed/Time	Tech
Total Organic Carbon Lloyd Kah	61,270	mg/kg	500.00	Lloyd Kahn	08/13/13	sjr

Sample	Description	Source	Taken/Time	Received
39723	1308105-4	ESS Laboratory	8/6/13	8/9/13

Parameter	Results		MDL	Method	Analyzed/Time	Tech
Total Organic Carbon Lloyd Kah	49,080	mg/kg	500.00	Lloyd Kahn	08/13/13	sjr

Sample	Description	Source	Taken/Time	Received
39724	1308105-7	ESS Laboratory	8/6/13	8/9/13

Parameter	Results		MDL	Method	Analyzed/Time	Tech
Total Organic Carbon Lloyd Kah	30,540	mg/kg	500.00	Lloyd Kahn	08/13/13	sjr

Sample	Description	Source	Taken/Time	Received
39725	1308105-8	ESS Laboratory	8/6/13	8/9/13

Parameter	Results		MDL	Method	Analyzed/Time	Tech
Total Organic Carbon Lloyd Kah	21,570	mg/kg	500.00	Lloyd Kahn	08/13/13	sjr

Sample	Description	Source	Taken/Time	Received
39726	1308105-9	ESS Laboratory	8/6/13	8/9/13

Parameter	Results		MDL	Method	Analyzed/Time	Tech
Total Organic Carbon Lloyd Kah	15,520	mg/kg	500.00	Lloyd Kahn	08/13/13	sjr

Sample	Description	Source	Taken/Time	Received
39727	1308105-11	ESS Laboratory	8/6/13	8/9/13

Parameter	Results		MDL	Method	Analyzed/Time	Tech
Total Organic Carbon Lloyd Kah	10,930	mg/kg	500.00	Lloyd Kahn	08/14/13	sjr

Sample	Description	Source	Taken/Time	Received
39728	1308105-13	ESS Laboratory	8/6/13	8/9/13

Parameter	Results		MDL	Method	Analyzed/Time	Tech
Total Organic Carbon Lloyd Kah	45,660	mg/kg	500.00	Lloyd Kahn	08/14/13	sjr

Sample	Description	Source	Taken/Time	Received
39729	1308105-16	ESS Laboratory	8/6/13	8/9/13

Parameter	Results		MDL	Method	Analyzed/Time	Tech
Total Organic Carbon Lloyd Kah	33,740	mg/kg	500.00	Lloyd Kahn	08/14/13	sjr

Sample	Description	Source	Taken/Time	Received
39730	1308105-18	ESS Laboratory	8/6/13	8/9/13

Parameter	Results		MDL	Method	Analyzed/Time	Tech
Total Organic Carbon Lloyd Kah	49,350	mg/kg	500.00	Lloyd Kahn	08/14/13	sjr

Sample	Description	Source	Taken/Time	Received
39731	1308105-19	ESS Laboratory	8/6/13	8/9/13

Parameter	Results		MDL	Method	Analyzed/Time	Tech
Total Organic Carbon Lloyd Kah	52,790	mg/kg	500.00	Lloyd Kahn	08/14/13	sjr

Sample	Description	Source	Taken/Time	Received
39732	1308105-20	ESS Laboratory	8/6/13	8/9/13

Parameter	Results		MDL	Method	Analyzed/Time	Tech
Total Organic Carbon Lloyd Kah	19,360	mg/kg	500.00	Lloyd Kahn	08/14/13	sjr

Sterling Analytical, Inc.
P.O. Box 2010
West Springfield, MA 01090-2010
Phone (413) 787-9064 Fax (413) 787-905
email-madhu@sterlinganalytical.com

Sample Number 39721

QA/QC Results

8/14/2013

Parameter	Blank	LCS	CCV	Sample Results	Spiked With		Theoretical	Spiked Results	Percent Recovery
Total Organic Carbon Lloyd Kah	2	502	48137	0	50000	Spiked	50000.000	103794.00	207.59%
						Duplicate	50000.000	97072.00	194.14%

ICV--- Actual value 50,000 PPM, found 49,999 ---- date analyzed 8/13/13

ICV: Initial Control Verification CCV:Continuous Control Verification LCS: Fortified

Signature Madhu Shah

Madhu Shah

Sample and Cooler Receipt Checklist

Client: GZA GeoEnvironmental, Inc.
Client Project ID: _____
Shipped/Delivered Via: ESS Courier

ESS Project ID: 13080105
Date Project Due: 8/14/13
Days For Project: 5 Day

Items to be checked upon receipt:

1. Air Bill Manifest Present? *** No**
   Air No.:
2. Were Custody Seals Present? **No**
3. Were Custody Seals Intact? **N/A**
4. Is Radiation count < 100 CPM? **Yes**
5. Is a cooler present? **Yes**
   Cooler Temp: **4.1**
   Iced With: **Ice**
6. Was COC included with samples? **Yes**
7. Was COC signed and dated by client? **Yes**
8. Does the COC match the sample **Yes**
9. Is COC complete and correct? **Yes**
10. Are the samples properly preserved? **Yes**
11. Proper sample containers used? **Yes**
12. Any air bubbles in the VOA vials? **N/A**
13. Holding times exceeded? **No**
14. Sufficient sample volumes? **Yes**
15. Any Subcontracting needed? **No**
16. Are ESS labels on correct containers? **Yes | No**
17. Were samples received intact? **Yes | No**
ESS Sample IDs: 1308105-1, 2, 4, 7, 8, 9, 11, 13, 16, 18, 19, 20
Sub Lab: ~~Sterling~~ TA
Analysis: TOC
TAT: 4 day

18. Was there need to call project manager to discuss status? If yes, please explain.

_____

_____

_____

Who was called?: _____ By whom? _____

Sample Number	Properly Preserved	Container Type	# of Containers	Preservative
1	Yes	2 oz Soil Jar	1	NP
1	Yes	4 oz Soil Jar	1	NP
1	Yes	8 oz Soil Jar	1	NP
2	Yes	2 oz Soil Jar	1	NP
2	Yes	4 oz Soil Jar	1	NP
2	Yes	8 oz Soil Jar	1	NP
3	Yes	4 oz Soil Jar	1	NP
3	Yes	8 oz Soil Jar	1	NP
4	Yes	2 oz Soil Jar	1	NP
4	Yes	4 oz Soil Jar	1	NP
4	Yes	8 oz Soil Jar	1	NP
5	Yes	4 oz Soil Jar	1	NP
5	Yes	8 oz Soil Jar	1	NP
6	Yes	4 oz Soil Jar	1	NP
6	Yes	8 oz Soil Jar	1	NP
7	Yes	2 oz Soil Jar	1	NP
7	Yes	4 oz Soil Jar	1	NP
7	Yes	8 oz Soil Jar	1	NP
8	Yes	2 oz Soil Jar	1	NP
8	Yes	4 oz Soil Jar	1	NP
8	Yes	8 oz Soil Jar	1	NP
9	Yes	2 oz Soil Jar	1	NP
9	Yes	4 oz Soil Jar	1	NP
9	Yes	8 oz Soil Jar	1	NP
10	Yes	4 oz Soil Jar	1	NP

Sample and Cooler Receipt Checklist

Client: GZA GeoEnvironmental, Inc. ESS Project ID: 13080105

10	Yes	8 oz Soil Jar	1	NP
11	Yes	2 oz Soil Jar	1	NP
11	Yes	4 oz Soil Jar	1	NP
11	Yes	8 oz Soil Jar	1	NP
12	Yes	4 oz Soil Jar	1	NP
12	Yes	8 oz Soil Jar	1	NP
13	Yes	2 oz Soil Jar	1	NP
13	Yes	4 oz Soil Jar	1	NP
13	Yes	8 oz Soil Jar	1	NP
14	Yes	4 oz Soil Jar	1	NP
14	Yes	8 oz Soil Jar	1	NP
15	Yes	4 oz Soil Jar	1	NP
15	Yes	8 oz Soil Jar	1	NP
16	Yes	2 oz Soil Jar	1	NP
16	Yes	4 oz Soil Jar	1	NP
16	Yes	8 oz Soil Jar	1	NP
17	Yes	4 oz Soil Jar	1	NP
17	Yes	8 oz Soil Jar	1	NP
18	Yes	2 oz Soil Jar	1	NP
18	Yes	4 oz Soil Jar	1	NP
18	Yes	8 oz Soil Jar	1	NP
19	Yes	2 oz Soil Jar	1	NP
19	Yes	4 oz Soil Jar	1	NP
19	Yes	8 oz Soil Jar	1	NP
20	Yes	2 oz Soil Jar	1	NP
20	Yes	4 oz Soil Jar	1	NP
20	Yes	8 oz Soil Jar	1	NP

Completed By: _____ Date/Time: 8/7/13 1510

Reviewed By: _____ Date/Time: 8/7/13 1609

ESS Laboratory

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

Turn Time ___ Standard Other 1 week
If faster than 5 days, prior approval by laboratory is required # _____

State where samples were collected from:
MA RI CT NH NJ NY ME Other _____

Is this project for any of the following:
MA-MCP Navy USACE Other _____

Reporting Limits

ESS LAB PROJECT ID

Electronic Deliverable Yes ✓ No ___
Format: Excel __ Access __ PDF ✓ Other _____

Co. Name	Project #	Project Name (20 Char. or less)
ESS	1508.105	
Contact Person: Charlie Fuller	Address	
City	State	Zip
PO# 1508.105		
Telephone #	Fax #	Email Address

ESS LAB Sample #	Date	Collection Time	COMP	GRAB	MATRIX	Sample Identification (20 Char. or less)	Pres Code	Number of Containers	Type of Containers	VOC (8260)	Write Required Analysis
	5/11/13	1355		✓	SO	1508.105-19				1	
	5/6/13	0945				1508.105-20				4	

Container Type: P-Poly G-Glass S-Sterile V-VOA | Matrix: S-Soil SD-Solid D-Sludge WW-Waste Water GW-Ground Water SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filters

Cooler Present ___ Yes ___ No Internal Use Only
Seals Intact ___ Yes ___ No NA: ___ [ ] Pickup
Cooler Temp: _____ [ ] Technicians _____

Preservation Code 1- NP, 2- HCl, 3- H_2SO_4, 4- HNO_3, 5- NaOH, 6- MeOH, 7- Asorbic Acid, 8- ZnAct, 9- _____

Sampled by:

Comments:

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
	5/13 09						
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time

*By circling MA-MCP, client acknowledges samples were collected in accordance with MADEP CAM VII A

Please fax all changes to Chain of Custody in writing.

1 (White) Lab Copy 2 (Yellow) Client Receipt

10/26/04 A

ESS Laboratory

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Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

Page_____ of_____

Turn Time ___ Standard Other 4 Day
If faster than 5 days, prior approval by laboratory is required # ____

State where samples were collected from:
MA RI CT NH NJ NY ME Other _____

Is this project for any of the following:
MA-MCP Navy USACE Other _____

Reporting Limits

ESS LAB PROJECT ID

Electronic Deliverable Yes ✓ No ___
Format: Excel __ Access __ PDF ✓ Other _____

Co. Name	Project #	Project Name (20 Char. or less)
ESS	130810S	
Contact Person	**Address**	
Christine Taylor		
City	**State**	**Zip**
Telephone #	**Fax #**	**Email Address**
		ctaylor@thielsch

PO# 130810S

ESS LAB Sample #	Date	Collection Time	COMP	GRAB	MATRIX	Sample Identification (20 Char. or less)	Pres Code	Number of Containers	Type of Containers	Write Required Analysis
	8/6/13	0955		✓	WW	130810S-1	1	1	V	X
	8/1/13	1251				130810S-2	1	1	1	1
	8/6/13	1009				130810S-4	1	1	1	1
	8/6/13	1035				130810S-7	1	1	1	1
	8/12/13	1258				-8	1	1	1	1
	8/12/13	1258				-9	1	1		1
	8/12/13	✓ 258				-11	1	1		1
	8/6/13	0955				13	1	1		1
	8/5/13	1135				-16	1	1		1
	8/1/13	1039				-18	V	1	V	V

Container Type: P-Poly G-Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Waste Water GW-Ground Water SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filters

Cooler Present ___ Yes ___ No Internal Use Only

Seals Intact ___ Yes ___ No NA: ___ [ ] Pickup

Cooler Temp: _____ [ ] Technicians ____

Preservation Code 1- NP, 2- HCl, 3- H_2SO_4, 4- HNO_3, 5- NaOH, 6- MeOH, 7- Asorbic Acid, 8- ZnAct, 9- _____

Sampled by:

Comments:

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
	8/13 15:00						
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time

*By circling MA-MCP, client acknowledges samples were collected in accordance with MADEP CAM VII A

Please fax all changes to Chain of Custody in writing.

1 (White) Lab Copy 2 (Yellow) Client Receipt

10/26/04 A

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www.esslaboratory.com

CHAIN OF CUSTODY

ESS LAB PROJECT ID: 130810

Turn Time ___x___ Standard Rush _____ Approved By: _____

Reporting Limits - see prev. email correspondence

State where samples were collected: **MA RI CT NH NJ NY ME** Other_____

Is this project for any of the following: (please circle)
MA-MCP CT-RCP RGP DOD Other_____

Electonic Deliverable Yes__x__ No____
Format: Excel_x__ Access___ PDF___ Other_____

GZA Project Manager: David E. Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Avenue
Norwood, MA 02062
(781) 278-3700
PRESUMPTIVE CERTAINTY REQUIRED

Project # 171521.02

Project Name: Former Everett Staging Yard

Contract Pricing _____
Special Pricing WO#: _____

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	Analysis: # of Containers	MCP 14 metals	B/N Phthalates Esters 8270	PAH 8270 SIM	EPH Fractions	PCBs	TOC by Lloyd Kahn						Comment #
1	8/6/13	9:55	G	Sed	GZ-114 T 0-0.5'	2	X	X	X	X	X	X						
2	8/1/13	12:51	G	Sed	GZ-114 2-5'	2	X	X	X	X	X	X						
3	8/1/13	12:51	G	Sed	GZ-114 5-7'	2	X											
4	8/6/13	10:09	G	Sed	GZ-115 T 0-0.5'	2	X					X						
5	8/1/13	13:05	G	Sed	GZ-115 2-5'	2	X											
6	8/1/13	13:05	G	Sed	GZ-115 5-7'	2	X											
7	8/6/13	10:55	G	Sed	GZ-116 T 0-0.5'	2	X	X	X	X	X	X						
8	8/2/13	8:28	G	Sed	GZ-116 0.5-2'	2	X	X	X	X	X	X						
9	8/2/13	8:28	G	Sed	GZ-116 2-4'	2	X	X	X	X	X	X						
10	8/2/13	8:28	G	Sed	GZ-116 4-6'	2	X											
							AG	AG	AG	AG	AG	AG						

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-_____

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present ✓ Yes _____ No
Seals Intact ✓ Yes _____ No NA: BT
Cooler Temperature: 4-13-6-4-8263

Sampled by : Dan Scanlon

Comments: Contract Price - 10%

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Walgin	8/6/13	Bill Bussan 8/7/13 1030	Bill Bussan 8/7/13	1120	8/7/13 11:30

Please E-mail all changes to Chain of Custody in writing.

ESS Laboratory
Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS LAB PROJECT ID: 130810T

Turn Time ___x___ Standard Rush_____ Approved By: _____

State where samples were collected: MA RI CT NH NJ NY ME Other_____

Reporting Limits - see prev. email correspondence

Is this project for any of the following: (please circle)
MA-MCP CT-RCP RGP DOD Other_____

Electonic Deliverable Yes__x__ No____
Format: Excel_x__ Access___ PDF___ Other_____

GZA Project Manager: David E. Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Avenue
Norwood, MA 02062
(781) 278-3700
PRESUMPTIVE CERTAINTY REQUIRED

Project # 171521.02
Project Name: Former Everett Staging Yard
Contract Pricing _____
Special Pricing WO#: _____

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	Analysis: MCP 14 metals	B/N Phthalates Esters 8270	PAH 8270 SIM	EPH Fractions	PCBs	TOC by Lloyd Kahn					Comment #
11	8/2/13	8:28	G	Sed	GZ-116 6-8'	2	X	X	X	X	X	X					
12	8/2/13	8:28	G	Sed	GZ-116 8-9'	2	X										
13	8/6/13	8:55	G	Sed	GZ-117 T 0-0.5'	2	X					X					
14	8/1/13	13:19	G	Sed	GZ-117 2-4'	2	X										
15	8/1/13	13:19	G	Sed	GZ-117 4-6'	2	X										
16	8/5/13	11:35	G	Sed	GZ-118A 0-0.5'	2	X					X					
17	8/5/13	11:35	G	Sed	GZ-118A 0.5-1'	2	X										
18	8/1/13	10:39	G	Sed	GZ-119 T 0-0.5'	2	X	X	X	X	X	X					
19	8/1/13	13:33	G	Sed	GZ-119 2-4'	2	X	X	X	X	X	X					
20	8/6/13	9:49	G	Sed	GZ-120 T 0-0.5'	2	X					X					
Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-_____																	
Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA							AG	AG	AG	AG	AG	AG					
Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter																	

Cooler Present ___Yes ____No
Loose Dio
Seals Intact ___Yes ____No NA: RP
5 coolers
Cooler Temperature: 4.1 3.6 4.8 2.6 3.2

Sampled by : Dan Scanlon
Comments: Contract Price - 10%

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
	8/6/13 20:00	Bill Bergeron 8/7/13 1130	Bill Bergeron 8/7/13	1130	8/7/13 11:30
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)

Please E-mail all changes to Chain of Custody in writing.

CERTIFICATE OF ANALYSIS

David E Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Avenue
Norwood, MA 02062

RE: Everett (01.0171521.02)
ESS Laboratory Work Order Number: 1308106

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director

REVIEWED
By ESS Laboratory at 4:36 pm, Aug 19, 2013

Analytical Summary
The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with NELAC Standards, A2LA and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibratins, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.

Subcontracted Analyses

Sterling Analytical Lab - West Springfield, MA	Total Organic Carbon

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308106

SAMPLE RECEIPT

The following samples were received on August 07, 2013 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has performed and reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Data Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

For EPH soil samples, the aromatic range results have been corrected for identified cartridge contaminant in accordance with the CAM protocol.

Question I: All samples for SVOA were analyzed for a subset of the required MCP list per the client's request.

Lab Number	SampleName	Matrix	Analysis
1308106-01	GZ-120 2-4ft	Solid	6010B, 6020A, 7471B
1308106-02	GZ-121T 0-0.5ft	Solid	6010B, 6020A, 7471B, TOC-LK
1308106-03	GZ-121 2-4ft	Solid	6010B, 6020A, 7471B
1308106-04	GZ-121 4-6ft	Solid	6010B, 6020A, 7471B
1308106-05	GZ-122T 0-0.5ft	Solid	6010B, 6020A, 7471B, 8082A, 8270D, EPH8270, MADEP-EPH, TOC-LK
1308106-06	GZ-122 0.5-2ft	Solid	6010B, 6020A, 7471B, 8082A, 8270D, EPH8270, MADEP-EPH, TOC-LK
1308106-07	GZ-122 2-4ft	Solid	6010B, 6020A, 7471B, 8082A, 8270D, EPH8270, MADEP-EPH, TOC-LK
1308106-08	GZ-123 0-0.5ft	Solid	6010B, 6020A, 7471B, TOC-LK
1308106-09	GZ-123 2-4ft	Solid	6010B, 6020A, 7471B
1308106-10	GZ-123 4-6ft	Solid	6010B, 6020A, 7471B
1308106-11	GZ-124 0-0.5ft	Solid	6010B, 6020A, 7471B, TOC-LK
1308106-12	GZ-124 2-4ft	Solid	6010B, 6020A, 7471B
1308106-13	GZ-125A 0-0.5ft	Solid	6010B, 6020A, 7471B, TOC-LK
1308106-14	GZ-125A 2-4ft	Solid	6010B, 6020A, 7471B
1308106-15	GZ-125A 4-6ft	Solid	6010B, 6020A, 7471B
1308106-16	GZ-125A 8-9ft	Solid	6010B, 6020A, 7471B
1308106-17	GZ-126T 0-0.5ft	Solid	6010B, 6020A, 7471B, 8082A, 8270D, EPH8270, MADEP-EPH, TOC-LK

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
ESS Laboratory Work Order: 1308106

1308106-18	GZ-126 0.5-2ft	Solid	6010B, 6020A, 7471B, 8082A, 8270D, EPH8270, MADEP-EPH, TOC-LK
1308106-19	GZ-126 2-4ft	Solid	6010B, 6020A, 7471B, 8082A, 8270D, EPH8270, MADEP-EPH, TOC-LK
1308106-20	GZ-127 0-0.5ft	Solid	6010B, 6020A, 7471B, TOC-LK

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308106

PROJECT NARRATIVE

8270D Semi-Volatile Organic Compounds

CWH0106-CCV1 **Calibration required quadratic regression (Q).**
2,4-Dinitrophenol (110% @ 80-120%), 4,6-Dinitro-2-Methylphenol (114% @ 70-130%), Benzoic Acid (103% @ 70-130%), Pentachlorophenol (103% @ 80-120%)

CWH0106-CCV1 **Initial Calibration Verification recovery is outside of control limit (ICV).**
Benzidine , Hexachlorocyclopentadiene

CWH0121-CCV1 **Calibration required quadratic regression (Q).**
2,4-Dinitrophenol (112% @ 80-120%), Benzoic Acid (117% @ 70-130%)

CWH0121-CCV1 **Continuing Calibration recovery is above upper control limit (C+).**
4-Chloroaniline (128% @ 80-120%)

CWH0121-CCV1 **Initial Calibration Verification recovery is outside of control limit (ICV).**
1,1-Biphenyl , 2,4-Dinitrophenol

CWH0121-TUN1 **Benzidine tailing factor >2.**

MADEP-EPH Extractable Petroleum Hydrocarbons

CWH0135-CCV4 **Continuing Calibration recovery is above upper control limit (C+).**
Benzo(a)pyrene (121% @ 80-120%)

CWH0145-CCV2 **Continuing Calibration recovery is below lower control limit (C-).**
Benzo(g,h,i)perylene (54% @ 80-120%), Dibenzo(a,h)Anthracene (77% @ 80-120%), Indeno(1,2,3-cd)Pyrene (69% @ 80-120%)

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

Definitions of Quality Control Parameters

Semivolatile Organics Internal Standard Information

Semivolatile Organics Surrogate Information

Volatile Organics Internal Standard Information

Volatile Organics Surrogate Information

EPH and VPH Alkane Lists

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308106

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

1010A - Flashpoint
6010C - ICP
6020A - ICP MS
7010 - Graphite Furnace
7196A - Hexavalent Chromium
7470A - Aqueous Mercury
7471B - Solid Mercury
8011 - EDB/DBCP/TCP
8015C - GRO/DRO
8081B - Pesticides
8082A - PCB
8100M - TPH
8151A - Herbicides
8260B - VOA
8270D - SVOA
8270D SIM - SVOA Low Level
9014 - Cyanide
9038 - Sulfate
9040C - Aqueous pH
9045D - Solid pH (Corrosivity)
9050A - Specific Conductance
9056A - Anions (IC)
9060A - TOC
9095B - Paint Filter
MADEP 04-1.1 - EPH / VPH

Prep Methods

3005A - Aqueous ICP Digestion
3020A - Aqueous Graphite Furnace / ICP MS Digestion
3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
3060A - Solid Hexavalent Chromium Digestion
3510C - Separatory Funnel Extraction
3520C - Liquid / Liquid Extraction
3540C - Manual Soxhlet Extraction
3541 - Automated Soxhlet Extraction
3580A - Waste Dilution
5030B - Aqueous Purge and Trap
5035 - Solid Purge and Trap

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308106

MassDEP Analytical Protocol Certification Form

MADEP RTN: _____

This form provides certification for the following data set: **1308106-01 through 1308106-20**

Matrices: ( ) Ground Water/Surface Water (X) Soil/Sediment ( ) Drinking Water ( ) Air ( ) Other:_____

CAM Protocol (check all that apply below):

( ) 8260 VOC CAM II A	(X) 7470/7471 Hg CAM III B	( ) MassDEP VPH CAM IV A	( ) 8081 Pesticides CAM V B	( ) 7196 Hex Cr CAM VI B	( ) MassDEP APH CAM IX A
(X) 8270 SVOC CAM II B	( ) 7010 Metals CAM III C	(X) MassDEP EPH CAM IV B	( ) 8151 Herbicides CAM V C	( ) 8330 Explosives CAM VIII A	( ) TO-15 VOC CAM IX B
(X) 6010 Metals CAM III A	(X) 6020 Metals CAM III D	(X) 8082 PCB CAM V A	( ) 6860 Perchlorate CAM VIII B	( ) 9014 Total Cyanide/PAC CAM VI A	

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	Yes (X) No ( )
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	Yes (X) No ( )
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	Yes (X) No ( )
D	Does the laboratory report comply with all the reporting requirements specified in the CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	Yes (X) No ( )
E	a. VPH, EPH, APH and TO-15 only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	Yes (X) No ( )
	b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	Yes ( ) No ( )
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	Yes (X) No ( )

Responses to Questions G, H and I below are required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocols(s)?	Yes (X) No ( )*
	***Data User Note:* Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.**	
H	Were **all** QC performance standards specified in the CAM protocol(s) achieved?	Yes ( ) No (X)*
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	Yes ( ) No (X)*

All negative responses must be addressed in an attached laboratory narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: _____ Date: August 19, 2013

Printed Name: Laurel Stoddard Position: Laboratory Director

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-120 2-4ft
Date Sampled: 08/02/13 11:06
Percent Solids: 69

ESS Laboratory Work Order: 1308106
ESS Laboratory Sample ID: 1308106-01
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.4)		6020A		50	JP	08/09/13 21:51	5.27	100	CH30802
Arsenic	**357** (1.4)		6010B		1	SVD	08/08/13 23:20	5.27	100	CH30802
Barium	**11.8** (1.4)		6010B		1	SVD	08/08/13 23:20	5.27	100	CH30802
Beryllium	**0.26** (0.06)		6010B		1	SVD	08/08/13 23:20	5.27	100	CH30802
Cadmium	**0.73** (0.28)		6010B		1	SVD	08/08/13 23:20	5.27	100	CH30802
Chromium	**13.9** (0.5)		6010B		1	SVD	08/08/13 23:20	5.27	100	CH30802
Lead	**9.5** (2.7)		6010B		1	SVD	08/08/13 23:20	5.27	100	CH30802
Mercury	ND (0.019)		7471B		1	KJK	08/09/13 18:50	1.5	40	CH30804
Nickel	**9.5** (1.4)		6010B		1	SVD	08/08/13 23:20	5.27	100	CH30802
Selenium	ND (1.38)		6020A		50	JP	08/09/13 21:51	5.27	100	CH30802
Silver	ND (0.28)		6010B		1	SVD	08/08/13 23:20	5.27	100	CH30802
Thallium	ND (1.38)		6020A		50	JP	08/09/13 21:51	5.27	100	CH30802
Vanadium	**18.0** (0.5)		6010B		1	SVD	08/08/13 23:20	5.27	100	CH30802
Zinc	**281** (1.4)		6010B		1	SVD	08/08/13 23:20	5.27	100	CH30802

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-121T 0-0.5ft
Date Sampled: 08/06/13 08:46
Percent Solids: 29

ESS Laboratory Work Order: 1308106
ESS Laboratory Sample ID: 1308106-02
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (3.4)		6020A		50	JP	08/09/13 21:57	5.18	100	CH30802
Arsenic	**27.3** (3.3)		6010B		1	SVD	08/08/13 23:25	5.18	100	CH30802
Barium	**71.4** (3.3)		6010B		1	SVD	08/08/13 23:25	5.18	100	CH30802
Beryllium	**0.78** (0.14)		6010B		1	SVD	08/08/13 23:25	5.18	100	CH30802
Cadmium	**2.37** (0.67)		6010B		1	SVD	08/08/13 23:25	5.18	100	CH30802
Chromium	**93.2** (1.3)		6010B		1	SVD	08/08/13 23:25	5.18	100	CH30802
Lead	**240** (6.7)		6010B		1	SVD	08/08/13 23:25	5.18	100	CH30802
Mercury	**1.01** (0.209)		7471B		5	KJK	08/09/13 16:43	1.64	40	CH30804
Nickel	**26.1** (3.3)		6010B		1	SVD	08/08/13 23:25	5.18	100	CH30802
Selenium	ND (3.36)		6020A		50	JP	08/09/13 21:57	5.18	100	CH30802
Silver	**2.33** (0.67)		6010B		1	SVD	08/08/13 23:25	5.18	100	CH30802
Thallium	ND (3.36)		6020A		50	JP	08/09/13 21:57	5.18	100	CH30802
Vanadium	**79.4** (1.3)		6010B		1	SVD	08/08/13 23:25	5.18	100	CH30802
Zinc	**408** (3.3)		6010B		1	SVD	08/08/13 23:25	5.18	100	CH30802

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-121T 0-0.5ft
Date Sampled: 08/06/13 08:46
Percent Solids: 29

ESS Laboratory Work Order: 1308106
ESS Laboratory Sample ID: 1308106-02
Sample Matrix: Solid

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**51100** (500)		TOC-LK		1	SUB	08/14/13 0:00	mg/kg	CH31340

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-121 2-4ft
Date Sampled: 08/01/13 14:14
Percent Solids: 20

ESS Laboratory Work Order: 1308106
ESS Laboratory Sample ID: 1308106-03
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (4.9)		6020A		50	JP	08/09/13 22:03	5.04	100	CH30802
Arsenic	**49.1** (4.9)		6010B		1	SVD	08/08/13 23:31	5.04	100	CH30802
Barium	**82.8** (4.9)		6010B		1	SVD	08/08/13 23:31	5.04	100	CH30802
Beryllium	**0.79** (0.20)		6010B		1	SVD	08/08/13 23:31	5.04	100	CH30802
Cadmium	**3.12** (0.98)		6010B		1	SVD	08/08/13 23:31	5.04	100	CH30802
Chromium	**173** (1.9)		6010B		1	SVD	08/08/13 23:31	5.04	100	CH30802
Lead	**288** (9.7)		6010B		1	SVD	08/08/13 23:31	5.04	100	CH30802
Mercury	**1.62** (0.328)		7471B		5	KJK	08/09/13 16:45	1.48	40	CH30804
Nickel	**22.9** (4.9)		6010B		1	SVD	08/08/13 23:31	5.04	100	CH30802
Selenium	ND (4.89)		6020A		50	JP	08/09/13 22:03	5.04	100	CH30802
Silver	**2.73** (0.98)		6010B		1	SVD	08/08/13 23:31	5.04	100	CH30802
Thallium	ND (4.89)		6020A		50	JP	08/09/13 22:03	5.04	100	CH30802
Vanadium	**194** (1.9)		6010B		1	SVD	08/08/13 23:31	5.04	100	CH30802
Zinc	**344** (4.9)		6010B		1	SVD	08/08/13 23:31	5.04	100	CH30802

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-121 4-6ft
Date Sampled: 08/01/13 14:14
Percent Solids: 33

ESS Laboratory Work Order: 1308106
ESS Laboratory Sample ID: 1308106-04
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (2.9)		6020A		50	JP	08/09/13 22:09	5.27	100	CH30802
Arsenic	**31.3** (2.9)		6010B		1	SVD	08/08/13 23:37	5.27	100	CH30802
Barium	**62.3** (2.9)		6010B		1	SVD	08/08/13 23:37	5.27	100	CH30802
Beryllium	**0.61** (0.12)		6010B		1	SVD	08/08/13 23:37	5.27	100	CH30802
Cadmium	**2.12** (0.58)		6010B		1	SVD	08/08/13 23:37	5.27	100	CH30802
Chromium	**91.4** (1.2)		6010B		1	SVD	08/08/13 23:37	5.27	100	CH30802
Lead	**165** (5.8)		6010B		1	SVD	08/08/13 23:37	5.27	100	CH30802
Mercury	**0.990** (0.216)		7471B		5	KJK	08/09/13 16:48	1.4	40	CH30804
Nickel	**15.8** (2.9)		6010B		1	SVD	08/08/13 23:37	5.27	100	CH30802
Selenium	ND (2.91)		6020A		50	JP	08/09/13 22:09	5.27	100	CH30802
Silver	**1.36** (0.58)		6010B		1	SVD	08/08/13 23:37	5.27	100	CH30802
Thallium	ND (2.91)		6020A		50	JP	08/09/13 22:09	5.27	100	CH30802
Vanadium	**106** (1.2)		6010B		1	SVD	08/08/13 23:37	5.27	100	CH30802
Zinc	**211** (2.9)		6010B		1	SVD	08/08/13 23:37	5.27	100	CH30802

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-122T 0-0.5ft
Date Sampled: 08/06/13 09:35
Percent Solids: 72

ESS Laboratory Work Order: 1308106
ESS Laboratory Sample ID: 1308106-05
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.2)		6020A		50	JP	08/09/13 22:15	5.96	100	CH30802
Arsenic	**14.2** (1.2)		6010B		1	SVD	08/08/13 23:42	5.96	100	CH30802
Barium	**23.9** (1.2)		6010B		1	SVD	08/08/13 23:42	5.96	100	CH30802
Beryllium	**0.19** (0.05)		6010B		1	SVD	08/08/13 23:42	5.96	100	CH30802
Cadmium	**0.42** (0.24)		6010B		1	SVD	08/08/13 23:42	5.96	100	CH30802
Chromium	**14.5** (0.5)		6010B		1	SVD	08/08/13 23:42	5.96	100	CH30802
Lead	**126** (2.3)		6010B		1	SVD	08/08/13 23:42	5.96	100	CH30802
Mercury	**0.229** (0.084)		7471B		5	KJK	08/09/13 16:51	1.64	40	CH30804
Nickel	**5.9** (1.2)		6010B		1	SVD	08/08/13 23:42	5.96	100	CH30802
Selenium	ND (1.18)		6020A		50	JP	08/09/13 22:15	5.96	100	CH30802
Silver	**0.65** (0.24)		6010B		1	SVD	08/08/13 23:42	5.96	100	CH30802
Thallium	ND (1.18)		6020A		50	JP	08/09/13 22:15	5.96	100	CH30802
Vanadium	**19.8** (0.5)		6010B		1	SVD	08/08/13 23:42	5.96	100	CH30802
Zinc	**88.7** (1.2)		6010B		1	SVD	08/08/13 23:42	5.96	100	CH30802

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-122T 0-0.5ft
Date Sampled: 08/06/13 09:35
Percent Solids: 72
Initial Volume: 19.3
Final Volume: 5
Extraction Method: 3540

ESS Laboratory Work Order: 1308106
ESS Laboratory Sample ID: 1308106-05
Sample Matrix: Solid
Units: mg/kg dry
Analyst: TJ
Prepared: 8/8/13 17:00
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0362)		8082A		1	08/11/13 6:06		CH30812
Aroclor 1221	ND (0.0362)		8082A		1	08/11/13 6:06		CH30812
Aroclor 1232	ND (0.0362)		8082A		1	08/11/13 6:06		CH30812
Aroclor 1242	ND (0.0362)		8082A		1	08/11/13 6:06		CH30812
Aroclor 1248	ND (0.0362)		8082A		1	08/11/13 6:06		CH30812
Aroclor 1254	**0.0928** (0.0362)		8082A		1	08/11/13 6:06		CH30812
Aroclor 1260	**0.0596** (0.0362)		8082A		1	08/11/13 6:06		CH30812
Aroclor 1262	ND (0.0362)		8082A		1	08/11/13 6:06		CH30812
Aroclor 1268	ND (0.0362)		8082A		1	08/11/13 6:06		CH30812

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*108 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*86 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*91 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*83 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-122T 0-0.5ft
Date Sampled: 08/06/13 09:35
Percent Solids: 72
Initial Volume: 30.5
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308106
ESS Laboratory Sample ID: 1308106-05
Sample Matrix: Solid
Units: mg/kg dry
Analyst: IBM
Prepared: 8/8/13 16:48

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.229)		8270D		1	08/09/13 13:28	CWH0121	CH30815
1,2-Dichlorobenzene	ND (0.229)		8270D		1	08/09/13 13:28	CWH0121	CH30815
1,3-Dichlorobenzene	ND (0.229)		8270D		1	08/09/13 13:28	CWH0121	CH30815
1,4-Dichlorobenzene	ND (0.229)		8270D		1	08/09/13 13:28	CWH0121	CH30815
2-Methylnaphthalene	ND (0.229)		8270D		1	08/09/13 13:28	CWH0121	CH30815
2-Methylphenol	ND (0.229)		8270D		1	08/09/13 13:28	CWH0121	CH30815
Acenaphthene	ND (0.229)		8270D		1	08/09/13 13:28	CWH0121	CH30815
Acenaphthylene	ND (0.229)		8270D		1	08/09/13 13:28	CWH0121	CH30815
Anthracene	ND (0.229)		8270D		1	08/09/13 13:28	CWH0121	CH30815
Benzo(a)anthracene	ND (0.229)		8270D		1	08/09/13 13:28	CWH0121	CH30815
Benzo(a)pyrene	ND (0.115)		8270D		1	08/09/13 13:28	CWH0121	CH30815
Benzo(b)fluoranthene	ND (0.229)		8270D		1	08/09/13 13:28	CWH0121	CH30815
Benzo(g,h,i)perylene	ND (0.229)		8270D		1	08/09/13 13:28	CWH0121	CH30815
Benzo(k)fluoranthene	ND (0.229)		8270D		1	08/09/13 13:28	CWH0121	CH30815
bis(2-Ethylhexyl)phthalate	ND (0.229)		8270D		1	08/09/13 13:28	CWH0121	CH30815
Butylbenzylphthalate	ND (0.229)		8270D		1	08/09/13 13:28	CWH0121	CH30815
Carbazole	ND (0.229)		8270D		1	08/09/13 13:28	CWH0121	CH30815
Chrysene	ND (0.115)		8270D		1	08/09/13 13:28	CWH0121	CH30815
Dibenzo(a,h)Anthracene	ND (0.115)		8270D		1	08/09/13 13:28	CWH0121	CH30815
Dibenzofuran	ND (0.229)		8270D		1	08/09/13 13:28	CWH0121	CH30815
Diethylphthalate	ND (0.229)		8270D		1	08/09/13 13:28	CWH0121	CH30815
Dimethylphthalate	ND (0.229)		8270D		1	08/09/13 13:28	CWH0121	CH30815
Di-n-butylphthalate	ND (0.229)		8270D		1	08/09/13 13:28	CWH0121	CH30815
Di-n-octylphthalate	ND (0.229)		8270D		1	08/09/13 13:28	CWH0121	CH30815
Fluoranthene	ND (0.229)		8270D		1	08/09/13 13:28	CWH0121	CH30815
Fluorene	ND (0.229)		8270D		1	08/09/13 13:28	CWH0121	CH30815
Hexachlorobenzene	ND (0.229)		8270D		1	08/09/13 13:28	CWH0121	CH30815
Hexachlorocyclopentadiene	ND (1.15)		8270D		1	08/09/13 13:28	CWH0121	CH30815
Indeno(1,2,3-cd)Pyrene	ND (0.229)		8270D		1	08/09/13 13:28	CWH0121	CH30815
Naphthalene	ND (0.229)		8270D		1	08/09/13 13:28	CWH0121	CH30815
Phenanthrene	ND (0.229)		8270D		1	08/09/13 13:28	CWH0121	CH30815

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-122T 0-0.5ft
Date Sampled: 08/06/13 09:35
Percent Solids: 72
Initial Volume: 30.5
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308106
ESS Laboratory Sample ID: 1308106-05
Sample Matrix: Solid
Units: mg/kg dry
Analyst: IBM
Prepared: 8/8/13 16:48

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Phenol	ND (0.229)		8270D		1	08/09/13 13:28	CWH0121	CH30815
Pyrene	ND (0.229)		8270D		1	08/09/13 13:28	CWH0121	CH30815

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*75 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*85 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*78 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*82 %*		*30-130*
Surrogate: 2-Fluorophenol	*68 %*		*30-130*
Surrogate: Nitrobenzene-d5	*81 %*		*30-130*
Surrogate: Phenol-d6	*80 %*		*30-130*
Surrogate: p-Terphenyl-d14	*87 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-122T 0-0.5ft
Date Sampled: 08/06/13 09:35
Percent Solids: 72
Initial Volume: 14.9
Final Volume: 0.5
Extraction Method: 3541

ESS Laboratory Work Order: 1308106
ESS Laboratory Sample ID: 1308106-05
Sample Matrix: Solid
Units: mg/kg dry
Analyst: IBM
Prepared: 8/8/13 17:30

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.059)		8270D		5	08/11/13 17:58	CWH0139	CH30811
Acenaphthene	ND (0.059)		8270D		5	08/11/13 17:58	CWH0139	CH30811
Acenaphthylene	**0.070** (0.059)		8270D		5	08/11/13 17:58	CWH0139	CH30811
Anthracene	**0.176** (0.059)		8270D		5	08/11/13 17:58	CWH0139	CH30811
Benzo(a)anthracene	**0.418** (0.059)		8270D		5	08/11/13 17:58	CWH0139	CH30811
Benzo(a)pyrene	**0.415** (0.059)		8270D		5	08/11/13 17:58	CWH0139	CH30811
Benzo(b)fluoranthene	**0.518** (0.059)		8270D		5	08/11/13 17:58	CWH0139	CH30811
Benzo(g,h,i)perylene	**0.279** (0.059)		8270D		5	08/11/13 17:58	CWH0139	CH30811
Benzo(k)fluoranthene	**0.185** (0.059)		8270D		5	08/11/13 17:58	CWH0139	CH30811
Chrysene	**0.422** (0.059)		8270D		5	08/11/13 17:58	CWH0139	CH30811
Dibenzo(a,h)Anthracene	**0.080** (0.059)		8270D		5	08/11/13 17:58	CWH0139	CH30811
Fluoranthene	**0.631** (0.059)		8270D		5	08/11/13 17:58	CWH0139	CH30811
Fluorene	ND (0.059)		8270D		5	08/11/13 17:58	CWH0139	CH30811
Indeno(1,2,3-cd)Pyrene	**0.317** (0.059)		8270D		5	08/11/13 17:58	CWH0139	CH30811
Naphthalene	**0.073** (0.059)		8270D		5	08/11/13 17:58	CWH0139	CH30811
Phenanthrene	**0.296** (0.059)		8270D		5	08/11/13 17:58	CWH0139	CH30811
Pyrene	**0.617** (0.059)		8270D		5	08/11/13 17:58	CWH0139	CH30811

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*46 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*55 %*		*30-130*
Surrogate: Nitrobenzene-d5	*51 %*		*30-130*
Surrogate: p-Terphenyl-d14	*82 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-122T 0-0.5ft
Date Sampled: 08/06/13 09:35
Percent Solids: 72

ESS Laboratory Work Order: 1308106
ESS Laboratory Sample ID: 1308106-05
Sample Matrix: Solid

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**9900** (500)		TOC-LK		1	SUB	08/14/13 0:00	mg/kg	CH31340

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-122T 0-0.5ft
Date Sampled: 08/06/13 09:35
Percent Solids: 72
Initial Volume: 15.1
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1308106
ESS Laboratory Sample ID: 1308106-05
Sample Matrix: Solid
Units: mg/kg dry

Prepared: 8/8/13 11:00

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	ND (34.7)		MADEP-EPH		1	SEP	08/10/13 16:31	CWH0134	CH30813
C19-C36 Aliphatics1	ND (34.7)		MADEP-EPH		1	SEP	08/10/13 16:31	CWH0134	CH30813
C11-C22 Unadjusted Aromatics1	ND (34.7)		EPH8270		1	SEP	08/11/13 8:54	CWH0135	CH30813
C11-C22 Aromatics1,2	ND (34.7)		EPH8270			SEP	08/11/13 8:54		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*63 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*109 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*105 %*		*40-140*
Surrogate: O-Terphenyl	*75 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-122 0.5-2ft
Date Sampled: 08/02/13 11:24
Percent Solids: 65

ESS Laboratory Work Order: 1308106
ESS Laboratory Sample ID: 1308106-06
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	**2.6** (1.4)		6020A		50	JP	08/09/13 22:21	5.65	100	CH30802
Arsenic	**51.5** (1.4)		6010B		1	SVD	08/08/13 23:48	5.65	100	CH30802
Barium	**29.4** (1.4)		6010B		1	SVD	08/08/13 23:48	5.65	100	CH30802
Beryllium	**0.30** (0.06)		6010B		1	SVD	08/08/13 23:48	5.65	100	CH30802
Cadmium	**0.72** (0.27)		6010B		1	SVD	08/08/13 23:48	5.65	100	CH30802
Chromium	**23.7** (0.5)		6010B		1	SVD	08/08/13 23:48	5.65	100	CH30802
Lead	**298** (2.7)		6010B		1	SVD	08/08/13 23:48	5.65	100	CH30802
Mercury	**0.233** (0.105)		7471B		5	KJK	08/09/13 16:54	1.45	40	CH30804
Nickel	**10.6** (1.4)		6010B		1	SVD	08/08/13 23:48	5.65	100	CH30802
Selenium	ND (1.37)		6020A		50	JP	08/09/13 22:21	5.65	100	CH30802
Silver	**0.96** (0.27)		6010B		1	SVD	08/08/13 23:48	5.65	100	CH30802
Thallium	ND (1.37)		6020A		50	JP	08/09/13 22:21	5.65	100	CH30802
Vanadium	**46.6** (0.5)		6010B		1	SVD	08/08/13 23:48	5.65	100	CH30802
Zinc	**140** (1.4)		6010B		1	SVD	08/08/13 23:48	5.65	100	CH30802

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-122 0.5-2ft
Date Sampled: 08/02/13 11:24
Percent Solids: 65
Initial Volume: 19.5
Final Volume: 5
Extraction Method: 3540

ESS Laboratory Work Order: 1308106
ESS Laboratory Sample ID: 1308106-06
Sample Matrix: Solid
Units: mg/kg dry
Analyst: SEP
Prepared: 8/8/13 17:15
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0395)		8082A		1	08/11/13 2:17		CH30839
Aroclor 1221	ND (0.0395)		8082A		1	08/11/13 2:17		CH30839
Aroclor 1232	ND (0.0395)		8082A		1	08/11/13 2:17		CH30839
Aroclor 1242	ND (0.0395)		8082A		1	08/11/13 2:17		CH30839
Aroclor 1248	ND (0.0395)		8082A		1	08/11/13 2:17		CH30839
Aroclor 1254	ND (0.0395)		8082A		1	08/11/13 2:17		CH30839
Aroclor 1260	ND (0.0395)		8082A		1	08/11/13 2:17		CH30839
Aroclor 1262	ND (0.0395)		8082A		1	08/11/13 2:17		CH30839
Aroclor 1268	ND (0.0395)		8082A		1	08/11/13 2:17		CH30839

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*108 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*83 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*87 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*77 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-122 0.5-2ft
Date Sampled: 08/02/13 11:24
Percent Solids: 65
Initial Volume: 30.2
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308106
ESS Laboratory Sample ID: 1308106-06
Sample Matrix: Solid
Units: mg/kg dry
Analyst: IBM
Prepared: 8/8/13 16:48

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.255)		8270D		1	08/09/13 11:14	CWH0121	CH30815
1,2-Dichlorobenzene	ND (0.255)		8270D		1	08/09/13 11:14	CWH0121	CH30815
1,3-Dichlorobenzene	ND (0.255)		8270D		1	08/09/13 11:14	CWH0121	CH30815
1,4-Dichlorobenzene	ND (0.255)		8270D		1	08/09/13 11:14	CWH0121	CH30815
2-Methylnaphthalene	ND (0.255)		8270D		1	08/09/13 11:14	CWH0121	CH30815
2-Methylphenol	ND (0.255)		8270D		1	08/09/13 11:14	CWH0121	CH30815
Acenaphthene	ND (0.255)		8270D		1	08/09/13 11:14	CWH0121	CH30815
Acenaphthylene	ND (0.255)		8270D		1	08/09/13 11:14	CWH0121	CH30815
Anthracene	ND (0.255)		8270D		1	08/09/13 11:14	CWH0121	CH30815
Benzo(a)anthracene	ND (0.255)		8270D		1	08/09/13 11:14	CWH0121	CH30815
Benzo(a)pyrene	ND (0.128)		8270D		1	08/09/13 11:14	CWH0121	CH30815
Benzo(b)fluoranthene	ND (0.255)		8270D		1	08/09/13 11:14	CWH0121	CH30815
Benzo(g,h,i)perylene	ND (0.255)		8270D		1	08/09/13 11:14	CWH0121	CH30815
Benzo(k)fluoranthene	ND (0.255)		8270D		1	08/09/13 11:14	CWH0121	CH30815
bis(2-Ethylhexyl)phthalate	ND (0.255)		8270D		1	08/09/13 11:14	CWH0121	CH30815
Butylbenzylphthalate	ND (0.255)		8270D		1	08/09/13 11:14	CWH0121	CH30815
Carbazole	ND (0.255)		8270D		1	08/09/13 11:14	CWH0121	CH30815
Chrysene	ND (0.128)		8270D		1	08/09/13 11:14	CWH0121	CH30815
Dibenzo(a,h)Anthracene	ND (0.128)		8270D		1	08/09/13 11:14	CWH0121	CH30815
Dibenzofuran	ND (0.255)		8270D		1	08/09/13 11:14	CWH0121	CH30815
Diethylphthalate	ND (0.255)		8270D		1	08/09/13 11:14	CWH0121	CH30815
Dimethylphthalate	ND (0.255)		8270D		1	08/09/13 11:14	CWH0121	CH30815
Di-n-butylphthalate	ND (0.255)		8270D		1	08/09/13 11:14	CWH0121	CH30815
Di-n-octylphthalate	ND (0.255)		8270D		1	08/09/13 11:14	CWH0121	CH30815
Fluoranthene	ND (0.255)		8270D		1	08/09/13 11:14	CWH0121	CH30815
Fluorene	ND (0.255)		8270D		1	08/09/13 11:14	CWH0121	CH30815
Hexachlorobenzene	ND (0.255)		8270D		1	08/09/13 11:14	CWH0121	CH30815
Hexachlorocyclopentadiene	ND (1.28)		8270D		1	08/09/13 11:14	CWH0121	CH30815
Indeno(1,2,3-cd)Pyrene	ND (0.255)		8270D		1	08/09/13 11:14	CWH0121	CH30815
Naphthalene	ND (0.255)		8270D		1	08/09/13 11:14	CWH0121	CH30815
Phenanthrene	ND (0.255)		8270D		1	08/09/13 11:14	CWH0121	CH30815

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-122 0.5-2ft
Date Sampled: 08/02/13 11:24
Percent Solids: 65
Initial Volume: 30.2
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308106
ESS Laboratory Sample ID: 1308106-06
Sample Matrix: Solid
Units: mg/kg dry
Analyst: IBM
Prepared: 8/8/13 16:48

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Phenol	ND (0.255)		8270D		1	08/09/13 11:14	CWH0121	CH30815
Pyrene	ND (0.255)		8270D		1	08/09/13 11:14	CWH0121	CH30815

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*67 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*92 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*72 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*75 %*		*30-130*
Surrogate: 2-Fluorophenol	*64 %*		*30-130*
Surrogate: Nitrobenzene-d5	*75 %*		*30-130*
Surrogate: Phenol-d6	*73 %*		*30-130*
Surrogate: p-Terphenyl-d14	*86 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-122 0.5-2ft
Date Sampled: 08/02/13 11:24
Percent Solids: 65
Initial Volume: 15.3
Final Volume: 0.5
Extraction Method: 3541

ESS Laboratory Work Order: 1308106
ESS Laboratory Sample ID: 1308106-06
Sample Matrix: Solid
Units: mg/kg dry
Analyst: IBM
Prepared: 8/8/13 17:30

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.013)		8270D		1	08/13/13 2:03	CWH0159	CH30903
Acenaphthene	ND (0.013)		8270D		1	08/13/13 2:03	CWH0159	CH30903
Acenaphthylene	ND (0.013)		8270D		1	08/13/13 2:03	CWH0159	CH30903
Anthracene	ND (0.013)		8270D		1	08/13/13 2:03	CWH0159	CH30903
Benzo(a)anthracene	**0.024** (0.013)		8270D		1	08/13/13 2:03	CWH0159	CH30903
Benzo(a)pyrene	**0.020** (0.013)		8270D		1	08/13/13 2:03	CWH0159	CH30903
Benzo(b)fluoranthene	**0.022** (0.013)		8270D		1	08/13/13 2:03	CWH0159	CH30903
Benzo(g,h,i)perylene	**0.015** (0.013)		8270D		1	08/13/13 2:03	CWH0159	CH30903
Benzo(k)fluoranthene	ND (0.013)		8270D		1	08/13/13 2:03	CWH0159	CH30903
Chrysene	**0.022** (0.013)		8270D		1	08/13/13 2:03	CWH0159	CH30903
Dibenzo(a,h)Anthracene	ND (0.013)		8270D		1	08/13/13 2:03	CWH0159	CH30903
Fluoranthene	**0.041** (0.013)		8270D		1	08/13/13 2:03	CWH0159	CH30903
Fluorene	ND (0.013)		8270D		1	08/13/13 2:03	CWH0159	CH30903
Indeno(1,2,3-cd)Pyrene	**0.016** (0.013)		8270D		1	08/13/13 2:03	CWH0159	CH30903
Naphthalene	ND (0.013)		8270D		1	08/13/13 2:03	CWH0159	CH30903
Phenanthrene	**0.025** (0.013)		8270D		1	08/13/13 2:03	CWH0159	CH30903
Pyrene	**0.039** (0.013)		8270D		1	08/13/13 2:03	CWH0159	CH30903

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*75 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*81 %*		*30-130*
Surrogate: Nitrobenzene-d5	*88 %*		*30-130*
Surrogate: p-Terphenyl-d14	*104 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-122 0.5-2ft
Date Sampled: 08/02/13 11:24
Percent Solids: 65

ESS Laboratory Work Order: 1308106
ESS Laboratory Sample ID: 1308106-06
Sample Matrix: Solid

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**13900** (500)		TOC-LK		1	SUB	08/14/13 0:00	mg/kg	CH31340

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-122 0.5-2ft
Date Sampled: 08/02/13 11:24
Percent Solids: 65
Initial Volume: 15.1
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1308106
ESS Laboratory Sample ID: 1308106-06
Sample Matrix: Solid
Units: mg/kg dry

Prepared: 8/9/13 15:00

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	ND (38.2)		MADEP-EPH		1	SEP	08/10/13 19:53	CWH0134	CH30919
C19-C36 Aliphatics1	**119** (38.2)		MADEP-EPH		1	SEP	08/10/13 19:53	CWH0134	CH30919
C11-C22 Unadjusted Aromatics1	**59.5** (38.2)		EPH8270		1	SEP	08/11/13 9:41	CWH0135	CH30919
C11-C22 Aromatics1,2	**59.5** (38.2)		EPH8270			SEP	08/11/13 9:41		[CALC]

	%Recovery	*Qualifier*	*Limits*
Surrogate: 1-Chlorooctadecane	*82 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*118 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*114 %*		*40-140*
Surrogate: O-Terphenyl	*91 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-122 2-4ft
Date Sampled: 08/02/13 11:24
Percent Solids: 67

ESS Laboratory Work Order: 1308106
ESS Laboratory Sample ID: 1308106-07
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.4)		6020A		50	JP	08/09/13 22:27	5.39	100	CH30802
Arsenic	**6.6** (1.4)		6010B		1	SVD	08/08/13 23:53	5.39	100	CH30802
Barium	**14.5** (1.4)		6010B		1	SVD	08/08/13 23:53	5.39	100	CH30802
Beryllium	**0.23** (0.06)		6010B		1	SVD	08/08/13 23:53	5.39	100	CH30802
Cadmium	**0.30** (0.28)		6010B		1	SVD	08/08/13 23:53	5.39	100	CH30802
Chromium	**11.4** (0.5)		6010B		1	SVD	08/08/13 23:53	5.39	100	CH30802
Lead	**63.5** (2.8)		6010B		1	SVD	08/08/13 23:53	5.39	100	CH30802
Mercury	ND (0.023)		7471B		1	KJK	08/09/13 18:53	1.27	40	CH30804
Nickel	**7.2** (1.4)		6010B		1	SVD	08/08/13 23:53	5.39	100	CH30802
Selenium	ND (1.38)		6020A		50	JP	08/09/13 22:27	5.39	100	CH30802
Silver	ND (0.28)		6010B		1	SVD	08/08/13 23:53	5.39	100	CH30802
Thallium	ND (1.38)		6020A		50	JP	08/09/13 22:27	5.39	100	CH30802
Vanadium	**17.6** (0.5)		6010B		1	SVD	08/08/13 23:53	5.39	100	CH30802
Zinc	**38.2** (1.4)		6010B		1	SVD	08/08/13 23:53	5.39	100	CH30802

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-122 2-4ft
Date Sampled: 08/02/13 11:24
Percent Solids: 67
Initial Volume: 19.6
Final Volume: 5
Extraction Method: 3540

ESS Laboratory Work Order: 1308106
ESS Laboratory Sample ID: 1308106-07
Sample Matrix: Solid
Units: mg/kg dry
Analyst: SEP
Prepared: 8/8/13 17:15
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0378)		8082A		1	08/10/13 23:24		CH30839
Aroclor 1221	ND (0.0378)		8082A		1	08/10/13 23:24		CH30839
Aroclor 1232	ND (0.0378)		8082A		1	08/10/13 23:24		CH30839
Aroclor 1242	ND (0.0378)		8082A		1	08/10/13 23:24		CH30839
Aroclor 1248	ND (0.0378)		8082A		1	08/10/13 23:24		CH30839
Aroclor 1254	ND (0.0378)		8082A		1	08/10/13 23:24		CH30839
Aroclor 1260	ND (0.0378)		8082A		1	08/10/13 23:24		CH30839
Aroclor 1262	ND (0.0378)		8082A		1	08/10/13 23:24		CH30839
Aroclor 1268	ND (0.0378)		8082A		1	08/10/13 23:24		CH30839

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*97 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*75 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*73 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*63 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-122 2-4ft
Date Sampled: 08/02/13 11:24
Percent Solids: 67
Initial Volume: 30.2
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308106
ESS Laboratory Sample ID: 1308106-07
Sample Matrix: Solid
Units: mg/kg dry
Analyst: IBM
Prepared: 8/8/13 16:48

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.245)		8270D		1	08/09/13 11:47	CWH0121	CH30815
1,2-Dichlorobenzene	ND (0.245)		8270D		1	08/09/13 11:47	CWH0121	CH30815
1,3-Dichlorobenzene	ND (0.245)		8270D		1	08/09/13 11:47	CWH0121	CH30815
1,4-Dichlorobenzene	ND (0.245)		8270D		1	08/09/13 11:47	CWH0121	CH30815
2-Methylnaphthalene	ND (0.245)		8270D		1	08/09/13 11:47	CWH0121	CH30815
2-Methylphenol	ND (0.245)		8270D		1	08/09/13 11:47	CWH0121	CH30815
Acenaphthene	ND (0.245)		8270D		1	08/09/13 11:47	CWH0121	CH30815
Acenaphthylene	ND (0.245)		8270D		1	08/09/13 11:47	CWH0121	CH30815
Anthracene	ND (0.245)		8270D		1	08/09/13 11:47	CWH0121	CH30815
Benzo(a)anthracene	ND (0.245)		8270D		1	08/09/13 11:47	CWH0121	CH30815
Benzo(a)pyrene	ND (0.123)		8270D		1	08/09/13 11:47	CWH0121	CH30815
Benzo(b)fluoranthene	ND (0.245)		8270D		1	08/09/13 11:47	CWH0121	CH30815
Benzo(g,h,i)perylene	ND (0.245)		8270D		1	08/09/13 11:47	CWH0121	CH30815
Benzo(k)fluoranthene	ND (0.245)		8270D		1	08/09/13 11:47	CWH0121	CH30815
bis(2-Ethylhexyl)phthalate	ND (0.245)		8270D		1	08/09/13 11:47	CWH0121	CH30815
Butylbenzylphthalate	ND (0.245)		8270D		1	08/09/13 11:47	CWH0121	CH30815
Carbazole	ND (0.245)		8270D		1	08/09/13 11:47	CWH0121	CH30815
Chrysene	ND (0.123)		8270D		1	08/09/13 11:47	CWH0121	CH30815
Dibenzo(a,h)Anthracene	ND (0.123)		8270D		1	08/09/13 11:47	CWH0121	CH30815
Dibenzofuran	ND (0.245)		8270D		1	08/09/13 11:47	CWH0121	CH30815
Diethylphthalate	ND (0.245)		8270D		1	08/09/13 11:47	CWH0121	CH30815
Dimethylphthalate	ND (0.245)		8270D		1	08/09/13 11:47	CWH0121	CH30815
Di-n-butylphthalate	ND (0.245)		8270D		1	08/09/13 11:47	CWH0121	CH30815
Di-n-octylphthalate	ND (0.245)		8270D		1	08/09/13 11:47	CWH0121	CH30815
Fluoranthene	ND (0.245)		8270D		1	08/09/13 11:47	CWH0121	CH30815
Fluorene	ND (0.245)		8270D		1	08/09/13 11:47	CWH0121	CH30815
Hexachlorobenzene	ND (0.245)		8270D		1	08/09/13 11:47	CWH0121	CH30815
Hexachlorocyclopentadiene	ND (1.23)		8270D		1	08/09/13 11:47	CWH0121	CH30815
Indeno(1,2,3-cd)Pyrene	ND (0.245)		8270D		1	08/09/13 11:47	CWH0121	CH30815
Naphthalene	ND (0.245)		8270D		1	08/09/13 11:47	CWH0121	CH30815
Phenanthrene	ND (0.245)		8270D		1	08/09/13 11:47	CWH0121	CH30815

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-122 2-4ft
Date Sampled: 08/02/13 11:24
Percent Solids: 67
Initial Volume: 30.2
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308106
ESS Laboratory Sample ID: 1308106-07
Sample Matrix: Solid
Units: mg/kg dry
Analyst: IBM
Prepared: 8/8/13 16:48

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Phenol	ND (0.245)		8270D		1	08/09/13 11:47	CWH0121	CH30815
Pyrene	ND (0.245)		8270D		1	08/09/13 11:47	CWH0121	CH30815

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*70 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*84 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*74 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*78 %*		*30-130*
Surrogate: 2-Fluorophenol	*67 %*		*30-130*
Surrogate: Nitrobenzene-d5	*74 %*		*30-130*
Surrogate: Phenol-d6	*72 %*		*30-130*
Surrogate: p-Terphenyl-d14	*81 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-122 2-4ft
Date Sampled: 08/02/13 11:24
Percent Solids: 67
Initial Volume: 15
Final Volume: 0.5
Extraction Method: 3541

ESS Laboratory Work Order: 1308106
ESS Laboratory Sample ID: 1308106-07
Sample Matrix: Solid
Units: mg/kg dry
Analyst: IBM
Prepared: 8/8/13 17:30

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.012)		8270D		1	08/11/13 4:44	CWH0138	CH30903
Acenaphthene	ND (0.012)		8270D		1	08/11/13 4:44	CWH0138	CH30903
Acenaphthylene	ND (0.012)		8270D		1	08/11/13 4:44	CWH0138	CH30903
Anthracene	ND (0.012)		8270D		1	08/11/13 4:44	CWH0138	CH30903
Benzo(a)anthracene	ND (0.012)		8270D		1	08/11/13 4:44	CWH0138	CH30903
Benzo(a)pyrene	ND (0.012)		8270D		1	08/11/13 4:44	CWH0138	CH30903
Benzo(b)fluoranthene	**0.014** (0.012)		8270D		1	08/11/13 4:44	CWH0138	CH30903
Benzo(g,h,i)perylene	ND (0.012)		8270D		1	08/11/13 4:44	CWH0138	CH30903
Benzo(k)fluoranthene	ND (0.012)		8270D		1	08/11/13 4:44	CWH0138	CH30903
Chrysene	ND (0.012)		8270D		1	08/11/13 4:44	CWH0138	CH30903
Dibenzo(a,h)Anthracene	ND (0.012)		8270D		1	08/11/13 4:44	CWH0138	CH30903
Fluoranthene	**0.014** (0.012)		8270D		1	08/11/13 4:44	CWH0138	CH30903
Fluorene	ND (0.012)		8270D		1	08/11/13 4:44	CWH0138	CH30903
Indeno(1,2,3-cd)Pyrene	ND (0.012)		8270D		1	08/11/13 4:44	CWH0138	CH30903
Naphthalene	ND (0.012)		8270D		1	08/11/13 4:44	CWH0138	CH30903
Phenanthrene	ND (0.012)		8270D		1	08/11/13 4:44	CWH0138	CH30903
Pyrene	**0.016** (0.012)		8270D		1	08/11/13 4:44	CWH0138	CH30903

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*71 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*71 %*		*30-130*
Surrogate: Nitrobenzene-d5	*78 %*		*30-130*
Surrogate: p-Terphenyl-d14	*93 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-122 2-4ft
Date Sampled: 08/02/13 11:24
Percent Solids: 67

ESS Laboratory Work Order: 1308106
ESS Laboratory Sample ID: 1308106-07
Sample Matrix: Solid

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**6700** (500)		TOC-LK		1	SUB	08/14/13 0:00	mg/kg	CH31340

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-122 2-4ft
Date Sampled: 08/02/13 11:24
Percent Solids: 67
Initial Volume: 15.5
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1308106
ESS Laboratory Sample ID: 1308106-07
Sample Matrix: Solid
Units: mg/kg dry

Prepared: 8/9/13 15:00

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	ND (35.9)		MADEP-EPH		1	SEP	08/10/13 20:44	CWH0134	CH30919
C19-C36 Aliphatics1	ND (35.9)		MADEP-EPH		1	SEP	08/10/13 20:44	CWH0134	CH30919
C11-C22 Unadjusted Aromatics1	ND (35.9)		EPH8270		1	SEP	08/11/13 4:12	CWH0135	CH30919
C11-C22 Aromatics1,2	ND (35.9)		EPH8270			SEP	08/11/13 4:12		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*71 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*100 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*99 %*		*40-140*
Surrogate: O-Terphenyl	*76 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-123 0-0.5ft
Date Sampled: 08/01/13 14:30
Percent Solids: 31

ESS Laboratory Work Order: 1308106
ESS Laboratory Sample ID: 1308106-08
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (2.8)		6020A		50	JP	08/09/13 22:45	5.68	100	CH30802
Arsenic	**26.8** (2.8)		6010B		1	SVD	08/09/13 0:07	5.68	100	CH30802
Barium	**67.2** (2.8)		6010B		1	SVD	08/09/13 0:07	5.68	100	CH30802
Beryllium	**0.75** (0.12)		6010B		1	SVD	08/09/13 0:07	5.68	100	CH30802
Cadmium	**2.23** (0.57)		6010B		1	SVD	08/09/13 0:07	5.68	100	CH30802
Chromium	**89.2** (1.1)		6010B		1	SVD	08/09/13 0:07	5.68	100	CH30802
Lead	**232** (5.7)		6010B		1	SVD	08/09/13 0:07	5.68	100	CH30802
Mercury	**1.06** (0.260)		7471B		5	KJK	08/09/13 17:04	1.22	40	CH30804
Nickel	**25.6** (2.8)		6010B		1	SVD	08/09/13 0:07	5.68	100	CH30802
Selenium	ND (2.84)		6020A		50	JP	08/09/13 22:45	5.68	100	CH30802
Silver	**2.25** (0.57)		6010B		1	SVD	08/09/13 0:07	5.68	100	CH30802
Thallium	ND (2.84)		6020A		50	JP	08/09/13 22:45	5.68	100	CH30802
Vanadium	**81.9** (1.1)		6010B		1	SVD	08/09/13 0:07	5.68	100	CH30802
Zinc	**382** (2.8)		6010B		1	SVD	08/09/13 0:07	5.68	100	CH30802

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-123 0-0.5ft
Date Sampled: 08/01/13 14:30
Percent Solids: 31

ESS Laboratory Work Order: 1308106
ESS Laboratory Sample ID: 1308106-08
Sample Matrix: Solid

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**42400** (500)		TOC-LK		1	SUB	08/14/13 0:00	mg/kg	CH31340

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-123 2-4ft
Date Sampled: 08/01/13 14:30
Percent Solids: 22

ESS Laboratory Work Order: 1308106
ESS Laboratory Sample ID: 1308106-09
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (4.1)		6020A		50	JP	08/09/13 22:51	5.47	100	CH30802
Arsenic	**59.0** (4.1)		6010B		1	SVD	08/09/13 0:12	5.47	100	CH30802
Barium	**62.2** (4.1)		6010B		1	SVD	08/09/13 0:12	5.47	100	CH30802
Beryllium	**0.62** (0.17)		6010B		1	SVD	08/09/13 0:12	5.47	100	CH30802
Cadmium	**2.41** (0.82)		6010B		1	SVD	08/09/13 0:12	5.47	100	CH30802
Chromium	**144** (1.6)		6010B		1	SVD	08/09/13 0:12	5.47	100	CH30802
Lead	**218** (8.1)		6010B		1	SVD	08/09/13 0:12	5.47	100	CH30802
Mercury	**1.49** (0.306)		7471B		5	KJK	08/09/13 17:07	1.44	40	CH30804
Nickel	**20.7** (4.1)		6010B		1	SVD	08/09/13 0:12	5.47	100	CH30802
Selenium	ND (4.09)		6020A		50	JP	08/09/13 22:51	5.47	100	CH30802
Silver	**2.25** (0.82)		6010B		1	SVD	08/09/13 0:12	5.47	100	CH30802
Thallium	ND (4.09)		6020A		50	JP	08/09/13 22:51	5.47	100	CH30802
Vanadium	**187** (1.6)		6010B		1	SVD	08/09/13 0:12	5.47	100	CH30802
Zinc	**284** (4.1)		6010B		1	SVD	08/09/13 0:12	5.47	100	CH30802

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-123 4-6ft
Date Sampled: 08/01/13 14:30
Percent Solids: 30

ESS Laboratory Work Order: 1308106
ESS Laboratory Sample ID: 1308106-10
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (3.2)		6020A		50	JP	08/09/13 22:57	5.16	100	CH30802
Arsenic	**39.9** (3.2)		6010B		1	SVD	08/09/13 0:18	5.16	100	CH30802
Barium	**54.2** (3.2)		6010B		1	SVD	08/09/13 0:18	5.16	100	CH30802
Beryllium	**0.46** (0.13)		6010B		1	SVD	08/09/13 0:18	5.16	100	CH30802
Cadmium	**1.89** (0.64)		6010B		1	SVD	08/09/13 0:18	5.16	100	CH30802
Chromium	**104** (1.3)		6010B		1	SVD	08/09/13 0:18	5.16	100	CH30802
Lead	**150** (6.4)		6010B		1	SVD	08/09/13 0:18	5.16	100	CH30802
Mercury	**1.32** (0.273)		7471B		5	KJK	08/09/13 17:10	1.19	40	CH30804
Nickel	**15.3** (3.2)		6010B		1	SVD	08/09/13 0:18	5.16	100	CH30802
Selenium	ND (3.19)		6020A		50	JP	08/09/13 22:57	5.16	100	CH30802
Silver	**1.73** (0.64)		6010B		1	SVD	08/09/13 0:18	5.16	100	CH30802
Thallium	ND (3.19)		6020A		50	JP	08/09/13 22:57	5.16	100	CH30802
Vanadium	**107** (1.3)		6010B		1	SVD	08/09/13 0:18	5.16	100	CH30802
Zinc	**186** (3.2)		6010B		1	SVD	08/09/13 0:18	5.16	100	CH30802

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-124 0-0.5ft
Date Sampled: 08/02/13 11:44
Percent Solids: 67

ESS Laboratory Work Order: 1308106
ESS Laboratory Sample ID: 1308106-11
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.3)		6020A		50	JP	08/09/13 23:27	5.95	100	CH30802
Arsenic	**20.2** (1.2)		6010B		1	SVD	08/09/13 0:44	5.95	100	CH30802
Barium	**21.2** (1.2)		6010B		1	SVD	08/09/13 0:44	5.95	100	CH30802
Beryllium	**0.26** (0.05)		6010B		1	SVD	08/09/13 0:44	5.95	100	CH30802
Cadmium	**0.60** (0.25)		6010B		1	SVD	08/09/13 0:44	5.95	100	CH30802
Chromium	**16.0** (0.5)		6010B		1	SVD	08/09/13 0:44	5.95	100	CH30802
Lead	**89.1** (2.5)		6010B		1	SVD	08/09/13 0:44	5.95	100	CH30802
Mercury	**0.250** (0.080)		7471B		5	KJK	08/09/13 17:23	1.84	40	CH30804
Nickel	**8.3** (1.2)		6010B		1	SVD	08/09/13 0:44	5.95	100	CH30802
Selenium	ND (1.26)		6020A		50	JP	08/09/13 23:27	5.95	100	CH30802
Silver	**0.65** (0.25)		6010B		1	SVD	08/09/13 0:44	5.95	100	CH30802
Thallium	ND (1.26)		6020A		50	JP	08/09/13 23:27	5.95	100	CH30802
Vanadium	**26.9** (0.5)		6010B		1	SVD	08/09/13 0:44	5.95	100	CH30802
Zinc	**99.3** (1.2)		6010B		1	SVD	08/09/13 0:44	5.95	100	CH30802

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-124 0-0.5ft
Date Sampled: 08/02/13 11:44
Percent Solids: 67

ESS Laboratory Work Order: 1308106
ESS Laboratory Sample ID: 1308106-11
Sample Matrix: Solid

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**9230** (500)		TOC-LK		1	SUB	08/14/13 0:00	mg/kg	CH31340

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-124 2-4ft
Date Sampled: 08/02/13 11:44
Percent Solids: 70

ESS Laboratory Work Order: 1308106
ESS Laboratory Sample ID: 1308106-12
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.4)		6020A		50	JP	08/09/13 23:33	5.04	100	CH30802
Arsenic	**1.8** (1.4)		6010B		1	SVD	08/09/13 0:50	5.04	100	CH30802
Barium	**7.9** (1.4)		6010B		1	SVD	08/09/13 0:50	5.04	100	CH30802
Beryllium	**0.27** (0.06)		6010B		1	SVD	08/09/13 0:50	5.04	100	CH30802
Cadmium	**0.29** (0.29)		6010B		1	SVD	08/09/13 0:50	5.04	100	CH30802
Chromium	**9.4** (0.6)		6010B		1	SVD	08/09/13 0:50	5.04	100	CH30802
Lead	ND (2.9)		6010B		1	SVD	08/09/13 0:50	5.04	100	CH30802
Mercury	ND (0.110)		7471B		5	KJK	08/09/13 17:26	1.3	40	CH30804
Nickel	**5.0** (1.4)		6010B		1	SVD	08/09/13 0:50	5.04	100	CH30802
Selenium	ND (1.43)		6020A		50	JP	08/09/13 23:33	5.04	100	CH30802
Silver	ND (0.29)		6010B		1	SVD	08/09/13 0:50	5.04	100	CH30802
Thallium	ND (1.43)		6020A		50	JP	08/09/13 23:33	5.04	100	CH30802
Vanadium	**13.3** (0.6)		6010B		1	SVD	08/09/13 0:50	5.04	100	CH30802
Zinc	**15.4** (1.4)		6010B		1	SVD	08/09/13 0:50	5.04	100	CH30802

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-125A 0-0.5ft
Date Sampled: 08/05/13 11:10
Percent Solids: 66

ESS Laboratory Work Order: 1308106
ESS Laboratory Sample ID: 1308106-13
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.5)		6020A		50	JP	08/09/13 23:39	5.21	100	CH30802
Arsenic	**5.3** (1.4)		6010B		1	SVD	08/09/13 0:55	5.21	100	CH30802
Barium	**14.2** (1.4)		6010B		1	SVD	08/09/13 0:55	5.21	100	CH30802
Beryllium	**0.20** (0.06)		6010B		1	SVD	08/09/13 0:55	5.21	100	CH30802
Cadmium	**0.30** (0.29)		6010B		1	SVD	08/09/13 0:55	5.21	100	CH30802
Chromium	**12.0** (0.6)		6010B		1	SVD	08/09/13 0:55	5.21	100	CH30802
Lead	**44.8** (2.9)		6010B		1	SVD	08/09/13 0:55	5.21	100	CH30802
Mercury	**0.184** (0.080)		7471B		5	KJK	08/09/13 17:28	1.86	40	CH30804
Nickel	**6.1** (1.4)		6010B		1	SVD	08/09/13 0:55	5.21	100	CH30802
Selenium	ND (1.45)		6020A		50	JP	08/09/13 23:39	5.21	100	CH30802
Silver	ND (0.29)		6010B		1	SVD	08/09/13 0:55	5.21	100	CH30802
Thallium	ND (1.45)		6020A		50	JP	08/09/13 23:39	5.21	100	CH30802
Vanadium	**15.4** (0.6)		6010B		1	SVD	08/09/13 0:55	5.21	100	CH30802
Zinc	**52.4** (1.4)		6010B		1	SVD	08/09/13 0:55	5.21	100	CH30802

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-125A 0-0.5ft
Date Sampled: 08/05/13 11:10
Percent Solids: 66

ESS Laboratory Work Order: 1308106
ESS Laboratory Sample ID: 1308106-13
Sample Matrix: Solid

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**10300** (500)		TOC-LK		1	SUB	08/14/13 0:00	mg/kg	CH31340

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-125A 2-4ft
Date Sampled: 08/05/13 11:10
Percent Solids: 73

ESS Laboratory Work Order: 1308106
ESS Laboratory Sample ID: 1308106-14
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.2)		6020A		50	JP	08/09/13 23:57	5.56	100	CH30802
Arsenic	**1.6** (1.2)		6010B		1	SVD	08/09/13 1:09	5.56	100	CH30802
Barium	**10.0** (1.2)		6010B		1	SVD	08/09/13 1:09	5.56	100	CH30802
Beryllium	**0.23** (0.05)		6010B		1	SVD	08/09/13 1:09	5.56	100	CH30802
Cadmium	ND (0.25)		6010B		1	SVD	08/09/13 1:09	5.56	100	CH30802
Chromium	**11.3** (0.5)		6010B		1	SVD	08/09/13 1:09	5.56	100	CH30802
Lead	ND (2.5)		6010B		1	SVD	08/09/13 1:09	5.56	100	CH30802
Mercury	ND (0.021)		7471B		1	KJK	08/09/13 18:56	1.27	40	CH30804
Nickel	**6.7** (1.2)		6010B		1	SVD	08/09/13 1:09	5.56	100	CH30802
Selenium	ND (1.25)		6020A		50	JP	08/09/13 23:57	5.56	100	CH30802
Silver	ND (0.25)		6010B		1	SVD	08/09/13 1:09	5.56	100	CH30802
Thallium	ND (1.25)		6020A		50	JP	08/09/13 23:57	5.56	100	CH30802
Vanadium	**15.2** (0.5)		6010B		1	SVD	08/09/13 1:09	5.56	100	CH30802
Zinc	**19.8** (1.2)		6010B		1	SVD	08/09/13 1:09	5.56	100	CH30802

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-125A 4-6ft
Date Sampled: 08/05/13 11:10
Percent Solids: 72

ESS Laboratory Work Order: 1308106
ESS Laboratory Sample ID: 1308106-15
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.3)		6020A		50	JP	08/10/13 0:03	5.55	100	CH30802
Arsenic	**2.0** (1.3)		6010B		1	SVD	08/09/13 1:15	5.55	100	CH30802
Barium	**12.4** (1.3)		6010B		1	SVD	08/09/13 1:15	5.55	100	CH30802
Beryllium	**0.27** (0.05)		6010B		1	SVD	08/09/13 1:15	5.55	100	CH30802
Cadmium	**0.28** (0.25)		6010B		1	SVD	08/09/13 1:15	5.55	100	CH30802
Chromium	**13.4** (0.5)		6010B		1	SVD	08/09/13 1:15	5.55	100	CH30802
Lead	ND (2.5)		6010B		1	SVD	08/09/13 1:15	5.55	100	CH30802
Mercury	ND (0.017)		7471B		1	KJK	08/09/13 18:59	1.61	40	CH30804
Nickel	**7.8** (1.3)		6010B		1	SVD	08/09/13 1:15	5.55	100	CH30802
Selenium	ND (1.26)		6020A		50	JP	08/10/13 0:03	5.55	100	CH30802
Silver	ND (0.25)		6010B		1	SVD	08/09/13 1:15	5.55	100	CH30802
Thallium	ND (1.26)		6020A		50	JP	08/10/13 0:03	5.55	100	CH30802
Vanadium	**17.6** (0.5)		6010B		1	SVD	08/09/13 1:15	5.55	100	CH30802
Zinc	**22.2** (1.3)		6010B		1	SVD	08/09/13 1:15	5.55	100	CH30802

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-125A 8-9ft
Date Sampled: 08/05/13 11:10
Percent Solids: 63

ESS Laboratory Work Order: 1308106
ESS Laboratory Sample ID: 1308106-16
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.4)		6020A		50	JP	08/10/13 0:09	5.66	100	CH30802
Arsenic	**2.5** (1.4)		6010B		1	SVD	08/09/13 1:21	5.66	100	CH30802
Barium	**18.6** (1.4)		6010B		1	SVD	08/09/13 1:21	5.66	100	CH30802
Beryllium	**0.38** (0.06)		6010B		1	SVD	08/09/13 1:21	5.66	100	CH30802
Cadmium	**0.35** (0.28)		6010B		1	SVD	08/09/13 1:21	5.66	100	CH30802
Chromium	**18.1** (0.6)		6010B		1	SVD	08/09/13 1:21	5.66	100	CH30802
Lead	**3.0** (2.8)		6010B		1	SVD	08/09/13 1:21	5.66	100	CH30802
Mercury	ND (0.025)		7471B		1	KJK	08/09/13 19:01	1.25	40	CH30804
Nickel	**10.2** (1.4)		6010B		1	SVD	08/09/13 1:21	5.66	100	CH30802
Selenium	ND (1.42)		6020A		50	JP	08/10/13 0:09	5.66	100	CH30802
Silver	ND (0.28)		6010B		1	SVD	08/09/13 1:21	5.66	100	CH30802
Thallium	ND (1.42)		6020A		50	JP	08/10/13 0:09	5.66	100	CH30802
Vanadium	**22.8** (0.6)		6010B		1	SVD	08/09/13 1:21	5.66	100	CH30802
Zinc	**29.9** (1.4)		6010B		1	SVD	08/09/13 1:21	5.66	100	CH30802

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-126T 0-0.5ft
Date Sampled: 08/06/13 10:15
Percent Solids: 65

ESS Laboratory Work Order: 1308106
ESS Laboratory Sample ID: 1308106-17
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.4)		6020A		50	JP	08/10/13 0:15	5.65	100	CH30802
Arsenic	**24.5** (1.4)		6010B		1	SVD	08/09/13 1:26	5.65	100	CH30802
Barium	**31.8** (1.4)		6010B		1	SVD	08/09/13 1:26	5.65	100	CH30802
Beryllium	**0.26** (0.06)		6010B		1	SVD	08/09/13 1:26	5.65	100	CH30802
Cadmium	**0.58** (0.27)		6010B		1	SVD	08/09/13 1:26	5.65	100	CH30802
Chromium	**19.1** (0.5)		6010B		1	SVD	08/09/13 1:26	5.65	100	CH30802
Lead	**140** (2.7)		6010B		1	SVD	08/09/13 1:26	5.65	100	CH30802
Mercury	**0.506** (0.090)		7471B		5	KJK	08/09/13 17:44	1.69	40	CH30804
Nickel	**7.6** (1.4)		6010B		1	SVD	08/09/13 1:26	5.65	100	CH30802
Selenium	ND (1.37)		6020A		50	JP	08/10/13 0:15	5.65	100	CH30802
Silver	**0.66** (0.27)		6010B		1	SVD	08/09/13 1:26	5.65	100	CH30802
Thallium	ND (1.37)		6020A		50	JP	08/10/13 0:15	5.65	100	CH30802
Vanadium	**22.2** (0.5)		6010B		1	SVD	08/09/13 1:26	5.65	100	CH30802
Zinc	**102** (1.4)		6010B		1	SVD	08/09/13 1:26	5.65	100	CH30802

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-126T 0-0.5ft
Date Sampled: 08/06/13 10:15
Percent Solids: 65
Initial Volume: 19.5
Final Volume: 5
Extraction Method: 3540

ESS Laboratory Work Order: 1308106
ESS Laboratory Sample ID: 1308106-17
Sample Matrix: Solid
Units: mg/kg dry
Analyst: SEP
Prepared: 8/8/13 17:15
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0394)		8082A		1	08/10/13 16:42		CH30839
Aroclor 1221	ND (0.0394)		8082A		1	08/10/13 16:42		CH30839
Aroclor 1232	ND (0.0394)		8082A		1	08/10/13 16:42		CH30839
Aroclor 1242	ND (0.0394)		8082A		1	08/10/13 16:42		CH30839
Aroclor 1248	ND (0.0394)		8082A		1	08/10/13 16:42		CH30839
Aroclor 1254	**0.0710** (0.0394)		8082A		1	08/10/13 16:42		CH30839
Aroclor 1260	ND (0.0394)		8082A		1	08/10/13 16:42		CH30839
Aroclor 1262	ND (0.0394)		8082A		1	08/10/13 16:42		CH30839
Aroclor 1268	ND (0.0394)		8082A		1	08/10/13 16:42		CH30839

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*94 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*68 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*65 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*58 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-126T 0-0.5ft
Date Sampled: 08/06/13 10:15
Percent Solids: 65
Initial Volume: 30.5
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308106
ESS Laboratory Sample ID: 1308106-17
Sample Matrix: Solid
Units: mg/kg dry
Analyst: IBM
Prepared: 8/8/13 16:48

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.252)		8270D		1	08/09/13 14:02	CWH0121	CH30815
1,2-Dichlorobenzene	ND (0.252)		8270D		1	08/09/13 14:02	CWH0121	CH30815
1,3-Dichlorobenzene	ND (0.252)		8270D		1	08/09/13 14:02	CWH0121	CH30815
1,4-Dichlorobenzene	ND (0.252)		8270D		1	08/09/13 14:02	CWH0121	CH30815
2-Methylnaphthalene	ND (0.252)		8270D		1	08/09/13 14:02	CWH0121	CH30815
2-Methylphenol	ND (0.252)		8270D		1	08/09/13 14:02	CWH0121	CH30815
Acenaphthene	ND (0.252)		8270D		1	08/09/13 14:02	CWH0121	CH30815
Acenaphthylene	ND (0.252)		8270D		1	08/09/13 14:02	CWH0121	CH30815
Anthracene	ND (0.252)		8270D		1	08/09/13 14:02	CWH0121	CH30815
Benzo(a)anthracene	**0.368** (0.252)		8270D		1	08/09/13 14:02	CWH0121	CH30815
Benzo(a)pyrene	**0.379** (0.126)		8270D		1	08/09/13 14:02	CWH0121	CH30815
Benzo(b)fluoranthene	**0.486** (0.252)		8270D		1	08/09/13 14:02	CWH0121	CH30815
Benzo(g,h,i)perylene	ND (0.252)		8270D		1	08/09/13 14:02	CWH0121	CH30815
Benzo(k)fluoranthene	ND (0.252)		8270D		1	08/09/13 14:02	CWH0121	CH30815
bis(2-Ethylhexyl)phthalate	**0.420** (0.252)		8270D		1	08/09/13 14:02	CWH0121	CH30815
Butylbenzylphthalate	ND (0.252)		8270D		1	08/09/13 14:02	CWH0121	CH30815
Carbazole	ND (0.252)		8270D		1	08/09/13 14:02	CWH0121	CH30815
Chrysene	**0.426** (0.126)		8270D		1	08/09/13 14:02	CWH0121	CH30815
Dibenzo(a,h)Anthracene	ND (0.126)		8270D		1	08/09/13 14:02	CWH0121	CH30815
Dibenzofuran	ND (0.252)		8270D		1	08/09/13 14:02	CWH0121	CH30815
Diethylphthalate	ND (0.252)		8270D		1	08/09/13 14:02	CWH0121	CH30815
Dimethylphthalate	ND (0.252)		8270D		1	08/09/13 14:02	CWH0121	CH30815
Di-n-butylphthalate	ND (0.252)		8270D		1	08/09/13 14:02	CWH0121	CH30815
Di-n-octylphthalate	ND (0.252)		8270D		1	08/09/13 14:02	CWH0121	CH30815
Fluoranthene	**0.649** (0.252)		8270D		1	08/09/13 14:02	CWH0121	CH30815
Fluorene	ND (0.252)		8270D		1	08/09/13 14:02	CWH0121	CH30815
Hexachlorobenzene	ND (0.252)		8270D		1	08/09/13 14:02	CWH0121	CH30815
Hexachlorocyclopentadiene	ND (1.26)		8270D		1	08/09/13 14:02	CWH0121	CH30815
Indeno(1,2,3-cd)Pyrene	ND (0.252)		8270D		1	08/09/13 14:02	CWH0121	CH30815
Naphthalene	ND (0.252)		8270D		1	08/09/13 14:02	CWH0121	CH30815
Phenanthrene	**0.282** (0.252)		8270D		1	08/09/13 14:02	CWH0121	CH30815

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-126T 0-0.5ft
Date Sampled: 08/06/13 10:15
Percent Solids: 65
Initial Volume: 30.5
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308106
ESS Laboratory Sample ID: 1308106-17
Sample Matrix: Solid
Units: mg/kg dry
Analyst: IBM
Prepared: 8/8/13 16:48

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Phenol	ND (0.252)		8270D		1	08/09/13 14:02	CWH0121	CH30815
Pyrene	**0.597** (0.252)		8270D		1	08/09/13 14:02	CWH0121	CH30815

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*50 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*77 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*53 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*60 %*		*30-130*
Surrogate: 2-Fluorophenol	*42 %*		*30-130*
Surrogate: Nitrobenzene-d5	*55 %*		*30-130*
Surrogate: Phenol-d6	*56 %*		*30-130*
Surrogate: p-Terphenyl-d14	*79 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-126T 0-0.5ft
Date Sampled: 08/06/13 10:15
Percent Solids: 65
Initial Volume: 15.1
Final Volume: 0.5
Extraction Method: 3541

ESS Laboratory Work Order: 1308106
ESS Laboratory Sample ID: 1308106-17
Sample Matrix: Solid
Units: mg/kg dry
Analyst: IBM
Prepared: 8/8/13 17:30

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.064)		8270D		5	08/11/13 13:50	CWH0139	CH30903
Acenaphthene	ND (0.064)		8270D		5	08/11/13 13:50	CWH0139	CH30903
Acenaphthylene	**0.084** (0.064)		8270D		5	08/11/13 13:50	CWH0139	CH30903
Anthracene	**0.298** (0.064)		8270D		5	08/11/13 13:50	CWH0139	CH30903
Benzo(a)anthracene	**0.769** (0.064)		8270D		5	08/11/13 13:50	CWH0139	CH30903
Benzo(a)pyrene	**0.738** (0.064)		8270D		5	08/11/13 13:50	CWH0139	CH30903
Benzo(b)fluoranthene	**0.840** (0.064)		8270D		5	08/11/13 13:50	CWH0139	CH30903
Benzo(g,h,i)perylene	**0.443** (0.064)		8270D		5	08/11/13 13:50	CWH0139	CH30903
Benzo(k)fluoranthene	**0.290** (0.064)		8270D		5	08/11/13 13:50	CWH0139	CH30903
Chrysene	**0.670** (0.064)		8270D		5	08/11/13 13:50	CWH0139	CH30903
Dibenzo(a,h)Anthracene	**0.137** (0.064)		8270D		5	08/11/13 13:50	CWH0139	CH30903
Fluoranthene	**0.975** (0.064)		8270D		5	08/11/13 13:50	CWH0139	CH30903
Fluorene	ND (0.064)		8270D		5	08/11/13 13:50	CWH0139	CH30903
Indeno(1,2,3-cd)Pyrene	**0.532** (0.064)		8270D		5	08/11/13 13:50	CWH0139	CH30903
Naphthalene	ND (0.064)		8270D		5	08/11/13 13:50	CWH0139	CH30903
Phenanthrene	**0.341** (0.064)		8270D		5	08/11/13 13:50	CWH0139	CH30903
Pyrene	**1.08** (0.064)		8270D		5	08/11/13 13:50	CWH0139	CH30903

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*39 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*47 %*		*30-130*
Surrogate: Nitrobenzene-d5	*39 %*		*30-130*
Surrogate: p-Terphenyl-d14	*82 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-126T 0-0.5ft
Date Sampled: 08/06/13 10:15
Percent Solids: 65

ESS Laboratory Work Order: 1308106
ESS Laboratory Sample ID: 1308106-17
Sample Matrix: Solid

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**12300** (500)		TOC-LK		1	SUB	08/14/13 0:00	mg/kg	CH31340

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-126T 0-0.5ft
Date Sampled: 08/06/13 10:15
Percent Solids: 65
Initial Volume: 15.2
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1308106
ESS Laboratory Sample ID: 1308106-17
Sample Matrix: Solid
Units: mg/kg dry

Prepared: 8/9/13 15:00

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	ND (37.9)		MADEP-EPH		1	SEP	08/10/13 21:34	CWH0134	CH30919
C19-C36 Aliphatics1	**49.9** (37.9)		MADEP-EPH		1	SEP	08/10/13 21:34	CWH0134	CH30919
C11-C22 Unadjusted Aromatics1	**80.8** (37.9)		EPH8270		1	VSC	08/12/13 14:50	CWH0145	CH30919
C11-C22 Aromatics1,2	**68.0** (37.9)		EPH8270			VSC	08/12/13 14:50		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*84 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*110 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*104 %*		*40-140*
Surrogate: O-Terphenyl	*91 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-126 0.5-2ft
Date Sampled: 08/05/13 10:50
Percent Solids: 81

ESS Laboratory Work Order: 1308106
ESS Laboratory Sample ID: 1308106-18
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.2)		6020A		50	JP	08/10/13 0:21	5.32	100	CH30802
Arsenic	**13.6** (1.2)		6010B		1	SVD	08/09/13 1:32	5.32	100	CH30802
Barium	**22.3** (1.2)		6010B		1	SVD	08/09/13 1:32	5.32	100	CH30802
Beryllium	**0.21** (0.05)		6010B		1	SVD	08/09/13 1:32	5.32	100	CH30802
Cadmium	**0.35** (0.23)		6010B		1	SVD	08/09/13 1:32	5.32	100	CH30802
Chromium	**12.3** (0.5)		6010B		1	SVD	08/09/13 1:32	5.32	100	CH30802
Lead	**91.6** (2.3)		6010B		1	SVD	08/09/13 1:32	5.32	100	CH30802
Mercury	**0.253** (0.079)		7471B		5	KJK	08/09/13 17:47	1.55	40	CH30804
Nickel	**5.9** (1.2)		6010B		1	SVD	08/09/13 1:32	5.32	100	CH30802
Selenium	ND (1.17)		6020A		50	JP	08/10/13 0:21	5.32	100	CH30802
Silver	**0.39** (0.23)		6010B		1	SVD	08/09/13 1:32	5.32	100	CH30802
Thallium	ND (1.17)		6020A		50	JP	08/10/13 0:21	5.32	100	CH30802
Vanadium	**15.9** (0.5)		6010B		1	SVD	08/09/13 1:32	5.32	100	CH30802
Zinc	**55.2** (1.2)		6010B		1	SVD	08/09/13 1:32	5.32	100	CH30802

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-126 0.5-2ft
Date Sampled: 08/05/13 10:50
Percent Solids: 81
Initial Volume: 19.9
Final Volume: 5
Extraction Method: 3540

ESS Laboratory Work Order: 1308106
ESS Laboratory Sample ID: 1308106-18
Sample Matrix: Solid
Units: mg/kg dry
Analyst: SEP
Prepared: 8/8/13 17:15
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0310)		8082A		1	08/10/13 23:43		CH30839
Aroclor 1221	ND (0.0310)		8082A		1	08/10/13 23:43		CH30839
Aroclor 1232	ND (0.0310)		8082A		1	08/10/13 23:43		CH30839
Aroclor 1242	ND (0.0310)		8082A		1	08/10/13 23:43		CH30839
Aroclor 1248	ND (0.0310)		8082A		1	08/10/13 23:43		CH30839
Aroclor 1254	ND (0.0310)		8082A		1	08/10/13 23:43		CH30839
Aroclor 1260	ND (0.0310)		8082A		1	08/10/13 23:43		CH30839
Aroclor 1262	ND (0.0310)		8082A		1	08/10/13 23:43		CH30839
Aroclor 1268	ND (0.0310)		8082A		1	08/10/13 23:43		CH30839

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*104 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*81 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*86 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*80 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-126 0.5-2ft
Date Sampled: 08/05/13 10:50
Percent Solids: 81
Initial Volume: 30.4
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308106
ESS Laboratory Sample ID: 1308106-18
Sample Matrix: Solid
Units: mg/kg dry
Analyst: IBM
Prepared: 8/8/13 16:48

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.203)		8270D		1	08/09/13 12:21	CWH0121	CH30815
1,2-Dichlorobenzene	ND (0.203)		8270D		1	08/09/13 12:21	CWH0121	CH30815
1,3-Dichlorobenzene	ND (0.203)		8270D		1	08/09/13 12:21	CWH0121	CH30815
1,4-Dichlorobenzene	ND (0.203)		8270D		1	08/09/13 12:21	CWH0121	CH30815
2-Methylnaphthalene	ND (0.203)		8270D		1	08/09/13 12:21	CWH0121	CH30815
2-Methylphenol	ND (0.203)		8270D		1	08/09/13 12:21	CWH0121	CH30815
Acenaphthene	ND (0.203)		8270D		1	08/09/13 12:21	CWH0121	CH30815
Acenaphthylene	ND (0.203)		8270D		1	08/09/13 12:21	CWH0121	CH30815
Anthracene	ND (0.203)		8270D		1	08/09/13 12:21	CWH0121	CH30815
Benzo(a)anthracene	ND (0.203)		8270D		1	08/09/13 12:21	CWH0121	CH30815
Benzo(a)pyrene	ND (0.102)		8270D		1	08/09/13 12:21	CWH0121	CH30815
Benzo(b)fluoranthene	ND (0.203)		8270D		1	08/09/13 12:21	CWH0121	CH30815
Benzo(g,h,i)perylene	ND (0.203)		8270D		1	08/09/13 12:21	CWH0121	CH30815
Benzo(k)fluoranthene	ND (0.203)		8270D		1	08/09/13 12:21	CWH0121	CH30815
bis(2-Ethylhexyl)phthalate	ND (0.203)		8270D		1	08/09/13 12:21	CWH0121	CH30815
Butylbenzylphthalate	ND (0.203)		8270D		1	08/09/13 12:21	CWH0121	CH30815
Carbazole	ND (0.203)		8270D		1	08/09/13 12:21	CWH0121	CH30815
Chrysene	ND (0.102)		8270D		1	08/09/13 12:21	CWH0121	CH30815
Dibenzo(a,h)Anthracene	ND (0.102)		8270D		1	08/09/13 12:21	CWH0121	CH30815
Dibenzofuran	ND (0.203)		8270D		1	08/09/13 12:21	CWH0121	CH30815
Diethylphthalate	ND (0.203)		8270D		1	08/09/13 12:21	CWH0121	CH30815
Dimethylphthalate	ND (0.203)		8270D		1	08/09/13 12:21	CWH0121	CH30815
Di-n-butylphthalate	ND (0.203)		8270D		1	08/09/13 12:21	CWH0121	CH30815
Di-n-octylphthalate	ND (0.203)		8270D		1	08/09/13 12:21	CWH0121	CH30815
Fluoranthene	ND (0.203)		8270D		1	08/09/13 12:21	CWH0121	CH30815
Fluorene	ND (0.203)		8270D		1	08/09/13 12:21	CWH0121	CH30815
Hexachlorobenzene	ND (0.203)		8270D		1	08/09/13 12:21	CWH0121	CH30815
Hexachlorocyclopentadiene	ND (1.02)		8270D		1	08/09/13 12:21	CWH0121	CH30815
Indeno(1,2,3-cd)Pyrene	ND (0.203)		8270D		1	08/09/13 12:21	CWH0121	CH30815
Naphthalene	ND (0.203)		8270D		1	08/09/13 12:21	CWH0121	CH30815
Phenanthrene	ND (0.203)		8270D		1	08/09/13 12:21	CWH0121	CH30815

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-126 0.5-2ft
Date Sampled: 08/05/13 10:50
Percent Solids: 81
Initial Volume: 30.4
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308106
ESS Laboratory Sample ID: 1308106-18
Sample Matrix: Solid
Units: mg/kg dry
Analyst: IBM
Prepared: 8/8/13 16:48

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Phenol	ND (0.203)		8270D		1	08/09/13 12:21	CWH0121	CH30815
Pyrene	ND (0.203)		8270D		1	08/09/13 12:21	CWH0121	CH30815

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*70 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*81 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*69 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*75 %*		*30-130*
Surrogate: 2-Fluorophenol	*61 %*		*30-130*
Surrogate: Nitrobenzene-d5	*72 %*		*30-130*
Surrogate: Phenol-d6	*73 %*		*30-130*
Surrogate: p-Terphenyl-d14	*84 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-126 0.5-2ft
Date Sampled: 08/05/13 10:50
Percent Solids: 81
Initial Volume: 15
Final Volume: 0.5
Extraction Method: 3541

ESS Laboratory Work Order: 1308106
ESS Laboratory Sample ID: 1308106-18
Sample Matrix: Solid
Units: mg/kg dry
Analyst: IBM
Prepared: 8/8/13 17:30

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.010)		8270D		1	08/11/13 13:03	CWH0139	CH30903
Acenaphthene	ND (0.010)		8270D		1	08/11/13 13:03	CWH0139	CH30903
Acenaphthylene	**0.015** (0.010)		8270D		1	08/11/13 13:03	CWH0139	CH30903
Anthracene	**0.115** (0.010)		8270D		1	08/11/13 13:03	CWH0139	CH30903
Benzo(a)anthracene	**0.265** (0.010)		8270D		1	08/11/13 13:03	CWH0139	CH30903
Benzo(a)pyrene	**0.193** (0.010)		8270D		1	08/11/13 13:03	CWH0139	CH30903
Benzo(b)fluoranthene	**0.209** (0.010)		8270D		1	08/11/13 13:03	CWH0139	CH30903
Benzo(g,h,i)perylene	**0.091** (0.010)		8270D		1	08/11/13 13:03	CWH0139	CH30903
Benzo(k)fluoranthene	**0.074** (0.010)		8270D		1	08/11/13 13:03	CWH0139	CH30903
Chrysene	**0.209** (0.010)		8270D		1	08/11/13 13:03	CWH0139	CH30903
Dibenzo(a,h)Anthracene	**0.034** (0.010)		8270D		1	08/11/13 13:03	CWH0139	CH30903
Fluoranthene	**0.271** (0.010)		8270D		1	08/11/13 13:03	CWH0139	CH30903
Fluorene	**0.012** (0.010)		8270D		1	08/11/13 13:03	CWH0139	CH30903
Indeno(1,2,3-cd)Pyrene	**0.105** (0.010)		8270D		1	08/11/13 13:03	CWH0139	CH30903
Naphthalene	**0.014** (0.010)		8270D		1	08/11/13 13:03	CWH0139	CH30903
Phenanthrene	**0.067** (0.010)		8270D		1	08/11/13 13:03	CWH0139	CH30903
Pyrene	**0.341** (0.010)		8270D		1	08/11/13 13:03	CWH0139	CH30903

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*62 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*71 %*		*30-130*
Surrogate: Nitrobenzene-d5	*69 %*		*30-130*
Surrogate: p-Terphenyl-d14	*96 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-126 0.5-2ft
Date Sampled: 08/05/13 10:50
Percent Solids: 81

ESS Laboratory Work Order: 1308106
ESS Laboratory Sample ID: 1308106-18
Sample Matrix: Solid

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**5470** (500)		TOC-LK		1	SUB	08/14/13 0:00	mg/kg	CH31340

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-126 0.5-2ft
Date Sampled: 08/05/13 10:50
Percent Solids: 81
Initial Volume: 15.2
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1308106
ESS Laboratory Sample ID: 1308106-18
Sample Matrix: Solid
Units: mg/kg dry

Prepared: 8/9/13 15:00

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	ND (30.5)		MADEP-EPH		1	SEP	08/10/13 22:25	CWH0134	CH30919
C19-C36 Aliphatics1	ND (30.5)		MADEP-EPH		1	SEP	08/10/13 22:25	CWH0134	CH30919
C11-C22 Unadjusted Aromatics1	**49.7** (30.5)		EPH8270		1	SEP	08/11/13 10:28	CWH0135	CH30919
C11-C22 Aromatics1,2	**47.7** (30.5)		EPH8270			SEP	08/11/13 10:28		[CALC]

	%Recovery	*Qualifier*	*Limits*
Surrogate: 1-Chlorooctadecane	*80 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*110 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*106 %*		*40-140*
Surrogate: O-Terphenyl	*87 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-126 2-4ft
Date Sampled: 08/05/13 10:50
Percent Solids: 77

ESS Laboratory Work Order: 1308106
ESS Laboratory Sample ID: 1308106-19
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.2)		6020A		50	JP	08/10/13 0:27	5.29	100	CH30802
Arsenic	ND (1.2)		6010B		1	SVD	08/09/13 1:37	5.29	100	CH30802
Barium	**9.7** (1.2)		6010B		1	SVD	08/09/13 1:37	5.29	100	CH30802
Beryllium	**0.22** (0.05)		6010B		1	SVD	08/09/13 1:37	5.29	100	CH30802
Cadmium	ND (0.25)		6010B		1	SVD	08/09/13 1:37	5.29	100	CH30802
Chromium	**10.4** (0.5)		6010B		1	SVD	08/09/13 1:37	5.29	100	CH30802
Lead	ND (2.5)		6010B		1	SVD	08/09/13 1:37	5.29	100	CH30802
Mercury	ND (0.019)		7471B		1	KJK	08/09/13 19:04	1.32	40	CH30804
Nickel	**6.4** (1.2)		6010B		1	SVD	08/09/13 1:37	5.29	100	CH30802
Selenium	ND (1.23)		6020A		50	JP	08/10/13 0:27	5.29	100	CH30802
Silver	ND (0.25)		6010B		1	SVD	08/09/13 1:37	5.29	100	CH30802
Thallium	ND (1.23)		6020A		50	JP	08/10/13 0:27	5.29	100	CH30802
Vanadium	**14.3** (0.5)		6010B		1	SVD	08/09/13 1:37	5.29	100	CH30802
Zinc	**18.4** (1.2)		6010B		1	SVD	08/09/13 1:37	5.29	100	CH30802

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-126 2-4ft
Date Sampled: 08/05/13 10:50
Percent Solids: 77
Initial Volume: 19.1
Final Volume: 5
Extraction Method: 3540

ESS Laboratory Work Order: 1308106
ESS Laboratory Sample ID: 1308106-19
Sample Matrix: Solid
Units: mg/kg dry
Analyst: SEP
Prepared: 8/8/13 17:15
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0340)		8082A		1	08/11/13 0:41		CH30839
Aroclor 1221	ND (0.0340)		8082A		1	08/11/13 0:41		CH30839
Aroclor 1232	ND (0.0340)		8082A		1	08/11/13 0:41		CH30839
Aroclor 1242	ND (0.0340)		8082A		1	08/11/13 0:41		CH30839
Aroclor 1248	ND (0.0340)		8082A		1	08/11/13 0:41		CH30839
Aroclor 1254	ND (0.0340)		8082A		1	08/11/13 0:41		CH30839
Aroclor 1260	ND (0.0340)		8082A		1	08/11/13 0:41		CH30839
Aroclor 1262	ND (0.0340)		8082A		1	08/11/13 0:41		CH30839
Aroclor 1268	ND (0.0340)		8082A		1	08/11/13 0:41		CH30839

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*103 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*76 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*74 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*64 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-126 2-4ft
Date Sampled: 08/05/13 10:50
Percent Solids: 77
Initial Volume: 19.8
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308106
ESS Laboratory Sample ID: 1308106-19
Sample Matrix: Solid
Units: mg/kg dry
Analyst: IBM
Prepared: 8/8/13 16:48

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.327)		8270D		1	08/09/13 12:55	CWH0121	CH30815
1,2-Dichlorobenzene	ND (0.327)		8270D		1	08/09/13 12:55	CWH0121	CH30815
1,3-Dichlorobenzene	ND (0.327)		8270D		1	08/09/13 12:55	CWH0121	CH30815
1,4-Dichlorobenzene	ND (0.327)		8270D		1	08/09/13 12:55	CWH0121	CH30815
2-Methylnaphthalene	ND (0.327)		8270D		1	08/09/13 12:55	CWH0121	CH30815
2-Methylphenol	ND (0.327)		8270D		1	08/09/13 12:55	CWH0121	CH30815
Acenaphthene	ND (0.327)		8270D		1	08/09/13 12:55	CWH0121	CH30815
Acenaphthylene	ND (0.327)		8270D		1	08/09/13 12:55	CWH0121	CH30815
Anthracene	ND (0.327)		8270D		1	08/09/13 12:55	CWH0121	CH30815
Benzo(a)anthracene	ND (0.327)		8270D		1	08/09/13 12:55	CWH0121	CH30815
Benzo(a)pyrene	ND (0.164)		8270D		1	08/09/13 12:55	CWH0121	CH30815
Benzo(b)fluoranthene	ND (0.327)		8270D		1	08/09/13 12:55	CWH0121	CH30815
Benzo(g,h,i)perylene	ND (0.327)		8270D		1	08/09/13 12:55	CWH0121	CH30815
Benzo(k)fluoranthene	ND (0.327)		8270D		1	08/09/13 12:55	CWH0121	CH30815
bis(2-Ethylhexyl)phthalate	ND (0.327)		8270D		1	08/09/13 12:55	CWH0121	CH30815
Butylbenzylphthalate	ND (0.327)		8270D		1	08/09/13 12:55	CWH0121	CH30815
Carbazole	ND (0.327)		8270D		1	08/09/13 12:55	CWH0121	CH30815
Chrysene	ND (0.164)		8270D		1	08/09/13 12:55	CWH0121	CH30815
Dibenzo(a,h)Anthracene	ND (0.164)		8270D		1	08/09/13 12:55	CWH0121	CH30815
Dibenzofuran	ND (0.327)		8270D		1	08/09/13 12:55	CWH0121	CH30815
Diethylphthalate	ND (0.327)		8270D		1	08/09/13 12:55	CWH0121	CH30815
Dimethylphthalate	ND (0.327)		8270D		1	08/09/13 12:55	CWH0121	CH30815
Di-n-butylphthalate	ND (0.327)		8270D		1	08/09/13 12:55	CWH0121	CH30815
Di-n-octylphthalate	ND (0.327)		8270D		1	08/09/13 12:55	CWH0121	CH30815
Fluoranthene	ND (0.327)		8270D		1	08/09/13 12:55	CWH0121	CH30815
Fluorene	ND (0.327)		8270D		1	08/09/13 12:55	CWH0121	CH30815
Hexachlorobenzene	ND (0.327)		8270D		1	08/09/13 12:55	CWH0121	CH30815
Hexachlorocyclopentadiene	ND (1.64)		8270D		1	08/09/13 12:55	CWH0121	CH30815
Indeno(1,2,3-cd)Pyrene	ND (0.327)		8270D		1	08/09/13 12:55	CWH0121	CH30815
Naphthalene	ND (0.327)		8270D		1	08/09/13 12:55	CWH0121	CH30815
Phenanthrene	ND (0.327)		8270D		1	08/09/13 12:55	CWH0121	CH30815

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-126 2-4ft
Date Sampled: 08/05/13 10:50
Percent Solids: 77
Initial Volume: 19.8
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308106
ESS Laboratory Sample ID: 1308106-19
Sample Matrix: Solid
Units: mg/kg dry
Analyst: IBM
Prepared: 8/8/13 16:48

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Phenol	ND (0.327)		8270D		1	08/09/13 12:55	CWH0121	CH30815
Pyrene	ND (0.327)		8270D		1	08/09/13 12:55	CWH0121	CH30815

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*79 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*88 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*79 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*82 %*		*30-130*
Surrogate: 2-Fluorophenol	*68 %*		*30-130*
Surrogate: Nitrobenzene-d5	*80 %*		*30-130*
Surrogate: Phenol-d6	*81 %*		*30-130*
Surrogate: p-Terphenyl-d14	*87 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-126 2-4ft
Date Sampled: 08/05/13 10:50
Percent Solids: 77
Initial Volume: 15.1
Final Volume: 0.5
Extraction Method: 3541

ESS Laboratory Work Order: 1308106
ESS Laboratory Sample ID: 1308106-19
Sample Matrix: Solid
Units: mg/kg dry
Analyst: IBM
Prepared: 8/8/13 17:30

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.011)		8270D		1	08/11/13 5:34	CWH0138	CH30903
Acenaphthene	ND (0.011)		8270D		1	08/11/13 5:34	CWH0138	CH30903
Acenaphthylene	ND (0.011)		8270D		1	08/11/13 5:34	CWH0138	CH30903
Anthracene	ND (0.011)		8270D		1	08/11/13 5:34	CWH0138	CH30903
Benzo(a)anthracene	ND (0.011)		8270D		1	08/11/13 5:34	CWH0138	CH30903
Benzo(a)pyrene	ND (0.011)		8270D		1	08/11/13 5:34	CWH0138	CH30903
Benzo(b)fluoranthene	ND (0.011)		8270D		1	08/11/13 5:34	CWH0138	CH30903
Benzo(g,h,i)perylene	ND (0.011)		8270D		1	08/11/13 5:34	CWH0138	CH30903
Benzo(k)fluoranthene	ND (0.011)		8270D		1	08/11/13 5:34	CWH0138	CH30903
Chrysene	ND (0.011)		8270D		1	08/11/13 5:34	CWH0138	CH30903
Dibenzo(a,h)Anthracene	ND (0.011)		8270D		1	08/11/13 5:34	CWH0138	CH30903
Fluoranthene	ND (0.011)		8270D		1	08/11/13 5:34	CWH0138	CH30903
Fluorene	ND (0.011)		8270D		1	08/11/13 5:34	CWH0138	CH30903
Indeno(1,2,3-cd)Pyrene	ND (0.011)		8270D		1	08/11/13 5:34	CWH0138	CH30903
Naphthalene	ND (0.011)		8270D		1	08/11/13 5:34	CWH0138	CH30903
Phenanthrene	ND (0.011)		8270D		1	08/11/13 5:34	CWH0138	CH30903
Pyrene	ND (0.011)		8270D		1	08/11/13 5:34	CWH0138	CH30903

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*66 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*65 %*		*30-130*
Surrogate: Nitrobenzene-d5	*73 %*		*30-130*
Surrogate: p-Terphenyl-d14	*91 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-126 2-4ft
Date Sampled: 08/05/13 10:50
Percent Solids: 77

ESS Laboratory Work Order: 1308106
ESS Laboratory Sample ID: 1308106-19
Sample Matrix: Solid

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**6580** (500)		TOC-LK		1	SUB	08/14/13 0:00	mg/kg	CH31340

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-126 2-4ft
Date Sampled: 08/05/13 10:50
Percent Solids: 77
Initial Volume: 15.1
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1308106
ESS Laboratory Sample ID: 1308106-19
Sample Matrix: Solid
Units: mg/kg dry

Prepared: 8/9/13 15:00

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	ND (32.2)		MADEP-EPH		1	SEP	08/10/13 23:15	CWH0134	CH30919
C19-C36 Aliphatics1	ND (32.2)		MADEP-EPH		1	SEP	08/10/13 23:15	CWH0134	CH30919
C11-C22 Unadjusted Aromatics1	ND (32.2)		EPH8270		1	SEP	08/11/13 4:59	CWH0135	CH30919
C11-C22 Aromatics1,2	ND (32.2)		EPH8270			SEP	08/11/13 4:59		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*80 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*106 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*102 %*		*40-140*
Surrogate: O-Terphenyl	*84 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-127 0-0.5ft
Date Sampled: 08/05/13 10:35
Percent Solids: 63

ESS Laboratory Work Order: 1308106
ESS Laboratory Sample ID: 1308106-20
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	**2.3** (1.6)		6020A		50	JP	08/10/13 0:33	5.06	100	CH30802
Arsenic	**94.7** (1.6)		6010B		1	SVD	08/09/13 1:43	5.06	100	CH30802
Barium	**89.4** (1.6)		6010B		1	SVD	08/09/13 1:43	5.06	100	CH30802
Beryllium	**0.34** (0.07)		6010B		1	SVD	08/09/13 1:43	5.06	100	CH30802
Cadmium	**1.20** (0.32)		6010B		1	SVD	08/09/13 1:43	5.06	100	CH30802
Chromium	**32.0** (0.6)		6010B		1	SVD	08/09/13 1:43	5.06	100	CH30802
Lead	**369** (3.1)		6010B		1	SVD	08/09/13 1:43	5.06	100	CH30802
Mercury	**0.876** (0.101)		7471B		5	KJK	08/09/13 17:53	1.55	40	CH30804
Nickel	**9.5** (1.6)		6010B		1	SVD	08/09/13 1:43	5.06	100	CH30802
Selenium	**1.91** (1.58)		6020A		50	JP	08/10/13 0:33	5.06	100	CH30802
Silver	**1.94** (0.32)		6010B		1	SVD	08/09/13 1:43	5.06	100	CH30802
Thallium	ND (1.58)		6020A		50	JP	08/10/13 0:33	5.06	100	CH30802
Vanadium	**56.6** (0.6)		6010B		1	SVD	08/09/13 1:43	5.06	100	CH30802
Zinc	**217** (1.6)		6010B		1	SVD	08/09/13 1:43	5.06	100	CH30802

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-127 0-0.5ft
Date Sampled: 08/05/13 10:35
Percent Solids: 63

ESS Laboratory Work Order: 1308106
ESS Laboratory Sample ID: 1308106-20
Sample Matrix: Solid

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**19000** (500)		TOC-LK		1	SUB	08/14/13 0:00	mg/kg	CH31340

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308106

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Total Metals Solid										
Batch CH30802 - 3050B										
Blank										
Antimony	ND	2.5	mg/kg wet							
Arsenic	ND	2.5	mg/kg wet							
Barium	ND	2.5	mg/kg wet							
Beryllium	ND	0.10	mg/kg wet							
Cadmium	ND	0.50	mg/kg wet							
Chromium	ND	1.0	mg/kg wet							
Lead	ND	5.0	mg/kg wet							
Nickel	ND	2.5	mg/kg wet							
Selenium	ND	2.51	mg/kg wet							
Silver	ND	0.50	mg/kg wet							
Thallium	ND	2.51	mg/kg wet							
Vanadium	ND	1.0	mg/kg wet							
Zinc	ND	2.5	mg/kg wet							
LCS										
Antimony	102	8.4	mg/kg wet	106.0		96	80-120			
Arsenic	154	8.3	mg/kg wet	182.0		85	80-120			
Barium	125	8.3	mg/kg wet	143.0		87	80-120			
Beryllium	90.0	0.35	mg/kg wet	98.30		92	80-120			
Cadmium	53.8	1.68	mg/kg wet	60.40		89	80-120			
Chromium	112	3.3	mg/kg wet	125.0		90	80-120			
Lead	117	16.7	mg/kg wet	136.0		86	80-120			
Nickel	116	8.3	mg/kg wet	128.0		91	80-120			
Selenium	87.5	8.38	mg/kg wet	85.90		102	80-120			
Silver	58.9	1.68	mg/kg wet	61.30		96	80-120			
Thallium	149	8.38	mg/kg wet	144.0		103	80-120			
Vanadium	97.0	3.3	mg/kg wet	104.0		93	80-120			
Zinc	178	8.3	mg/kg wet	204.0		87	80-120			
LCS Dup										
Antimony	98.6	8.4	mg/kg wet	106.0		93	80-120	3	20	
Arsenic	157	8.3	mg/kg wet	182.0		86	80-120	2	20	
Barium	127	8.3	mg/kg wet	143.0		89	80-120	1	20	
Beryllium	91.5	0.35	mg/kg wet	98.30		93	80-120	2	20	
Cadmium	55.6	1.68	mg/kg wet	60.40		92	80-120	3	20	
Chromium	116	3.3	mg/kg wet	125.0		93	80-120	3	20	
Lead	122	16.7	mg/kg wet	136.0		89	80-120	4	20	
Nickel	121	8.3	mg/kg wet	128.0		95	80-120	4	20	
Selenium	86.1	8.38	mg/kg wet	85.90		100	80-120	2	20	
Silver	59.6	1.68	mg/kg wet	61.30		97	80-120	1	20	
Thallium	144	8.38	mg/kg wet	144.0		100	80-120	3	20	
Vanadium	97.7	3.3	mg/kg wet	104.0		94	80-120	0.7	20	
Zinc	180	8.3	mg/kg wet	204.0		88	80-120	1	20	
Batch CH30804 - 7471A										
Blank										

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308106

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Total Metals Solid										
Batch CH30804 - 7471A										
Mercury	ND	0.033	mg/kg wet							
LCS										
Mercury	10.1	0.825	mg/kg wet	9.250		109	80-120			
LCS Dup										
Mercury	9.49	0.825	mg/kg wet	9.250		103	80-120	6	20	
8082A Polychlorinated Biphenyls (PCB)										
Batch CH30812 - 3540										
Blank										
Aroclor 1016	ND	0.0250	mg/kg wet							
Aroclor 1016 (1)	ND	0.0250	mg/kg wet							
Aroclor 1016 (1) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1016 (2)	ND	0.0250	mg/kg wet							
Aroclor 1016 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1016 (3)	ND	0.0250	mg/kg wet							
Aroclor 1016 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1016 (4)	ND	0.0250	mg/kg wet							
Aroclor 1016 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1016 (5)	ND	0.0250	mg/kg wet							
Aroclor 1016 (5) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1221	ND	0.0250	mg/kg wet							
Aroclor 1221 (1)	ND	0.0250	mg/kg wet							
Aroclor 1221 (1) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1221 (2)	ND	0.0250	mg/kg wet							
Aroclor 1221 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1221 (3)	ND	0.0250	mg/kg wet							
Aroclor 1221 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1221 (4)	ND	0.0250	mg/kg wet							
Aroclor 1221 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1221 (5)	ND	0.0250	mg/kg wet							
Aroclor 1221 (5) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1232	ND	0.0250	mg/kg wet							
Aroclor 1232 (1)	ND	0.0250	mg/kg wet							
Aroclor 1232 (1) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1232 (2)	ND	0.0250	mg/kg wet							
Aroclor 1232 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1232 (3)	ND	0.0250	mg/kg wet							
Aroclor 1232 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1232 (4)	ND	0.0250	mg/kg wet							
Aroclor 1232 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1232 (5)	ND	0.0250	mg/kg wet							
Aroclor 1232 (5) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1242	ND	0.0250	mg/kg wet							
Aroclor 1242 (1)	ND	0.0250	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308106

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch CH30812 - 3540										
Aroclor 1242 (1) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1242 (2)	ND	0.0250	mg/kg wet							
Aroclor 1242 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1242 (3)	ND	0.0250	mg/kg wet							
Aroclor 1242 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1242 (4)	ND	0.0250	mg/kg wet							
Aroclor 1242 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1242 (5)	ND	0.0250	mg/kg wet							
Aroclor 1242 (5) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1248	ND	0.0250	mg/kg wet							
Aroclor 1248 (1)	ND	0.0250	mg/kg wet							
Aroclor 1248 (1) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1248 (2)	ND	0.0250	mg/kg wet							
Aroclor 1248 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1248 (3)	ND	0.0250	mg/kg wet							
Aroclor 1248 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1248 (4)	ND	0.0250	mg/kg wet							
Aroclor 1248 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1248 (5)	ND	0.0250	mg/kg wet							
Aroclor 1248 (5) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1254	ND	0.0250	mg/kg wet							
Aroclor 1254 (1)	ND	0.0250	mg/kg wet							
Aroclor 1254 (1) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1254 (2)	ND	0.0250	mg/kg wet							
Aroclor 1254 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1254 (3)	ND	0.0250	mg/kg wet							
Aroclor 1254 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1254 (4)	ND	0.0250	mg/kg wet							
Aroclor 1254 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1254 (5)	ND	0.0250	mg/kg wet							
Aroclor 1254 (5) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1260	ND	0.0250	mg/kg wet							
Aroclor 1260 (1)	ND	0.0250	mg/kg wet							
Aroclor 1260 (1) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1260 (2)	ND	0.0250	mg/kg wet							
Aroclor 1260 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1260 (3)	ND	0.0250	mg/kg wet							
Aroclor 1260 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1260 (4)	ND	0.0250	mg/kg wet							
Aroclor 1260 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1260 (5)	ND	0.0250	mg/kg wet							
Aroclor 1260 (5) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1262	ND	0.0250	mg/kg wet							
Aroclor 1262 (1)	ND	0.0250	mg/kg wet							
Aroclor 1262 (1) [2C]	ND	0.0250	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308106

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch CH30812 - 3540										
Aroclor 1262 (2)	ND	0.0250	mg/kg wet							
Aroclor 1262 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1262 (3)	ND	0.0250	mg/kg wet							
Aroclor 1262 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1262 (4)	ND	0.0250	mg/kg wet							
Aroclor 1262 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1262 (5)	ND	0.0250	mg/kg wet							
Aroclor 1262 (5) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1268	ND	0.0250	mg/kg wet							
Aroclor 1268 (1)	ND	0.0250	mg/kg wet							
Aroclor 1268 (1) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1268 (2)	ND	0.0250	mg/kg wet							
Aroclor 1268 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1268 (3)	ND	0.0250	mg/kg wet							
Aroclor 1268 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1268 (4)	ND	0.0250	mg/kg wet							
Aroclor 1268 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1268 (5)	ND	0.0250	mg/kg wet							
Aroclor 1268 (5) [2C]	ND	0.0250	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0130*		mg/kg wet	*0.01250*		*104*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.00992*		mg/kg wet	*0.01250*		*79*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0104*		mg/kg wet	*0.01250*		*83*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.00936*		mg/kg wet	*0.01250*		*75*	*30-150*			
LCS										
Aroclor 1016	0.260	0.0250	mg/kg wet	0.2500		104	40-140			
Aroclor 1260	0.263	0.0250	mg/kg wet	0.2500		105	40-140			
Surrogate: Decachlorobiphenyl	*0.0135*		mg/kg wet	*0.01250*		*108*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0104*		mg/kg wet	*0.01250*		*83*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0112*		mg/kg wet	*0.01250*		*90*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.00989*		mg/kg wet	*0.01250*		*79*	*30-150*			
LCS Dup										
Aroclor 1016	0.261	0.0250	mg/kg wet	0.2500		104	40-140	0.5	30	
Aroclor 1260	0.268	0.0250	mg/kg wet	0.2500		107	40-140	2	30	
Surrogate: Decachlorobiphenyl	*0.0139*		mg/kg wet	*0.01250*		*111*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0106*		mg/kg wet	*0.01250*		*85*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0115*		mg/kg wet	*0.01250*		*92*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.00996*		mg/kg wet	*0.01250*		*80*	*30-150*			
Batch CH30839 - 3540										
Blank										
Aroclor 1016	ND	0.0250	mg/kg wet							
Aroclor 1016 (1)	ND	0.0250	mg/kg wet							
Aroclor 1016 (1) [2C]	ND	0.0250	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308106

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch CH30839 - 3540										
Aroclor 1016 (2)	ND	0.0250	mg/kg wet							
Aroclor 1016 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1016 (3)	ND	0.0250	mg/kg wet							
Aroclor 1016 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1016 (4)	ND	0.0250	mg/kg wet							
Aroclor 1016 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1016 (5)	ND	0.0250	mg/kg wet							
Aroclor 1016 (5) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1221	ND	0.0250	mg/kg wet							
Aroclor 1221 (1)	ND	0.0250	mg/kg wet							
Aroclor 1221 (1) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1221 (2)	ND	0.0250	mg/kg wet							
Aroclor 1221 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1221 (3)	ND	0.0250	mg/kg wet							
Aroclor 1221 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1221 (4)	ND	0.0250	mg/kg wet							
Aroclor 1221 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1221 (5)	ND	0.0250	mg/kg wet							
Aroclor 1221 (5) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1232	ND	0.0250	mg/kg wet							
Aroclor 1232 (1)	ND	0.0250	mg/kg wet							
Aroclor 1232 (1) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1232 (2)	ND	0.0250	mg/kg wet							
Aroclor 1232 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1232 (3)	ND	0.0250	mg/kg wet							
Aroclor 1232 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1232 (4)	ND	0.0250	mg/kg wet							
Aroclor 1232 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1232 (5)	ND	0.0250	mg/kg wet							
Aroclor 1232 (5) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1242	ND	0.0250	mg/kg wet							
Aroclor 1242 (1)	ND	0.0250	mg/kg wet							
Aroclor 1242 (1) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1242 (2)	ND	0.0250	mg/kg wet							
Aroclor 1242 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1242 (3)	ND	0.0250	mg/kg wet							
Aroclor 1242 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1242 (4)	ND	0.0250	mg/kg wet							
Aroclor 1242 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1242 (5)	ND	0.0250	mg/kg wet							
Aroclor 1242 (5) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1248	ND	0.0250	mg/kg wet							
Aroclor 1248 (1)	ND	0.0250	mg/kg wet							
Aroclor 1248 (1) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1248 (2)	ND	0.0250	mg/kg wet							

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch CH30839 - 3540										
Aroclor 1248 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1248 (3)	ND	0.0250	mg/kg wet							
Aroclor 1248 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1248 (4)	ND	0.0250	mg/kg wet							
Aroclor 1248 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1248 (5)	ND	0.0250	mg/kg wet							
Aroclor 1248 (5) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1254	ND	0.0250	mg/kg wet							
Aroclor 1254 (1)	ND	0.0250	mg/kg wet							
Aroclor 1254 (1) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1254 (2)	ND	0.0250	mg/kg wet							
Aroclor 1254 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1254 (3)	ND	0.0250	mg/kg wet							
Aroclor 1254 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1254 (4)	ND	0.0250	mg/kg wet							
Aroclor 1254 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1254 (5)	ND	0.0250	mg/kg wet							
Aroclor 1254 (5) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1260	ND	0.0250	mg/kg wet							
Aroclor 1260 (1)	ND	0.0250	mg/kg wet							
Aroclor 1260 (1) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1260 (2)	ND	0.0250	mg/kg wet							
Aroclor 1260 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1260 (3)	ND	0.0250	mg/kg wet							
Aroclor 1260 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1260 (4)	ND	0.0250	mg/kg wet							
Aroclor 1260 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1260 (5)	ND	0.0250	mg/kg wet							
Aroclor 1260 (5) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1262	ND	0.0250	mg/kg wet							
Aroclor 1262 (1)	ND	0.0250	mg/kg wet							
Aroclor 1262 (1) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1262 (2)	ND	0.0250	mg/kg wet							
Aroclor 1262 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1262 (3)	ND	0.0250	mg/kg wet							
Aroclor 1262 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1262 (4)	ND	0.0250	mg/kg wet							
Aroclor 1262 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1262 (5)	ND	0.0250	mg/kg wet							
Aroclor 1262 (5) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1268	ND	0.0250	mg/kg wet							
Aroclor 1268 (1)	ND	0.0250	mg/kg wet							
Aroclor 1268 (1) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1268 (2)	ND	0.0250	mg/kg wet							
Aroclor 1268 (2) [2C]	ND	0.0250	mg/kg wet							

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch CH30839 - 3540										
Aroclor 1268 (3)	ND	0.0250	mg/kg wet							
Aroclor 1268 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1268 (4)	ND	0.0250	mg/kg wet							
Aroclor 1268 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1268 (5)	ND	0.0250	mg/kg wet							
Aroclor 1268 (5) [2C]	ND	0.0250	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0132*		mg/kg wet	*0.01250*		*106*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0101*		mg/kg wet	*0.01250*		*81*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0106*		mg/kg wet	*0.01250*		*85*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.00948*		mg/kg wet	*0.01250*		*76*	*30-150*			
LCS										
Aroclor 1016	0.228	0.0250	mg/kg wet	0.2500		91	40-140			
Aroclor 1260	0.248	0.0250	mg/kg wet	0.2500		99	40-140			
Surrogate: Decachlorobiphenyl	*0.0129*		mg/kg wet	*0.01250*		*103*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.00990*		mg/kg wet	*0.01250*		*79*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.00997*		mg/kg wet	*0.01250*		*80*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.00859*		mg/kg wet	*0.01250*		*69*	*30-150*			
LCS Dup										
Aroclor 1016	0.255	0.0250	mg/kg wet	0.2500		102	40-140	11	30	
Aroclor 1260	0.253	0.0250	mg/kg wet	0.2500		101	40-140	2	30	
Surrogate: Decachlorobiphenyl	*0.0131*		mg/kg wet	*0.01250*		*105*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0101*		mg/kg wet	*0.01250*		*81*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0108*		mg/kg wet	*0.01250*		*86*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.00949*		mg/kg wet	*0.01250*		*76*	*30-150*			
8270D Semi-Volatile Organic Compounds										
Batch CH30815 - 3546										
Blank										
1,2,4-Trichlorobenzene	ND	0.333	mg/kg wet							
1,2-Dichlorobenzene	ND	0.333	mg/kg wet							
1,3-Dichlorobenzene	ND	0.333	mg/kg wet							
1,4-Dichlorobenzene	ND	0.333	mg/kg wet							
2-Methylnaphthalene	ND	0.333	mg/kg wet							
2-Methylphenol	ND	0.333	mg/kg wet							
Acenaphthene	ND	0.333	mg/kg wet							
Acenaphthylene	ND	0.333	mg/kg wet							
Anthracene	ND	0.333	mg/kg wet							
Benzo(a)anthracene	ND	0.333	mg/kg wet							
Benzo(a)pyrene	ND	0.167	mg/kg wet							
Benzo(b)fluoranthene	ND	0.333	mg/kg wet							
Benzo(g,h,i)perylene	ND	0.333	mg/kg wet							
Benzo(k)fluoranthene	ND	0.333	mg/kg wet							

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch CH30815 - 3546										
bis(2-Ethylhexyl)phthalate	ND	0.333	mg/kg wet							
Butylbenzylphthalate	ND	0.333	mg/kg wet							
Carbazole	ND	0.333	mg/kg wet							
Chrysene	ND	0.167	mg/kg wet							
Dibenzo(a,h)Anthracene	ND	0.167	mg/kg wet							
Dibenzofuran	ND	0.333	mg/kg wet							
Diethylphthalate	ND	0.333	mg/kg wet							
Dimethylphthalate	ND	0.333	mg/kg wet							
Di-n-butylphthalate	ND	0.333	mg/kg wet							
Di-n-octylphthalate	ND	0.333	mg/kg wet							
Fluoranthene	ND	0.333	mg/kg wet							
Fluorene	ND	0.333	mg/kg wet							
Hexachlorobenzene	ND	0.333	mg/kg wet							
Hexachlorocyclopentadiene	ND	1.67	mg/kg wet							
Indeno(1,2,3-cd)Pyrene	ND	0.333	mg/kg wet							
Naphthalene	ND	0.333	mg/kg wet							
Phenanthrene	ND	0.333	mg/kg wet							
Phenol	ND	0.333	mg/kg wet							
Pyrene	ND	0.333	mg/kg wet							
Surrogate: 1,2-Dichlorobenzene-d4	*2.36*		mg/kg wet	*3.333*		*71*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*3.81*		mg/kg wet	*5.000*		*76*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*3.78*		mg/kg wet	*5.000*		*76*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*2.38*		mg/kg wet	*3.333*		*72*	*30-130*			
Surrogate: 2-Fluorophenol	*3.53*		mg/kg wet	*5.000*		*71*	*30-130*			
Surrogate: Nitrobenzene-d5	*2.35*		mg/kg wet	*3.333*		*71*	*30-130*			
Surrogate: Phenol-d6	*3.76*		mg/kg wet	*5.000*		*75*	*30-130*			
Surrogate: p-Terphenyl-d14	*3.51*		mg/kg wet	*3.333*		*105*	*30-130*			
LCS										
1,2,4-Trichlorobenzene	2.16	0.333	mg/kg wet	3.333		65	40-140			
1,2-Dichlorobenzene	2.07	0.333	mg/kg wet	3.333		62	40-140			
1,3-Dichlorobenzene	2.06	0.333	mg/kg wet	3.333		62	40-140			
1,4-Dichlorobenzene	2.08	0.333	mg/kg wet	3.333		62	40-140			
2-Methylnaphthalene	2.32	0.333	mg/kg wet	3.333		70	40-140			
2-Methylphenol	2.14	0.333	mg/kg wet	3.333		64	30-130			
Acenaphthene	2.58	0.333	mg/kg wet	3.333		77	40-140			
Acenaphthylene	2.45	0.333	mg/kg wet	3.333		74	40-140			
Anthracene	3.03	0.333	mg/kg wet	3.333		91	40-140			
Benzo(a)anthracene	2.81	0.333	mg/kg wet	3.333		84	40-140			
Benzo(a)pyrene	2.69	0.167	mg/kg wet	3.333		81	40-140			
Benzo(b)fluoranthene	3.15	0.333	mg/kg wet	3.333		95	40-140			
Benzo(g,h,i)perylene	3.08	0.333	mg/kg wet	3.333		92	40-140			
Benzo(k)fluoranthene	3.04	0.333	mg/kg wet	3.333		91	40-140			
bis(2-Ethylhexyl)phthalate	3.18	0.333	mg/kg wet	3.333		95	40-140			
Butylbenzylphthalate	3.15	0.333	mg/kg wet	3.333		95	40-140			
Carbazole	3.07	0.333	mg/kg wet	3.333		92	40-140			

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch CH30815 - 3546										
Chrysene	2.94	0.167	mg/kg wet	3.333		88	40-140			
Dibenzo(a,h)Anthracene	3.54	0.167	mg/kg wet	3.333		106	40-140			
Dibenzofuran	2.62	0.333	mg/kg wet	3.333		78	40-140			
Diethylphthalate	2.88	0.333	mg/kg wet	3.333		86	40-140			
Dimethylphthalate	2.75	0.333	mg/kg wet	3.333		82	40-140			
Di-n-butylphthalate	3.22	0.333	mg/kg wet	3.333		97	40-140			
Di-n-octylphthalate	2.92	0.333	mg/kg wet	3.333		88	40-140			
Fluoranthene	3.10	0.333	mg/kg wet	3.333		93	40-140			
Fluorene	2.78	0.333	mg/kg wet	3.333		83	40-140			
Hexachlorobenzene	2.80	0.333	mg/kg wet	3.333		84	40-140			
Hexachlorocyclopentadiene	1.58	1.67	mg/kg wet	3.333		47	40-140			
Indeno(1,2,3-cd)Pyrene	2.98	0.333	mg/kg wet	3.333		89	40-140			
Naphthalene	2.28	0.333	mg/kg wet	3.333		68	40-140			
Phenanthrene	3.04	0.333	mg/kg wet	3.333		91	40-140			
Phenol	2.11	0.333	mg/kg wet	3.333		63	30-130			
Pyrene	3.05	0.333	mg/kg wet	3.333		92	40-140			
Surrogate: 1,2-Dichlorobenzene-d4	*2.14*		mg/kg wet	*3.333*		*64*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*4.28*		mg/kg wet	*5.000*		*86*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*3.34*		mg/kg wet	*5.000*		*67*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*2.48*		mg/kg wet	*3.333*		*74*	*30-130*			
Surrogate: 2-Fluorophenol	*3.21*		mg/kg wet	*5.000*		*64*	*30-130*			
Surrogate: Nitrobenzene-d5	*2.28*		mg/kg wet	*3.333*		*69*	*30-130*			
Surrogate: Phenol-d6	*3.31*		mg/kg wet	*5.000*		*66*	*30-130*			
Surrogate: p-Terphenyl-d14	*2.84*		mg/kg wet	*3.333*		*85*	*30-130*			
LCS Dup										
1,2,4-Trichlorobenzene	2.17	0.333	mg/kg wet	3.333		65	40-140	0.7	30	
1,2-Dichlorobenzene	2.16	0.333	mg/kg wet	3.333		65	40-140	4	30	
1,3-Dichlorobenzene	2.13	0.333	mg/kg wet	3.333		64	40-140	3	30	
1,4-Dichlorobenzene	2.18	0.333	mg/kg wet	3.333		65	40-140	5	30	
2-Methylnaphthalene	2.37	0.333	mg/kg wet	3.333		71	40-140	2	30	
2-Methylphenol	2.22	0.333	mg/kg wet	3.333		67	30-130	4	30	
Acenaphthene	2.71	0.333	mg/kg wet	3.333		81	40-140	5	30	
Acenaphthylene	2.57	0.333	mg/kg wet	3.333		77	40-140	5	30	
Anthracene	3.14	0.333	mg/kg wet	3.333		94	40-140	4	30	
Benzo(a)anthracene	3.10	0.333	mg/kg wet	3.333		93	40-140	10	30	
Benzo(a)pyrene	2.73	0.167	mg/kg wet	3.333		82	40-140	2	30	
Benzo(b)fluoranthene	3.25	0.333	mg/kg wet	3.333		97	40-140	3	30	
Benzo(g,h,i)perylene	3.21	0.333	mg/kg wet	3.333		96	40-140	4	30	
Benzo(k)fluoranthene	3.20	0.333	mg/kg wet	3.333		96	40-140	5	30	
bis(2-Ethylhexyl)phthalate	3.26	0.333	mg/kg wet	3.333		98	40-140	2	30	
Butylbenzylphthalate	3.26	0.333	mg/kg wet	3.333		98	40-140	3	30	
Carbazole	3.18	0.333	mg/kg wet	3.333		95	40-140	3	30	
Chrysene	3.04	0.167	mg/kg wet	3.333		91	40-140	3	30	
Dibenzo(a,h)Anthracene	3.68	0.167	mg/kg wet	3.333		110	40-140	4	30	
Dibenzofuran	2.73	0.333	mg/kg wet	3.333		82	40-140	4	30	

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch CH30815 - 3546										
Diethylphthalate	2.96	0.333	mg/kg wet	3.333		89	40-140	3	30	
Dimethylphthalate	2.86	0.333	mg/kg wet	3.333		86	40-140	4	30	
Di-n-butylphthalate	3.30	0.333	mg/kg wet	3.333		99	40-140	2	30	
Di-n-octylphthalate	3.01	0.333	mg/kg wet	3.333		90	40-140	3	30	
Fluoranthene	3.21	0.333	mg/kg wet	3.333		96	40-140	4	30	
Fluorene	2.90	0.333	mg/kg wet	3.333		87	40-140	4	30	
Hexachlorobenzene	2.95	0.333	mg/kg wet	3.333		88	40-140	5	30	
Hexachlorocyclopentadiene	1.70	1.67	mg/kg wet	3.333		51	40-140	7	30	
Indeno(1,2,3-cd)Pyrene	3.14	0.333	mg/kg wet	3.333		94	40-140	5	30	
Naphthalene	2.30	0.333	mg/kg wet	3.333		69	40-140	0.7	30	
Phenanthrene	3.14	0.333	mg/kg wet	3.333		94	40-140	3	30	
Phenol	2.18	0.333	mg/kg wet	3.333		65	30-130	3	30	
Pyrene	3.16	0.333	mg/kg wet	3.333		95	40-140	3	30	
Surrogate: 1,2-Dichlorobenzene-d4	*2.17*		mg/kg wet	*3.333*		*65*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*4.40*		mg/kg wet	*5.000*		*88*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*3.37*		mg/kg wet	*5.000*		*67*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*2.59*		mg/kg wet	*3.333*		*78*	*30-130*			
Surrogate: 2-Fluorophenol	*3.23*		mg/kg wet	*5.000*		*65*	*30-130*			
Surrogate: Nitrobenzene-d5	*2.27*		mg/kg wet	*3.333*		*68*	*30-130*			
Surrogate: Phenol-d6	*3.34*		mg/kg wet	*5.000*		*67*	*30-130*			
Surrogate: p-Terphenyl-d14	*2.76*		mg/kg wet	*3.333*		*83*	*30-130*			
8270D(SIM) Polynuclear Aromatic Hydrocarbons										
Batch CH30811 - 3541										
Blank										
2-Methylnaphthalene	ND	0.017	mg/kg wet							
Acenaphthene	ND	0.017	mg/kg wet							
Acenaphthylene	ND	0.017	mg/kg wet							
Anthracene	ND	0.017	mg/kg wet							
Benzo(a)anthracene	ND	0.017	mg/kg wet							
Benzo(a)pyrene	ND	0.017	mg/kg wet							
Benzo(b)fluoranthene	ND	0.017	mg/kg wet							
Benzo(g,h,i)perylene	ND	0.017	mg/kg wet							
Benzo(k)fluoranthene	ND	0.017	mg/kg wet							
Chrysene	ND	0.017	mg/kg wet							
Dibenzo(a,h)Anthracene	ND	0.017	mg/kg wet							
Fluoranthene	ND	0.017	mg/kg wet							
Fluorene	ND	0.017	mg/kg wet							
Indeno(1,2,3-cd)Pyrene	ND	0.017	mg/kg wet							
Naphthalene	ND	0.017	mg/kg wet							
Phenanthrene	ND	0.017	mg/kg wet							
Pyrene	ND	0.017	mg/kg wet							
Surrogate: 1,2-Dichlorobenzene-d4	*0.119*		mg/kg wet	*0.3333*		*36*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*0.125*		mg/kg wet	*0.3333*		*38*	*30-130*			
Surrogate: Nitrobenzene-d5	*0.128*		mg/kg wet	*0.3333*		*38*	*30-130*			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308106

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D(SIM) Polynuclear Aromatic Hydrocarbons										
Batch CH30811 - 3541										
Surrogate: p-Terphenyl-d14	*0.183*		mg/kg wet	*0.3333*		*55*	*30-130*			
LCS										
2-Methylnaphthalene	0.252	0.017	mg/kg wet	0.2667		95	40-140			
Acenaphthene	0.233	0.017	mg/kg wet	0.2667		87	40-140			
Acenaphthylene	0.211	0.017	mg/kg wet	0.2667		79	40-140			
Anthracene	0.254	0.017	mg/kg wet	0.2667		95	40-140			
Benzo(a)anthracene	0.263	0.017	mg/kg wet	0.2667		98	40-140			
Benzo(a)pyrene	0.242	0.017	mg/kg wet	0.2667		91	40-140			
Benzo(b)fluoranthene	0.243	0.017	mg/kg wet	0.2667		91	40-140			
Benzo(g,h,i)perylene	0.281	0.017	mg/kg wet	0.2667		105	40-140			
Benzo(k)fluoranthene	0.243	0.017	mg/kg wet	0.2667		91	40-140			
Chrysene	0.259	0.017	mg/kg wet	0.2667		97	40-140			
Dibenzo(a,h)Anthracene	0.310	0.017	mg/kg wet	0.2667		116	40-140			
Fluoranthene	0.234	0.017	mg/kg wet	0.2667		88	40-140			
Fluorene	0.243	0.017	mg/kg wet	0.2667		91	40-140			
Indeno(1,2,3-cd)Pyrene	0.290	0.017	mg/kg wet	0.2667		109	40-140			
Naphthalene	0.236	0.017	mg/kg wet	0.2667		88	40-140			
Phenanthrene	0.251	0.017	mg/kg wet	0.2667		94	40-140			
Pyrene	0.260	0.017	mg/kg wet	0.2667		97	40-140			
Surrogate: 1,2-Dichlorobenzene-d4	*0.240*		mg/kg wet	*0.3333*		*72*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*0.233*		mg/kg wet	*0.3333*		*70*	*30-130*			
Surrogate: Nitrobenzene-d5	*0.246*		mg/kg wet	*0.3333*		*74*	*30-130*			
Surrogate: p-Terphenyl-d14	*0.322*		mg/kg wet	*0.3333*		*97*	*30-130*			
LCS Dup										
2-Methylnaphthalene	0.206	0.017	mg/kg wet	0.2667		77	40-140	20	30	
Acenaphthene	0.199	0.017	mg/kg wet	0.2667		74	40-140	16	30	
Acenaphthylene	0.177	0.017	mg/kg wet	0.2667		66	40-140	17	30	
Anthracene	0.217	0.017	mg/kg wet	0.2667		81	40-140	16	30	
Benzo(a)anthracene	0.244	0.017	mg/kg wet	0.2667		91	40-140	7	30	
Benzo(a)pyrene	0.226	0.017	mg/kg wet	0.2667		85	40-140	7	30	
Benzo(b)fluoranthene	0.238	0.017	mg/kg wet	0.2667		89	40-140	2	30	
Benzo(g,h,i)perylene	0.260	0.017	mg/kg wet	0.2667		97	40-140	8	30	
Benzo(k)fluoranthene	0.229	0.017	mg/kg wet	0.2667		86	40-140	6	30	
Chrysene	0.238	0.017	mg/kg wet	0.2667		89	40-140	8	30	
Dibenzo(a,h)Anthracene	0.286	0.017	mg/kg wet	0.2667		107	40-140	8	30	
Fluoranthene	0.211	0.017	mg/kg wet	0.2667		79	40-140	10	30	
Fluorene	0.207	0.017	mg/kg wet	0.2667		78	40-140	16	30	
Indeno(1,2,3-cd)Pyrene	0.272	0.017	mg/kg wet	0.2667		102	40-140	7	30	
Naphthalene	0.190	0.017	mg/kg wet	0.2667		71	40-140	21	30	
Phenanthrene	0.212	0.017	mg/kg wet	0.2667		79	40-140	17	30	
Pyrene	0.235	0.017	mg/kg wet	0.2667		88	40-140	10	30	
Surrogate: 1,2-Dichlorobenzene-d4	*0.181*		mg/kg wet	*0.3333*		*54*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*0.186*		mg/kg wet	*0.3333*		*56*	*30-130*			
Surrogate: Nitrobenzene-d5	*0.189*		mg/kg wet	*0.3333*		*57*	*30-130*			

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Client Name: GZA GeoEnvironmental, Inc.
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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D(SIM) Polynuclear Aromatic Hydrocarbons										
Batch CH30811 - 3541										
Surrogate: p-Terphenyl-d14	*0.283*		mg/kg wet	*0.3333*		*85*	*30-130*			
Batch CH30903 - 3541										
Blank										
2-Methylnaphthalene	ND	0.012	mg/kg wet							
Acenaphthene	ND	0.012	mg/kg wet							
Acenaphthylene	ND	0.012	mg/kg wet							
Anthracene	ND	0.012	mg/kg wet							
Benzo(a)anthracene	ND	0.012	mg/kg wet							
Benzo(a)pyrene	ND	0.012	mg/kg wet							
Benzo(b)fluoranthene	ND	0.012	mg/kg wet							
Benzo(g,h,i)perylene	ND	0.012	mg/kg wet							
Benzo(k)fluoranthene	ND	0.012	mg/kg wet							
Chrysene	ND	0.012	mg/kg wet							
Dibenzo(a,h)Anthracene	ND	0.012	mg/kg wet							
Fluoranthene	ND	0.012	mg/kg wet							
Fluorene	ND	0.012	mg/kg wet							
Indeno(1,2,3-cd)Pyrene	ND	0.012	mg/kg wet							
Naphthalene	ND	0.012	mg/kg wet							
Phenanthrene	ND	0.012	mg/kg wet							
Pyrene	ND	0.012	mg/kg wet							
Surrogate: 1,2-Dichlorobenzene-d4	*0.150*		mg/kg wet	*0.2500*		*60*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*0.148*		mg/kg wet	*0.2500*		*59*	*30-130*			
Surrogate: Nitrobenzene-d5	*0.163*		mg/kg wet	*0.2500*		*65*	*30-130*			
Surrogate: p-Terphenyl-d14	*0.214*		mg/kg wet	*0.2500*		*86*	*30-130*			
LCS										
2-Methylnaphthalene	0.154	0.012	mg/kg wet	0.2000		77	40-140			
Acenaphthene	0.146	0.012	mg/kg wet	0.2000		73	40-140			
Acenaphthylene	0.132	0.012	mg/kg wet	0.2000		66	40-140			
Anthracene	0.160	0.012	mg/kg wet	0.2000		80	40-140			
Benzo(a)anthracene	0.162	0.012	mg/kg wet	0.2000		81	40-140			
Benzo(a)pyrene	0.147	0.012	mg/kg wet	0.2000		74	40-140			
Benzo(b)fluoranthene	0.152	0.012	mg/kg wet	0.2000		76	40-140			
Benzo(g,h,i)perylene	0.136	0.012	mg/kg wet	0.2000		68	40-140			
Benzo(k)fluoranthene	0.160	0.012	mg/kg wet	0.2000		80	40-140			
Chrysene	0.154	0.012	mg/kg wet	0.2000		77	40-140			
Dibenzo(a,h)Anthracene	0.170	0.012	mg/kg wet	0.2000		85	40-140			
Fluoranthene	0.149	0.012	mg/kg wet	0.2000		74	40-140			
Fluorene	0.149	0.012	mg/kg wet	0.2000		74	40-140			
Indeno(1,2,3-cd)Pyrene	0.150	0.012	mg/kg wet	0.2000		75	40-140			
Naphthalene	0.132	0.012	mg/kg wet	0.2000		66	40-140			
Phenanthrene	0.158	0.012	mg/kg wet	0.2000		79	40-140			
Pyrene	0.158	0.012	mg/kg wet	0.2000		79	40-140			
Surrogate: 1,2-Dichlorobenzene-d4	*0.154*		mg/kg wet	*0.2500*		*62*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*0.168*		mg/kg wet	*0.2500*		*67*	*30-130*			

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Client Name: GZA GeoEnvironmental, Inc.
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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D(SIM) Polynuclear Aromatic Hydrocarbons										
Batch CH30903 - 3541										
Surrogate: Nitrobenzene-d5	*0.168*		mg/kg wet	*0.2500*		*67*	*30-130*			
Surrogate: p-Terphenyl-d14	*0.240*		mg/kg wet	*0.2500*		*96*	*30-130*			
LCS Dup										
2-Methylnaphthalene	0.180	0.012	mg/kg wet	0.2000		90	40-140	16	30	
Acenaphthene	0.164	0.012	mg/kg wet	0.2000		82	40-140	12	30	
Acenaphthylene	0.158	0.012	mg/kg wet	0.2000		79	40-140	18	30	
Anthracene	0.171	0.012	mg/kg wet	0.2000		86	40-140	7	30	
Benzo(a)anthracene	0.169	0.012	mg/kg wet	0.2000		84	40-140	4	30	
Benzo(a)pyrene	0.157	0.012	mg/kg wet	0.2000		78	40-140	6	30	
Benzo(b)fluoranthene	0.160	0.012	mg/kg wet	0.2000		80	40-140	5	30	
Benzo(g,h,i)perylene	0.143	0.012	mg/kg wet	0.2000		71	40-140	5	30	
Benzo(k)fluoranthene	0.169	0.012	mg/kg wet	0.2000		84	40-140	5	30	
Chrysene	0.167	0.012	mg/kg wet	0.2000		84	40-140	8	30	
Dibenzo(a,h)Anthracene	0.178	0.012	mg/kg wet	0.2000		89	40-140	4	30	
Fluoranthene	0.156	0.012	mg/kg wet	0.2000		78	40-140	4	30	
Fluorene	0.168	0.012	mg/kg wet	0.2000		84	40-140	12	30	
Indeno(1,2,3-cd)Pyrene	0.157	0.012	mg/kg wet	0.2000		78	40-140	5	30	
Naphthalene	0.162	0.012	mg/kg wet	0.2000		81	40-140	21	30	
Phenanthrene	0.169	0.012	mg/kg wet	0.2000		84	40-140	7	30	
Pyrene	0.166	0.012	mg/kg wet	0.2000		83	40-140	5	30	
Surrogate: 1,2-Dichlorobenzene-d4	*0.190*		mg/kg wet	*0.2500*		*76*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*0.186*		mg/kg wet	*0.2500*		*74*	*30-130*			
Surrogate: Nitrobenzene-d5	*0.206*		mg/kg wet	*0.2500*		*83*	*30-130*			
Surrogate: p-Terphenyl-d14	*0.248*		mg/kg wet	*0.2500*		*99*	*30-130*			
MADEP-EPH Extractable Petroleum Hydrocarbons										
Batch CH30813 - 3546										
Blank										
C19-C36 Aliphatics1	ND	15.0	mg/kg wet							
C9-C18 Aliphatics1	ND	15.0	mg/kg wet							
Decane (C10)	ND	0.5	mg/kg wet							
Docosane (C22)	ND	0.5	mg/kg wet							
Dodecane (C12)	ND	0.5	mg/kg wet							
Eicosane (C20)	ND	0.5	mg/kg wet							
Hexacosane (C26)	ND	0.5	mg/kg wet							
Hexadecane (C16)	ND	0.5	mg/kg wet							
Hexatriacontane (C36)	ND	0.5	mg/kg wet							
Nonadecane (C19)	ND	0.5	mg/kg wet							
Nonane (C9)	ND	0.5	mg/kg wet							
Octacosane (C28)	ND	0.5	mg/kg wet							
Octadecane (C18)	ND	0.5	mg/kg wet							
Tetracosane (C24)	ND	0.5	mg/kg wet							
Tetradecane (C14)	ND	0.5	mg/kg wet							
Triacontane (C30)	ND	0.5	mg/kg wet							

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
MADEP-EPH Extractable Petroleum Hydrocarbons										
Batch CH30813 - 3546										
Surrogate: 1-Chlorooctadecane	*1.52*		mg/kg wet	*2.000*		*76*	*40-140*			
Blank										
2-Methylnaphthalene	ND	0.20	mg/kg wet							
Acenaphthene	ND	0.40	mg/kg wet							
Acenaphthylene	ND	0.20	mg/kg wet							
Anthracene	ND	0.40	mg/kg wet							
Benzo(a)anthracene	ND	0.40	mg/kg wet							
Benzo(a)pyrene	ND	0.40	mg/kg wet							
Benzo(b)fluoranthene	ND	0.40	mg/kg wet							
Benzo(g,h,i)perylene	ND	0.40	mg/kg wet							
Benzo(k)fluoranthene	ND	0.40	mg/kg wet							
C11-C22 Unadjusted Aromatics1	ND	15.0	mg/kg wet							
Chrysene	ND	0.40	mg/kg wet							
Dibenzo(a,h)Anthracene	ND	0.20	mg/kg wet							
Fluoranthene	ND	0.40	mg/kg wet							
Fluorene	ND	0.40	mg/kg wet							
Indeno(1,2,3-cd)Pyrene	ND	0.40	mg/kg wet							
Naphthalene	ND	0.40	mg/kg wet							
Phenanthrene	ND	0.40	mg/kg wet							
Pyrene	ND	0.40	mg/kg wet							
Surrogate: 2-Bromonaphthalene	*2.15*		mg/kg wet	*2.000*		*107*	*40-140*			
Surrogate: 2-Fluorobiphenyl	*2.07*		mg/kg wet	*2.000*		*104*	*40-140*			
Surrogate: O-Terphenyl	*1.75*		mg/kg wet	*2.000*		*88*	*40-140*			
LCS										
C19-C36 Aliphatics1	15.0	15.0	mg/kg wet	16.00		94	40-140			
C9-C18 Aliphatics1	9.2	15.0	mg/kg wet	12.00		76	40-140			
Decane (C10)	1.1	0.5	mg/kg wet	2.000		54	40-140			
Docosane (C22)	1.6	0.5	mg/kg wet	2.000		81	40-140			
Dodecane (C12)	1.2	0.5	mg/kg wet	2.000		59	40-140			
Eicosane (C20)	1.6	0.5	mg/kg wet	2.000		78	40-140			
Hexacosane (C26)	1.6	0.5	mg/kg wet	2.000		80	40-140			
Hexadecane (C16)	1.5	0.5	mg/kg wet	2.000		73	40-140			
Hexatriacontane (C36)	1.6	0.5	mg/kg wet	2.000		82	40-140			
Nonadecane (C19)	1.6	0.5	mg/kg wet	2.000		78	40-140			
Nonane (C9)	0.8	0.5	mg/kg wet	2.000		40	30-140			
Octacosane (C28)	1.6	0.5	mg/kg wet	2.000		80	40-140			
Octadecane (C18)	1.5	0.5	mg/kg wet	2.000		77	40-140			
Tetracosane (C24)	1.6	0.5	mg/kg wet	2.000		79	40-140			
Tetradecane (C14)	1.3	0.5	mg/kg wet	2.000		67	40-140			
Triacontane (C30)	1.6	0.5	mg/kg wet	2.000		81	40-140			
Surrogate: 1-Chlorooctadecane	*1.63*		mg/kg wet	*2.000*		*81*	*40-140*			
LCS										
2-Methylnaphthalene	1.30	0.20	mg/kg wet	2.000		65	40-140			

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
MADEP-EPH Extractable Petroleum Hydrocarbons										
Batch CH30813 - 3546										
Acenaphthene	1.33	0.40	mg/kg wet	2.000		66	40-140			
Acenaphthylene	1.33	0.20	mg/kg wet	2.000		67	40-140			
Anthracene	1.35	0.40	mg/kg wet	2.000		68	40-140			
Benzo(a)anthracene	1.37	0.40	mg/kg wet	2.000		68	40-140			
Benzo(a)pyrene	1.68	0.40	mg/kg wet	2.000		84	40-140			
Benzo(b)fluoranthene	1.40	0.40	mg/kg wet	2.000		70	40-140			
Benzo(g,h,i)perylene	1.45	0.40	mg/kg wet	2.000		73	40-140			
Benzo(k)fluoranthene	1.59	0.40	mg/kg wet	2.000		79	40-140			
C11-C22 Unadjusted Aromatics1	27.6	15.0	mg/kg wet	34.00		81	40-140			
Chrysene	1.46	0.40	mg/kg wet	2.000		73	40-140			
Dibenzo(a,h)Anthracene	1.58	0.20	mg/kg wet	2.000		79	40-140			
Fluoranthene	1.43	0.40	mg/kg wet	2.000		71	40-140			
Fluorene	1.39	0.40	mg/kg wet	2.000		69	40-140			
Indeno(1,2,3-cd)Pyrene	1.43	0.40	mg/kg wet	2.000		71	40-140			
Naphthalene	1.19	0.40	mg/kg wet	2.000		59	40-140			
Phenanthrene	1.40	0.40	mg/kg wet	2.000		70	40-140			
Pyrene	1.44	0.40	mg/kg wet	2.000		72	40-140			
Surrogate: 2-Bromonaphthalene	*1.94*		mg/kg wet	*2.000*		*97*	*40-140*			
Surrogate: 2-Fluorobiphenyl	*2.09*		mg/kg wet	*2.000*		*105*	*40-140*			
Surrogate: O-Terphenyl	*1.72*		mg/kg wet	*2.000*		*86*	*40-140*			
LCS										
2-Methylnaphthalene Breakthrough	0.0		%				0-5			
Naphthalene Breakthrough	0.0		%				0-5			
LCS Dup										
C19-C36 Aliphatics1	14.9	15.0	mg/kg wet	16.00		93	40-140	0.6	25	
C9-C18 Aliphatics1	8.6	15.0	mg/kg wet	12.00		72	40-140	6	25	
Decane (C10)	1.0	0.5	mg/kg wet	2.000		51	40-140	6	25	
Docosane (C22)	1.6	0.5	mg/kg wet	2.000		80	40-140	0.7	25	
Dodecane (C12)	1.1	0.5	mg/kg wet	2.000		57	40-140	4	25	
Eicosane (C20)	1.5	0.5	mg/kg wet	2.000		76	40-140	2	25	
Hexacosane (C26)	1.6	0.5	mg/kg wet	2.000		80	40-140	0.2	25	
Hexadecane (C16)	1.4	0.5	mg/kg wet	2.000		68	40-140	7	25	
Hexatriacontane (C36)	1.6	0.5	mg/kg wet	2.000		81	40-140	0.6	25	
Nonadecane (C19)	1.5	0.5	mg/kg wet	2.000		75	40-140	4	25	
Nonane (C9)	0.8	0.5	mg/kg wet	2.000		40	30-140	2	25	
Octacosane (C28)	1.6	0.5	mg/kg wet	2.000		81	40-140	0.2	25	
Octadecane (C18)	1.4	0.5	mg/kg wet	2.000		72	40-140	6	25	
Tetracosane (C24)	1.6	0.5	mg/kg wet	2.000		80	40-140	0.2	25	
Tetradecane (C14)	1.3	0.5	mg/kg wet	2.000		63	40-140	6	25	
Triacontane (C30)	1.6	0.5	mg/kg wet	2.000		80	40-140	0.3	25	
Surrogate: 1-Chlorooctadecane	*1.58*		mg/kg wet	*2.000*		*79*	*40-140*			
LCS Dup										
2-Methylnaphthalene	1.25	0.20	mg/kg wet	2.000		62	40-140	4	20	

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
MADEP-EPH Extractable Petroleum Hydrocarbons										
Batch CH30813 - 3546										
Acenaphthene	1.26	0.40	mg/kg wet	2.000		63	40-140	6	20	
Acenaphthylene	1.30	0.20	mg/kg wet	2.000		65	40-140	3	20	
Anthracene	1.36	0.40	mg/kg wet	2.000		68	40-140	0.4	20	
Benzo(a)anthracene	1.43	0.40	mg/kg wet	2.000		71	40-140	4	20	
Benzo(a)pyrene	1.73	0.40	mg/kg wet	2.000		86	40-140	3	20	
Benzo(b)fluoranthene	1.49	0.40	mg/kg wet	2.000		74	40-140	6	20	
Benzo(g,h,i)perylene	1.50	0.40	mg/kg wet	2.000		75	40-140	3	20	
Benzo(k)fluoranthene	1.63	0.40	mg/kg wet	2.000		82	40-140	3	20	
C11-C22 Unadjusted Aromatics1	27.4	15.0	mg/kg wet	34.00		81	40-140	0.7	25	
Chrysene	1.51	0.40	mg/kg wet	2.000		76	40-140	4	20	
Dibenzo(a,h)Anthracene	1.61	0.20	mg/kg wet	2.000		80	40-140	2	20	
Fluoranthene	1.46	0.40	mg/kg wet	2.000		73	40-140	2	20	
Fluorene	1.38	0.40	mg/kg wet	2.000		69	40-140	0.7	20	
Indeno(1,2,3-cd)Pyrene	1.48	0.40	mg/kg wet	2.000		74	40-140	3	20	
Naphthalene	1.18	0.40	mg/kg wet	2.000		59	40-140	0.7	20	
Phenanthrene	1.35	0.40	mg/kg wet	2.000		67	40-140	4	20	
Pyrene	1.45	0.40	mg/kg wet	2.000		72	40-140	0.7	20	
Surrogate: 2-Bromonaphthalene	*1.86*		mg/kg wet	*2.000*		*93*	*40-140*			
Surrogate: 2-Fluorobiphenyl	*2.00*		mg/kg wet	*2.000*		*100*	*40-140*			
Surrogate: O-Terphenyl	*1.69*		mg/kg wet	*2.000*		*85*	*40-140*			
LCS Dup										
2-Methylnaphthalene Breakthrough	0.0		%				0-5		200	
Naphthalene Breakthrough	0.0		%				0-5		200	
Batch CH30919 - 3546										
Blank										
C19-C36 Aliphatics1	ND	15.0	mg/kg wet							
C9-C18 Aliphatics1	ND	15.0	mg/kg wet							
Decane (C10)	ND	0.5	mg/kg wet							
Docosane (C22)	ND	0.5	mg/kg wet							
Dodecane (C12)	ND	0.5	mg/kg wet							
Eicosane (C20)	ND	0.5	mg/kg wet							
Hexacosane (C26)	ND	0.5	mg/kg wet							
Hexadecane (C16)	ND	0.5	mg/kg wet							
Hexatriacontane (C36)	ND	0.5	mg/kg wet							
Nonadecane (C19)	ND	0.5	mg/kg wet							
Nonane (C9)	ND	0.5	mg/kg wet							
Octacosane (C28)	ND	0.5	mg/kg wet							
Octadecane (C18)	ND	0.5	mg/kg wet							
Tetracosane (C24)	ND	0.5	mg/kg wet							
Tetradecane (C14)	ND	0.5	mg/kg wet							
Triacontane (C30)	ND	0.5	mg/kg wet							
Surrogate: 1-Chlorooctadecane	*1.83*		mg/kg wet	*2.000*		*92*	*40-140*			
Blank										

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308106

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
MADEP-EPH Extractable Petroleum Hydrocarbons										
Batch CH30919 - 3546										
2-Methylnaphthalene	ND	0.20	mg/kg wet							
Acenaphthene	ND	0.40	mg/kg wet							
Acenaphthylene	ND	0.20	mg/kg wet							
Anthracene	ND	0.40	mg/kg wet							
Benzo(a)anthracene	ND	0.40	mg/kg wet							
Benzo(a)pyrene	ND	0.40	mg/kg wet							
Benzo(b)fluoranthene	ND	0.40	mg/kg wet							
Benzo(g,h,i)perylene	ND	0.40	mg/kg wet							
Benzo(k)fluoranthene	ND	0.40	mg/kg wet							
C11-C22 Unadjusted Aromatics1	ND	15.0	mg/kg wet							
Chrysene	ND	0.40	mg/kg wet							
Dibenzo(a,h)Anthracene	ND	0.20	mg/kg wet							
Fluoranthene	ND	0.40	mg/kg wet							
Fluorene	ND	0.40	mg/kg wet							
Indeno(1,2,3-cd)Pyrene	ND	0.40	mg/kg wet							
Naphthalene	ND	0.40	mg/kg wet							
Phenanthrene	ND	0.40	mg/kg wet							
Pyrene	ND	0.40	mg/kg wet							
Surrogate: 2-Bromonaphthalene	*2.08*		mg/kg wet	*2.000*		*104*	*40-140*			
Surrogate: 2-Fluorobiphenyl	*2.11*		mg/kg wet	*2.000*		*106*	*40-140*			
Surrogate: O-Terphenyl	*1.71*		mg/kg wet	*2.000*		*86*	*40-140*			
LCS										
C19-C36 Aliphatics1	16.4	15.0	mg/kg wet	16.00		103	40-140			
C9-C18 Aliphatics1	10.1	15.0	mg/kg wet	12.00		84	40-140			
Decane (C10)	1.1	0.5	mg/kg wet	2.000		54	40-140			
Docosane (C22)	1.7	0.5	mg/kg wet	2.000		87	40-140			
Dodecane (C12)	1.2	0.5	mg/kg wet	2.000		60	40-140			
Eicosane (C20)	1.7	0.5	mg/kg wet	2.000		85	40-140			
Hexacosane (C26)	1.7	0.5	mg/kg wet	2.000		85	40-140			
Hexadecane (C16)	1.6	0.5	mg/kg wet	2.000		79	40-140			
Hexatriacontane (C36)	1.6	0.5	mg/kg wet	2.000		82	40-140			
Nonadecane (C19)	1.7	0.5	mg/kg wet	2.000		83	40-140			
Nonane (C9)	0.8	0.5	mg/kg wet	2.000		40	30-140			
Octacosane (C28)	1.7	0.5	mg/kg wet	2.000		85	40-140			
Octadecane (C18)	1.7	0.5	mg/kg wet	2.000		83	40-140			
Tetracosane (C24)	1.7	0.5	mg/kg wet	2.000		85	40-140			
Tetradecane (C14)	1.4	0.5	mg/kg wet	2.000		70	40-140			
Triacontane (C30)	1.7	0.5	mg/kg wet	2.000		84	40-140			
Surrogate: 1-Chlorooctadecane	*1.78*		mg/kg wet	*2.000*		*89*	*40-140*			
LCS										
2-Methylnaphthalene	1.43	0.20	mg/kg wet	2.000		71	40-140			
Acenaphthene	1.41	0.40	mg/kg wet	2.000		70	40-140			
Acenaphthylene	1.44	0.20	mg/kg wet	2.000		72	40-140			
Anthracene	1.50	0.40	mg/kg wet	2.000		75	40-140			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308106

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
MADEP-EPH Extractable Petroleum Hydrocarbons										
Batch CH30919 - 3546										
Benzo(a)anthracene	1.49	0.40	mg/kg wet	2.000		75	40-140			
Benzo(a)pyrene	1.79	0.40	mg/kg wet	2.000		90	40-140			
Benzo(b)fluoranthene	1.51	0.40	mg/kg wet	2.000		75	40-140			
Benzo(g,h,i)perylene	1.51	0.40	mg/kg wet	2.000		75	40-140			
Benzo(k)fluoranthene	1.69	0.40	mg/kg wet	2.000		85	40-140			
C11-C22 Unadjusted Aromatics1	29.2	15.0	mg/kg wet	34.00		86	40-140			
Chrysene	1.59	0.40	mg/kg wet	2.000		79	40-140			
Dibenzo(a,h)Anthracene	1.58	0.20	mg/kg wet	2.000		79	40-140			
Fluoranthene	1.58	0.40	mg/kg wet	2.000		79	40-140			
Fluorene	1.53	0.40	mg/kg wet	2.000		76	40-140			
Indeno(1,2,3-cd)Pyrene	1.46	0.40	mg/kg wet	2.000		73	40-140			
Naphthalene	1.28	0.40	mg/kg wet	2.000		64	40-140			
Phenanthrene	1.51	0.40	mg/kg wet	2.000		76	40-140			
Pyrene	1.54	0.40	mg/kg wet	2.000		77	40-140			
Surrogate: 2-Bromonaphthalene	*1.96*		mg/kg wet	*2.000*		*98*	*40-140*			
Surrogate: 2-Fluorobiphenyl	*2.14*		mg/kg wet	*2.000*		*107*	*40-140*			
Surrogate: O-Terphenyl	*1.86*		mg/kg wet	*2.000*		*93*	*40-140*			
LCS										
2-Methylnaphthalene Breakthrough	0.0		%				0-5			
Naphthalene Breakthrough	0.0		%				0-5			
LCS Dup										
C19-C36 Aliphatics1	18.9	15.0	mg/kg wet	16.00		118	40-140	14	25	
C9-C18 Aliphatics1	11.7	15.0	mg/kg wet	12.00		98	40-140	15	25	
Decane (C10)	1.2	0.5	mg/kg wet	2.000		62	40-140	13	25	
Docosane (C22)	1.9	0.5	mg/kg wet	2.000		96	40-140	10	25	
Dodecane (C12)	1.4	0.5	mg/kg wet	2.000		69	40-140	13	25	
Eicosane (C20)	1.9	0.5	mg/kg wet	2.000		94	40-140	10	25	
Hexacosane (C26)	1.9	0.5	mg/kg wet	2.000		94	40-140	10	25	
Hexadecane (C16)	1.7	0.5	mg/kg wet	2.000		87	40-140	10	25	
Hexatriacontane (C36)	1.8	0.5	mg/kg wet	2.000		91	40-140	11	25	
Nonadecane (C19)	1.8	0.5	mg/kg wet	2.000		92	40-140	10	25	
Nonane (C9)	0.9	0.5	mg/kg wet	2.000		46	30-140	14	25	
Octacosane (C28)	1.9	0.5	mg/kg wet	2.000		94	40-140	10	25	
Octadecane (C18)	1.8	0.5	mg/kg wet	2.000		91	40-140	10	25	
Tetracosane (C24)	1.9	0.5	mg/kg wet	2.000		94	40-140	10	25	
Tetradecane (C14)	1.6	0.5	mg/kg wet	2.000		79	40-140	12	25	
Triacontane (C30)	1.9	0.5	mg/kg wet	2.000		93	40-140	10	25	
Surrogate: 1-Chlorooctadecane	*1.82*		mg/kg wet	*2.000*		*91*	*40-140*			
LCS Dup										
2-Methylnaphthalene	1.43	0.20	mg/kg wet	2.000		71	40-140	0.3	20	
Acenaphthene	1.45	0.40	mg/kg wet	2.000		72	40-140	3	20	
Acenaphthylene	1.44	0.20	mg/kg wet	2.000		72	40-140	0.4	20	
Anthracene	1.54	0.40	mg/kg wet	2.000		77	40-140	3	20	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308106

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
MADEP-EPH Extractable Petroleum Hydrocarbons										
Batch CH30919 - 3546										
Benzo(a)anthracene	1.56	0.40	mg/kg wet	2.000		78	40-140	4	20	
Benzo(a)pyrene	1.84	0.40	mg/kg wet	2.000		92	40-140	3	20	
Benzo(b)fluoranthene	1.62	0.40	mg/kg wet	2.000		81	40-140	7	20	
Benzo(g,h,i)perylene	1.56	0.40	mg/kg wet	2.000		78	40-140	4	20	
Benzo(k)fluoranthene	1.77	0.40	mg/kg wet	2.000		88	40-140	4	20	
C11-C22 Unadjusted Aromatics1	31.3	15.0	mg/kg wet	34.00		92	40-140	7	25	
Chrysene	1.66	0.40	mg/kg wet	2.000		83	40-140	4	20	
Dibenzo(a,h)Anthracene	1.64	0.20	mg/kg wet	2.000		82	40-140	4	20	
Fluoranthene	1.62	0.40	mg/kg wet	2.000		81	40-140	3	20	
Fluorene	1.57	0.40	mg/kg wet	2.000		79	40-140	3	20	
Indeno(1,2,3-cd)Pyrene	1.50	0.40	mg/kg wet	2.000		75	40-140	3	20	
Naphthalene	1.33	0.40	mg/kg wet	2.000		67	40-140	4	20	
Phenanthrene	1.56	0.40	mg/kg wet	2.000		78	40-140	3	20	
Pyrene	1.63	0.40	mg/kg wet	2.000		82	40-140	6	20	
Surrogate: 2-Bromonaphthalene	*1.95*		mg/kg wet	*2.000*		*97*	*40-140*			
Surrogate: 2-Fluorobiphenyl	*2.12*		mg/kg wet	*2.000*		*106*	*40-140*			
Surrogate: O-Terphenyl	*1.84*		mg/kg wet	*2.000*		*92*	*40-140*			
LCS Dup										
2-Methylnaphthalene Breakthrough	0.0		%				0-5		200	
Naphthalene Breakthrough	0.0		%				0-5		200	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308106

Notes and Definitions

U	Analyte included in the analysis, but not detected
Q	Calibration required quadratic regression (Q).
ICV	Initial Calibration Verification recovery is outside of control limit (ICV).
D	Diluted.
C+	Continuing Calibration recovery is above upper control limit (C+).
C-	Continuing Calibration recovery is below lower control limit (C-).
BT	Benzidine tailing factor >2.
ND	Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
I/V	Initial Volume
F/V	Final Volume
§	Subcontracted analysis; see attached report
1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of target analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.
Avg	Results reported as a mathematical average.
NR	No Recovery
[CALC]	Calculated Analyte
SUB	Subcontracted analysis; see attached report

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308106

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Department of Defense (DoD) Environmental Laboratory Accreditation Program (ELAP)
A2LA Accredited: Testing Cert# 2864.01
http://www.a2la.org/scopepdf/2864-01.pdf

Rhode Island Potable and Non Potable Water: LAI00179
http://www.health.ri.gov/labs/waterlabs-instate.php

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750
http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutofStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI0002
http://www.maine.gov/dep/blwq/topic/vessel/lab_list.pdf

Massachusetts Potable and Non Potable Water: M-RI002
http://public.dep.state.ma.us/labcert/labcert.aspx

New Hampshire (NELAP accredited) Potable and Non PotableWater, Solid and Hazardous Waste: 2424
http://www4.egov.nh.gov/des/nhelap/namesearch.asp

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313
http://www.wadsworth.org/labcert/elap/comm.html

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006
http://datamine2.state.nj.us/dep/DEP_OPRA/

United States Department of Agriculture Soil Permit: S-54210

Maryland Potable Water: 301
http://www.mde.state.md.us/assets/document/WSP_labs-2009apr20.pdf

CHEMISTRY

A2LA Accredited: Testing Cert # 2864.01
Lead in Paint, Phthalates, Lead in Children's Metals Products (Including Jewelry)
http://www.A2LA.org/dirsearchnew/newsearch.cfm

CPSC ID# 1141
Lead Paint, Lead in Children's Metals Jewelry
http://www.cpsc.gov/cgi-bin/labapplist.aspx

Sterling Analytical, Inc.
15 Agawam Avenue
West Springfield, MA 01089
Phone (413) 214-6541 Fax (413) 214-6842
email-madhu@sterlinganalytical.com

Visit our website: www.sterlinganalytical.com

Mass Certification - MA-00071
Conn Certification - PH-0520

Report Date August 15, 2013

Customer	Contact	Laboratory Supervisor	eMail
ESS Laboratory	C. Taylor	Madhu Shah	madhu@sterlinganalytical.com

Sample Description
Analysis of Soil Samples

Samples Analyzed

Enclosed are Report No(s): 39733 to 39743

Thank you for your business

Madhu Shah

Madhu Shah, Laboratory Supervisor

8/15/13

Date

ALL the information contained in this report has been reviewed for accuracy and checked against all quality control requirements outlined in each applicable method.
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Sample	Description	Source	Taken/Time	Received
39733	1308106-2	ESS Laboratory	8/2/13	8/9/13

Parameter	Results		MDL	Method	Analyzed/Time	Tech
Total Organic Carbon Lloyd Kah	51,110	mg/kg	500.00	Lloyd Kahn	08/14/13	sjr

Sample	Description	Source	Taken/Time	Received
39734	1308106-5	ESS Laboratory	8/6/13	8/9/13

Parameter	Results		MDL	Method	Analyzed/Time	Tech
Total Organic Carbon Lloyd Kah	9,900	mg/kg	500.00	Lloyd Kahn	08/14/13	sjr

Sample	Description	Source	Taken/Time	Received
39735	1308106-6	ESS Laboratory	8/6/13	8/9/13

Parameter	Results		MDL	Method	Analyzed/Time	Tech
Total Organic Carbon Lloyd Kah	13,860	mg/kg	500.00	Lloyd Kahn	08/14/13	sjr

Sample	Description	Source	Taken/Time	Received
39736	1308106-7	ESS Laboratory	8/2/13	8/9/13

Parameter	Results		MDL	Method	Analyzed/Time	Tech
Total Organic Carbon Lloyd Kah	6,700	mg/kg	500.00	Lloyd Kahn	08/14/13	sjr

Sample	Description	Source	Taken/Time	Received
39737	1308106-8	ESS Laboratory	8/2/13	8/9/13

Parameter	Results		MDL	Method	Analyzed/Time	Tech
Total Organic Carbon Lloyd Kah	42,420	mg/kg	500.00	Lloyd Kahn	08/14/13	sjr

Sample	Description	Source	Taken/Time	Received
39738	1308106-11	ESS Laboratory	8/1/13	8/9/13

Parameter	Results		MDL	Method	Analyzed/Time	Tech
Total Organic Carbon Lloyd Kah	9,230	mg/kg	500.00	Lloyd Kahn	08/15/13	sjr

Sample	Description	Source	Taken/Time	Received
39739	1308106-13	ESS Laboratory	8/2/13	8/9/13

Parameter	Results		MDL	Method	Analyzed/Time	Tech
Total Organic Carbon Lloyd Kah	10,280	mg/kg	500.00	Lloyd Kahn	08/15/13	sjr

Sample	Description	Source	Taken/Time	Received
39740	1308106-17	ESS Laboratory	8/6/13	8/9/13

Parameter	Results		MDL	Method	Analyzed/Time	Tech
Total Organic Carbon Lloyd Kah	12,320	mg/kg	500.00	Lloyd Kahn	08/15/13	sjr

Sample	Description	Source	Taken/Time	Received
39741	1308106-18	ESS Laboratory	8/5/13	8/9/13

Parameter	Results		MDL	Method	Analyzed/Time	Tech
Total Organic Carbon Lloyd Kah	5,470	mg/kg	500.00	Lloyd Kahn	08/15/13	sjr

Sample	Description	Source	Taken/Time	Received
39742	1308106-19	ESS Laboratory	8/5/13	8/9/13

Parameter	Results		MDL	Method	Analyzed/Time	Tech
Total Organic Carbon Lloyd Kah	6,580	mg/kg	500.00	Lloyd Kahn	08/15/13	sjr

Sample	Description	Source	Taken/Time	Received
39743	1308106-20	ESS Laboratory	8/2/13	8/9/13

Parameter	Results		MDL	Method	Analyzed/Time	Tech
Total Organic Carbon Lloyd Kah	18970	mg/kg	500.00	Lloyd Kahn	08/15/13	sjr

Sterling Analytical, Inc.
P.O. Box 2010
West Springfield, MA 01090-2010
Phone (413) 787-9064 Fax (413) 787-905
email-madhu@sterlinganalytical.com

Sample Number 39743

QA/QC Results

8/15/2013

Parameter	Blank	LCS	CCV	Sample Results	Spiked With		Theoretical	Spiked Results	Percent Recovery
Total Organic Carbon Lloyd Kah	13	514	51,103		50,000	Spiked	50000.000	62160.00	124.32%
						Duplicate	50000.000	62270.00	124.54%

ICV--True value 50,000 mg/Kg, found---- 51,127 mg/Kg

ICV: Initial Control Verification CCV:Continuous Control Verification LCS: Fortified

Signature Madhu Shah

Madhu Shah

ESS Laboratory

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

Page_____ of_____

Turn Time ___ Standard Other 5 day
If faster than 5 days, prior approval by laboratory is required # _____

State where samples were collected from:
MA RI CT NH NJ NY ME Other _____

Is this project for any of the following:
MA-MCP Navy USACE Other _____

Reporting Limits

ESS LAB PROJECT ID

Electronic Deliverable Yes ✓ No ___

Format: Excel ___ Access ___ PDF ✓ Other _____

Co. Name	Project #	Project Name (20 Char. or less)
ESS	1508106	
Contact Person	**Address**	
[illegible] Taylor		
City	**State**	**Zip**
Telephone #	**Fax #**	**Email Address**
		[illegible]

PO# 1508106

ESS LAB Sample #	Date	Collection Time	COMP	GRAB	MATRIX	Sample Identification (20 Char. or less)	Pres Code	Number of Containers	Type of Containers	Write Required Analysis: TPH 1664
	8/2			✓	SD	1508106 - 2	1	1	6	X
	8/6			↓	↓	- 5	↓	↓	↓	↓
	8/6					- 6				
	8/2					- 7				
	8/2					- 8				
	8/1					- 11				
	8/2					- 13				
	8/6					- 17				
	8/5					- 18				
	8/5			↓	↓	- 19	↓	↓	↓	↓

Container Type: P-Poly G-Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Waste Water GW-Ground Water SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filters

Cooler Present ___ Yes ___ No Internal Use Only

Seals Intact ___ Yes ___ No NA: ___ [ ] Pickup

Cooler Temp: _____ [ ] Technicians _____

Preservation Code 1- NP, 2- HCl, 3- H_2SO_4, 4- HNO_3, 5- NaOH, 6- MeOH, 7- Asorbic Acid, 8- ZnAct, 9- _____

Sampled by:

Comments:

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
[signature]	8/13 1700	[signature]					
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time

*By circling MA-MCP, client acknowledges samples were collected in accordance with MADEP CAM VII A

Please fax all changes to Chain of Custody in writing.

1 (White) Lab Copy 2 (Yellow) Client Receipt

10/26/04 A

ESS Laboratory

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

Page_____ of_____

Turn Time ___ Standard Other _____
If faster than 5 days, prior approval by laboratory is required # _____

State where samples were collected from:
MA RI CT NH NJ NY ME Other _____

Is this project for any of the following:
MA-MCP Navy USACE Other _____

Reporting Limits

ESS LAB PROJECT ID

Electronic Deliverable Yes ___ No ___
Format: Excel __ Access __ PDF __ Other _____

Co. Name	Project #	Project Name (20 Char. or less)
	130816	
Contact Person	**Address**	
City	**State**	**Zip**
Telephone #	**Fax #**	**Email Address**

PO# 130816

Write Required Analysis

ESS LAB Sample #	Date	Collection Time	COMP	GRAB	MATRIX	Sample Identification (20 Char. or less)	Pres Code	Number of Containers	Type of Containers	
	1/			/	GW	130816-20	1	1	6	X
	1/									
	/12									
	12									
	/									

Container Type: P-Poly G-Glass S-Sterile V-VOA | Matrix: S-Soil SD-Solid D-Sludge WW-Waste Water GW-Ground Water SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filters

Cooler Present ___Yes ___No Internal Use Only

Seals Intact ___Yes ___No NA:___ [ ] Pickup

Cooler Temp: _____ [ ] Technicians _____

Preservation Code 1- NP, 2- HCl, 3- H_2SO_4, 4- HNO_3, 5- NaOH, 6- MeOH, 7- Asorbic Acid, 8- ZnAct, 9-_____

Sampled by:

Comments:

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
	/		/		/		/
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
	/		/		/		/

*By circling MA-MCP, client acknowledges samples were collected in accordance with MADEP CAM VII A

Please fax all changes to Chain of Custody in writing.

1 (White) Lab Copy 2 (Yellow) Client Receipt

10/26/04 A

Sample and Cooler Receipt Checklist

Client: GZA GeoEnvironmental, Inc.
Client Project ID: _____
Shipped/Delivered Via: ESS Courier

ESS Project ID: 13080106
Date Project Due: 8/14/13
Days For Project: 5 Day

Items to be checked upon receipt:

1. Air Bill Manifest Present?	* No	10. Are the samples properly preserved?	Yes
Air No.:		11. Proper sample containers used?	Yes
2. Were Custody Seals Present?	No	12. Any air bubbles in the VOA vials?	N/A
3. Were Custody Seals Intact?	N/A	13. Holding times exceeded?	No
4. Is Radiation count < 100 CPM?	Yes	14. Sufficient sample volumes?	Yes
5. Is a cooler present?	Yes	15. Any Subcontracting needed?	~~No~~ Yes CCF 8/7/13
Cooler Temp: **4.1**		16. Are ESS labels on correct containers?	Yes|No
Iced With: **Ice**		17. Were samples received intact?	Yes|No
6. Was COC included with samples?	Yes	ESS Sample IDs: 13080106-02,05,06,07,08,11,13,17,18,19,20	
7. Was COC signed and dated by client?	Yes	Sub Lab: Sterling	
8. Does the COC match the sample	Yes	Analysis: TOC	
9. Is COC complete and correct?	Yes	TAT: 4day	

18. Was there need to call project manager to discuss status? If yes, please explain.

_____

_____

_____

Who was called?:_____ By whom? _____

Sample Number	Properly Preserved	Container Type	# of Containers	Preservative
1	Yes	4 oz Soil Jar	1	NP
1	Yes	8 oz Soil Jar	1	NP
2	Yes	2 oz Soil Jar	1	NP
2	Yes	4 oz Soil Jar	1	NP
2	Yes	8 oz Soil Jar	1	NP
3	Yes	4 oz Soil Jar	1	NP
3	Yes	8 oz Soil Jar	1	NP
4	Yes	4 oz Soil Jar	1	NP
4	Yes	8 oz Soil Jar	1	NP
5	Yes	2 oz Soil Jar	1	NP
5	Yes	4 oz Soil Jar	1	NP
5	Yes	8 oz Soil Jar	1	NP
6	Yes	2 oz Soil Jar	1	NP
6	Yes	4 oz Soil Jar	1	NP
6	Yes	8 oz Soil Jar	1	NP
7	Yes	2 oz Soil Jar	1	NP
7	Yes	4 oz Soil Jar	1	NP
7	Yes	8 oz Soil Jar	1	NP
8	Yes	2 oz Soil Jar	1	NP
8	Yes	4 oz Soil Jar	1	NP
8	Yes	8 oz Soil Jar	1	NP
9	Yes	4 oz Soil Jar	1	NP
9	Yes	8 oz Soil Jar	1	NP
10	Yes	4 oz Soil Jar	1	NP
10	Yes	8 oz Soil Jar	1	NP

Sample and Cooler Receipt Checklist

Client: GZA GeoEnvironmental, Inc. ESS Project ID: 13080106

11	Yes	2 oz Soil Jar	1	NP
11	Yes	4 oz Soil Jar	1	NP
11	Yes	8 oz Soil Jar	1	NP
12	Yes	4 oz Soil Jar	1	NP
12	Yes	8 oz Soil Jar	1	NP
13	Yes	2 oz Soil Jar	1	NP
13	Yes	4 oz Soil Jar	1	NP
13	Yes	8 oz Soil Jar	1	NP
14	Yes	4 oz Soil Jar	1	NP
14	Yes	8 oz Soil Jar	1	NP
15	Yes	4 oz Soil Jar	1	NP
15	Yes	8 oz Soil Jar	1	NP
16	Yes	4 oz Soil Jar	1	NP
16	Yes	8 oz Soil Jar	1	NP
17	Yes	2 oz Soil Jar	1	NP
17	Yes	4 oz Soil Jar	1	NP
17	Yes	8 oz Soil Jar	1	NP
18	Yes	2 oz Soil Jar	1	NP
18	Yes	4 oz Soil Jar	1	NP
18	Yes	8 oz Soil Jar	1	NP
19	Yes	2 oz Soil Jar	1	NP
19	Yes	4 oz Soil Jar	1	NP
19	Yes	8 oz Soil Jar	1	NP
20	Yes	2 oz Soil Jar	1	NP
20	Yes	4 oz Soil Jar	1	NP
20	Yes	8 oz Soil Jar	1	NP

Completed By: _____ Date/Time: 8/7/13 1700

Reviewed By: _____ Date/Time: 8/7/13 1810

ESS Laboratory

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS LAB PROJECT ID: 1308106

Turn Time ___x___ Standard Rush_____ Approved By: _____

Reporting Limits - see prev. email correspondence

State where samples were collected: **MA RI CT NH NJ NY ME** Other_____

Is this project for any of the following: (please circle)
MA-MCP CT-RCP RGP DOD Other_____

Electonic Deliverable Yes__x__ No____
Format: Excel_x__ Access___ PDF___ Other_____

GZA Project Manager: David E. Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Avenue
Norwood, MA 02062
(781) 278-3700
PRESUMPTIVE CERTAINTY REQUIRED

Project # 171521.02

Project Name: Former Everett Staging Yard

Contract Pricing _____
Special Pricing WO#: _____

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	Analysis: MCP 14 metals	B/N Phthalates Esters 8270	PAH 8270 SIM	EPH Fractions	PCBs	TOC by Lloyd Kahn					Comment #
1	8/2/13	11:06	G	Sed	GZ-120 2-4'	2	X										
2	8/6/13	8:46	G	Sed	GZ-121 T 0-0.5'	2	X					X					
3	8/1/13	14:14	G	Sed	GZ-121 2-4'	2	X										
4	8/1/13	14:14	G	Sed	GZ-121 4-6'	2	X										
5	8/6/13	9:35	G	Sed	GZ-122 T 0-0.5'	2	X	X	X	X	X	X					
6	8/2/13	11:24	G	Sed	GZ-122 0.5-2'	2	X	X	X	X	X	X					
7	8/2/13	11:24	G	Sed	GZ-122 2-4'	2	X	X	X	X	X	X					
8	8/1/13	14:30	G	Sed	GZ-123 0-0.5'	2	X					X					
9	8/1/13	14:30	G	Sed	GZ-123 2-4'	2	X										
10	8/1/13	14:30	G	Sed	GZ-123 4-6'	2	X										
							AG	AG	AG	AG	AG	AG					

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-_____

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present ___Yes ___No
Seals Intact ___Yes ___No NA: BB
Cooler Temperature: 4.1 3.6 4.8 2.6 3.2

Sampled by : Dan Scanlon

Comments: Contract Price - 10%

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
	8/6/13 0:6	8/7/13 1030	8/7/13	1120	8/7/13 1619

Please E-mail all changes to Chain of Custody in writing.

ESS Laboratory

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS LAB PROJECT ID: 130806

Turn Time ___x___ Standard Rush_____ Approved By: _____

State where samples were collected: MA RI CT NH NJ NY ME Other_____

Is this project for any of the following: (please circle)
MA-MCP CT-RCP RGP DOD Other_____

Reporting Limits - see prev. email correspondence

Electonic Deliverable Yes__x__ No____
Format: Excel_x__ Access___ PDF___ Other_____

GZA Project Manager: David E. Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Avenue
Norwood, MA 02062
(781) 278-3700
PRESUMPTIVE CERTAINTY REQUIRED

Project # 171521.02

Project Name: Former Everett Staging Yard

Contract Pricing ____
Special Pricing WO#: _____

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	Analysis: MCP 14 metals	B/N Phthalates Esters 8270	PAH 8270 SIM	EPH Fractions	PCBs	TOC by Lloyd Kahn					Comment #
11	8/2/13	11:44	G	Sed	GZ-124 0-0.5'	2	X					X					
12	8/2/13	11:44	G	Sed	GZ-124 2-4'	2	X										
13	8/5/13	11:10	G	Sed	GZ-125A 0-0.5'	2	X					X					
14	8/5/13	11:10	G	Sed	GZ-125A 2-4'	2	X										
15	8/5/13	11:10	G	Sed	GZ-125A 4-6'	2	X										
16	8/5/13	11:10	G	Sed	GZ-125A 8-9'	2	X										
17	8/6/13	10:15	G	Sed	GZ-126 T 0-0.5'	2	X	X	X	X	X	X					
18	8/5/13	10:50	G	Sed	GZ-126 0.5-2'	2	X	X	X	X	X	X					
19	8/5/13	10:50	G	Sed	GZ-126 2-4'	2	X	X	X	X	X	X					
20	8/5/13	10:35	G	Sed	GZ-127 0-0.5'	2	X					X					
Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-_____																	
Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA							AG	AG	AG	AG	AG	AG					

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present ✓ Yes ____ No
Seals Intact ____ Yes ____ No NA: BB
5 coolers
Cooler Temperature: 4.1 3.6 4.8 2.6 3.2

Sampled by : Dan Scanlon

Comments: Contract Price - 10%

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Walden	8/6/13 22:0	Rick Buscon 8/7/13 1030	Bill Buscon 8/7/13	H2O	8/7/13 1641
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)

Please E-mail all changes to Chain of Custody in writing.

Page 8 of 16

CERTIFICATE OF ANALYSIS

David E Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Avenue
Norwood, MA 02062

RE: Everett (01.0171521.02)
ESS Laboratory Work Order Number: 1308107

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.



Laurel Stoddard
Laboratory Director

REVIEWED
By ESS Laboratory at 11:23 am, Aug 20, 2013

Analytical Summary
The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with NELAC Standards, A2LA and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibratins, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.

Subcontracted Analyses

TestAmerica Laboratories, Inc. - Burlington, VT	Total Organic Carbon

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308107

SAMPLE RECEIPT

The following samples were received on August 07, 2013 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has performed and reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Data Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

For EPH soil samples, the aromatic range results have been corrected for identified cartridge contaminant in accordance with the CAM protocol.

Lab Number	SampleName	Matrix	Analysis
1308107-01	GZ-127 0.5-2ft	Solid	6010B, 6020A, 7471B
1308107-02	GZ-127 2-4ft	Solid	6010B, 6020A, 7471B
1308107-03	GZ-127 4-5ft	Solid	6010B, 6020A, 7471B
1308107-04	GZ-128T 0-0.5ft	Solid	6010B, 6020A, 7471B, TOC-LK
1308107-05	GZ-128 2-4ft	Solid	6010B, 6020A, 7471B
1308107-06	GZ-128 4-6ft	Solid	6010B, 6020A, 7471B
1308107-07	GZ-129T 0-0.5ft	Solid	6010B, 6020A, 7471B, TOC-LK
1308107-08	GZ-129 2-4ft	Solid	6010B, 6020A, 7471B
1308107-09	GZ-130 0-0.5ft	Solid	6010B, 6020A, 7471B, TOC-LK
1308107-10	GZ-130 2-4ft	Solid	6010B, 6020A, 7471B, TOC-LK
1308107-11	GZ-130 4-6ft	Solid	6010B, 6020A, 7471B
1308107-12	GZ-131 0-0.5ft	Solid	6010B, 6020A, 7471B, TOC-LK
1308107-13	GZ-131 0.5-2ft	Solid	6010B, 6020A, 7471B, TOC-LK
1308107-14	GZ-131 2-4ft	Solid	6010B, 6020A, 7471B
1308107-15	GZ-131 4-5ft	Solid	6010B, 6020A, 7471B
1308107-16	GZ-132 0-0.5ft	Solid	6010B, 6020A, 7471B, TOC-LK
1308107-17	GZ-132 0.5-2ft	Solid	6010B, 6020A, 7471B
1308107-18	GZ-133 0-0.5ft	Solid	6010B, 6020A, 7471B, TOC-LK
1308107-19	GZ-133 0.5-2ft	Solid	6010B, 6020A, 7471B
1308107-20	GZ-133 2-4.4ft	Solid	6010B, 6020A, 7471B

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308107

PROJECT NARRATIVE

No unusual observations noted.

End of Project Narrative.

DATA USABILITY LINKS

Definitions of Quality Control Parameters

Semivolatile Organics Internal Standard Information

Semivolatile Organics Surrogate Information

Volatile Organics Internal Standard Information

Volatile Organics Surrogate Information

EPH and VPH Alkane Lists

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308107

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

1010A - Flashpoint
6010C - ICP
6020A - ICP MS
7010 - Graphite Furnace
7196A - Hexavalent Chromium
7470A - Aqueous Mercury
7471B - Solid Mercury
8011 - EDB/DBCP/TCP
8015C - GRO/DRO
8081B - Pesticides
8082A - PCB
8100M - TPH
8151A - Herbicides
8260B - VOA
8270D - SVOA
8270D SIM - SVOA Low Level
9014 - Cyanide
9038 - Sulfate
9040C - Aqueous pH
9045D - Solid pH (Corrosivity)
9050A - Specific Conductance
9056A - Anions (IC)
9060A - TOC
9095B - Paint Filter
MADEP 04-1.1 - EPH / VPH

Prep Methods

3005A - Aqueous ICP Digestion
3020A - Aqueous Graphite Furnace / ICP MS Digestion
3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
3060A - Solid Hexavalent Chromium Digestion
3510C - Separatory Funnel Extraction
3520C - Liquid / Liquid Extraction
3540C - Manual Soxhlet Extraction
3541 - Automated Soxhlet Extraction
3580A - Waste Dilution
5030B - Aqueous Purge and Trap
5035 - Solid Purge and Trap

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308107

MassDEP Analytical Protocol Certification Form

MADEP RTN: _____

This form provides certification for the following data set: **1308107-01 through 1308107-20**

Matrices: ( ) Ground Water/Surface Water (X) Soil/Sediment ( ) Drinking Water ( ) Air ( ) Other:_____

CAM Protocol (check all that apply below):

( ) 8260 VOC CAM II A	(X) 7470/7471 Hg CAM III B	( ) MassDEP VPH CAM IV A	( ) 8081 Pesticides CAM V B	( ) 7196 Hex Cr CAM VI B	( ) MassDEP APH CAM IX A
( ) 8270 SVOC CAM II B	( ) 7010 Metals CAM III C	( ) MassDEP EPH CAM IV B	( ) 8151 Herbicides CAM V C	( ) 8330 Explosives CAM VIII A	( ) TO-15 VOC CAM IX B
(X) 6010 Metals CAM III A	(X) 6020 Metals CAM III D	( ) 8082 PCB CAM V A	( ) 6860 Perchlorate CAM VIII B	( ) 9014 Total Cyanide/PAC CAM VI A	

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	Yes (X) No ( )
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	Yes (X) No ( )
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	Yes (X) No ( )
D	Does the laboratory report comply with all the reporting requirements specified in the CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	Yes (X) No ( )
E	a. VPH, EPH, APH and TO-15 only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	Yes ( ) No ( )
	b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	Yes ( ) No ( )
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	Yes (X) No ( )

Responses to Questions G, H and I below are required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocols(s)?	Yes (X) No ( )*
	***Data User Note:* Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.**	
H	Were **all** QC performance standards specified in the CAM protocol(s) achieved?	Yes (X) No ( )*
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	Yes (X) No ( )*

All negative responses must be addressed in an attached laboratory narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: _____ Date: August 20, 2013

Printed Name: Laurel Stoddard Position: Laboratory Director

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-127 0.5-2ft
Date Sampled: 08/05/13 10:35
Percent Solids: 67

ESS Laboratory Work Order: 1308107
ESS Laboratory Sample ID: 1308107-01
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.5)		6020A		50	SVD	08/12/13 23:04	5.08	100	CH31007
Arsenic	**24.7** (1.5)		6010B		1	ICP	08/11/13 22:41	5.08	100	CH31007
Barium	**27.2** (1.5)		6010B		1	ICP	08/11/13 22:41	5.08	100	CH31007
Beryllium	**0.26** (0.06)		6010B		1	ICP	08/11/13 22:41	5.08	100	CH31007
Cadmium	ND (0.29)		6010B		1	ICP	08/11/13 22:41	5.08	100	CH31007
Chromium	**17.2** (0.6)		6010B		1	ICP	08/11/13 22:41	5.08	100	CH31007
Lead	**97.4** (2.9)		6010B		1	ICP	08/11/13 22:41	5.08	100	CH31007
Mercury	**1.69** (0.423)		7471B		20	KJK	08/10/13 19:52	1.39	40	CH30807
Nickel	**8.6** (1.5)		6010B		1	ICP	08/11/13 22:41	5.08	100	CH31007
Selenium	ND (1.47)		6020A		50	SVD	08/12/13 23:04	5.08	100	CH31007
Silver	**0.63** (0.29)		6010B		1	ICP	08/11/13 22:41	5.08	100	CH31007
Thallium	ND (1.47)		6020A		50	SVD	08/12/13 23:04	5.08	100	CH31007
Vanadium	**24.1** (0.6)		6010B		1	ICP	08/11/13 22:41	5.08	100	CH31007
Zinc	**80.0** (1.5)		6010B		1	ICP	08/11/13 22:41	5.08	100	CH31007

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-127 2-4ft
Date Sampled: 08/05/13 10:35
Percent Solids: 83

ESS Laboratory Work Order: 1308107
ESS Laboratory Sample ID: 1308107-02
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.1)		6020A		50	SVD	08/12/13 23:10	5.31	100	CH31007
Arsenic	**8.0** (1.1)		6010B		1	ICP	08/11/13 22:46	5.31	100	CH31007
Barium	**24.3** (1.1)		6010B		1	ICP	08/11/13 22:46	5.31	100	CH31007
Beryllium	**0.39** (0.05)		6010B		1	ICP	08/11/13 22:46	5.31	100	CH31007
Cadmium	ND (0.23)		6010B		1	ICP	08/11/13 22:46	5.31	100	CH31007
Chromium	**14.4** (0.5)		6010B		1	ICP	08/11/13 22:46	5.31	100	CH31007
Lead	**12.4** (2.3)		6010B		1	ICP	08/11/13 22:46	5.31	100	CH31007
Mercury	ND (0.020)		7471B		1	KJK	08/10/13 16:11	1.21	40	CH30807
Nickel	**9.4** (1.1)		6010B		1	ICP	08/11/13 22:46	5.31	100	CH31007
Selenium	ND (1.14)		6020A		50	SVD	08/12/13 23:10	5.31	100	CH31007
Silver	**0.30** (0.23)		6010B		1	ICP	08/11/13 22:46	5.31	100	CH31007
Thallium	ND (1.14)		6020A		50	SVD	08/12/13 23:10	5.31	100	CH31007
Vanadium	**22.3** (0.5)		6010B		1	ICP	08/11/13 22:46	5.31	100	CH31007
Zinc	**40.3** (1.1)		6010B		1	ICP	08/11/13 22:46	5.31	100	CH31007

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-127 4-5ft
Date Sampled: 08/05/13 10:35
Percent Solids: 79

ESS Laboratory Work Order: 1308107
ESS Laboratory Sample ID: 1308107-03
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.2)		6020A		50	SVD	08/12/13 23:16	5.15	100	CH31007
Arsenic	**5.9** (1.2)		6010B		1	ICP	08/11/13 22:52	5.15	100	CH31007
Barium	**41.9** (1.2)		6010B		1	ICP	08/11/13 22:52	5.15	100	CH31007
Beryllium	**0.60** (0.05)		6010B		1	ICP	08/11/13 22:52	5.15	100	CH31007
Cadmium	ND (0.25)		6010B		1	ICP	08/11/13 22:52	5.15	100	CH31007
Chromium	**24.8** (0.5)		6010B		1	ICP	08/11/13 22:52	5.15	100	CH31007
Lead	**8.9** (2.5)		6010B		1	ICP	08/11/13 22:52	5.15	100	CH31007
Mercury	ND (0.023)		7471B		1	KJK	08/10/13 16:14	1.08	40	CH30807
Nickel	**12.1** (1.2)		6010B		1	ICP	08/11/13 22:52	5.15	100	CH31007
Selenium	ND (1.24)		6020A		50	SVD	08/12/13 23:16	5.15	100	CH31007
Silver	**0.28** (0.25)		6010B		1	ICP	08/11/13 22:52	5.15	100	CH31007
Thallium	ND (1.24)		6020A		50	SVD	08/12/13 23:16	5.15	100	CH31007
Vanadium	**34.1** (0.5)		6010B		1	ICP	08/11/13 22:52	5.15	100	CH31007
Zinc	**46.6** (1.2)		6010B		1	ICP	08/11/13 22:52	5.15	100	CH31007

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-128T 0-0.5ft
Date Sampled: 08/06/13 08:37
Percent Solids: 32

ESS Laboratory Work Order: 1308107
ESS Laboratory Sample ID: 1308107-04
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (3.1)		6020A		50	SVD	08/12/13 23:23	5	100	CH31007
Arsenic	**33.2** (3.1)		6010B		1	ICP	08/11/13 22:57	5	100	CH31007
Barium	**58.5** (3.1)		6010B		1	ICP	08/11/13 22:57	5	100	CH31007
Beryllium	**0.58** (0.13)		6010B		1	ICP	08/11/13 22:57	5	100	CH31007
Cadmium	**1.31** (0.62)		6010B		1	ICP	08/11/13 22:57	5	100	CH31007
Chromium	**78.2** (1.2)		6010B		1	ICP	08/11/13 22:57	5	100	CH31007
Lead	**191** (6.2)		6010B		1	ICP	08/11/13 22:57	5	100	CH31007
Mercury	**0.840** (0.263)		7471B		5	KJK	08/10/13 12:29	1.17	40	CH30807
Nickel	**23.2** (3.1)		6010B		1	ICP	08/11/13 22:57	5	100	CH31007
Selenium	ND (3.12)		6020A		50	SVD	08/12/13 23:23	5	100	CH31007
Silver	**2.14** (0.62)		6010B		1	ICP	08/11/13 22:57	5	100	CH31007
Thallium	ND (3.12)		6020A		50	SVD	08/12/13 23:23	5	100	CH31007
Vanadium	**71.1** (1.2)		6010B		1	ICP	08/11/13 22:57	5	100	CH31007
Zinc	**303** (3.1)		6010B		1	ICP	08/11/13 22:57	5	100	CH31007

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-128T 0-0.5ft
Date Sampled: 08/06/13 08:37
Percent Solids: 32

ESS Laboratory Work Order: 1308107
ESS Laboratory Sample ID: 1308107-04
Sample Matrix: Solid

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**55600** (2940)		TOC-LK		1	SUB	08/14/13 13:12	mg/kg	CH32011

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-128 2-4ft
Date Sampled: 08/01/13 14:43
Percent Solids: 32

ESS Laboratory Work Order: 1308107
ESS Laboratory Sample ID: 1308107-05
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (3.0)		6020A		50	SVD	08/12/13 23:29	5.19	100	CH31007
Arsenic	**54.4** (3.0)		6010B		1	ICP	08/11/13 23:03	5.19	100	CH31007
Barium	**63.1** (3.0)		6010B		1	ICP	08/11/13 23:03	5.19	100	CH31007
Beryllium	**0.49** (0.13)		6010B		1	ICP	08/11/13 23:03	5.19	100	CH31007
Cadmium	**2.15** (0.61)		6010B		1	ICP	08/11/13 23:03	5.19	100	CH31007
Chromium	**84.5** (1.2)		6010B		1	ICP	08/11/13 23:03	5.19	100	CH31007
Lead	**208** (6.0)		6010B		1	ICP	08/11/13 23:03	5.19	100	CH31007
Mercury	**1.46** (0.231)		7471B		5	KJK	08/10/13 12:32	1.34	40	CH30807
Nickel	**15.9** (3.0)		6010B		1	ICP	08/11/13 23:03	5.19	100	CH31007
Selenium	ND (3.03)		6020A		50	SVD	08/12/13 23:29	5.19	100	CH31007
Silver	**1.93** (0.61)		6010B		1	ICP	08/11/13 23:03	5.19	100	CH31007
Thallium	ND (3.03)		6020A		50	SVD	08/12/13 23:29	5.19	100	CH31007
Vanadium	**97.5** (1.2)		6010B		1	ICP	08/11/13 23:03	5.19	100	CH31007
Zinc	**254** (3.0)		6010B		1	ICP	08/11/13 23:03	5.19	100	CH31007

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-128 4-6ft
Date Sampled: 08/01/13 14:43
Percent Solids: 49

ESS Laboratory Work Order: 1308107
ESS Laboratory Sample ID: 1308107-06
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.9)		6020A		50	SVD	08/12/13 23:47	5.28	100	CH31007
Arsenic	**30.4** (1.9)		6010B		1	ICP	08/11/13 23:09	5.28	100	CH31007
Barium	**60.2** (1.9)		6010B		1	ICP	08/11/13 23:09	5.28	100	CH31007
Beryllium	**0.64** (0.08)		6010B		1	ICP	08/11/13 23:09	5.28	100	CH31007
Cadmium	**1.71** (0.38)		6010B		1	ICP	08/11/13 23:09	5.28	100	CH31007
Chromium	**63.8** (0.8)		6010B		1	ICP	08/11/13 23:09	5.28	100	CH31007
Lead	**135** (3.8)		6010B		1	ICP	08/11/13 23:09	5.28	100	CH31007
Mercury	**0.949** (0.143)		7471B		5	KJK	08/10/13 12:35	1.4	40	CH30807
Nickel	**20.2** (1.9)		6010B		1	ICP	08/11/13 23:09	5.28	100	CH31007
Selenium	ND (1.92)		6020A		50	SVD	08/12/13 23:47	5.28	100	CH31007
Silver	**1.25** (0.38)		6010B		1	ICP	08/11/13 23:09	5.28	100	CH31007
Thallium	ND (1.92)		6020A		50	SVD	08/12/13 23:47	5.28	100	CH31007
Vanadium	**52.4** (0.8)		6010B		1	ICP	08/11/13 23:09	5.28	100	CH31007
Zinc	**237** (1.9)		6010B		1	ICP	08/11/13 23:09	5.28	100	CH31007

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-129T 0-0.5ft
Date Sampled: 08/06/13 09:42
Percent Solids: 61

ESS Laboratory Work Order: 1308107
ESS Laboratory Sample ID: 1308107-07
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.6)		6020A		50	SVD	08/12/13 23:53	5.13	100	CH31007
Arsenic	**11.6** (1.6)		6010B		1	ICP	08/11/13 23:23	5.13	100	CH31007
Barium	**15.0** (1.6)		6010B		1	ICP	08/11/13 23:23	5.13	100	CH31007
Beryllium	**0.18** (0.07)		6010B		1	ICP	08/11/13 23:23	5.13	100	CH31007
Cadmium	ND (0.32)		6010B		1	ICP	08/11/13 23:23	5.13	100	CH31007
Chromium	**16.6** (0.6)		6010B		1	ICP	08/11/13 23:23	5.13	100	CH31007
Lead	**44.4** (3.2)		6010B		1	ICP	08/11/13 23:23	5.13	100	CH31007
Mercury	ND (0.026)		7471B		1	KJK	08/10/13 16:16	1.27	40	CH30807
Nickel	**6.8** (1.6)		6010B		1	ICP	08/11/13 23:23	5.13	100	CH31007
Selenium	ND (1.60)		6020A		50	SVD	08/12/13 23:53	5.13	100	CH31007
Silver	**0.42** (0.32)		6010B		1	ICP	08/11/13 23:23	5.13	100	CH31007
Thallium	ND (1.60)		6020A		50	SVD	08/12/13 23:53	5.13	100	CH31007
Vanadium	**19.5** (0.6)		6010B		1	ICP	08/11/13 23:23	5.13	100	CH31007
Zinc	**67.0** (1.6)		6010B		1	ICP	08/11/13 23:23	5.13	100	CH31007

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-129T 0-0.5ft
Date Sampled: 08/06/13 09:42
Percent Solids: 61

ESS Laboratory Work Order: 1308107
ESS Laboratory Sample ID: 1308107-07
Sample Matrix: Solid

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**14500** (1690)		TOC-LK		1	SUB	08/14/13 13:18	mg/kg	CH32011

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-129 2-4ft
Date Sampled: 08/02/13 13:36
Percent Solids: 75

ESS Laboratory Work Order: 1308107
ESS Laboratory Sample ID: 1308107-08
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.3)		6020A		50	SVD	08/12/13 23:59	5.24	100	CH31007
Arsenic	**3.7** (1.3)		6010B		1	ICP	08/11/13 23:29	5.24	100	CH31007
Barium	**8.1** (1.3)		6010B		1	ICP	08/11/13 23:29	5.24	100	CH31007
Beryllium	**0.16** (0.05)		6010B		1	ICP	08/11/13 23:29	5.24	100	CH31007
Cadmium	ND (0.26)		6010B		1	ICP	08/11/13 23:29	5.24	100	CH31007
Chromium	**9.5** (0.5)		6010B		1	ICP	08/11/13 23:29	5.24	100	CH31007
Lead	ND (2.6)		6010B		1	ICP	08/11/13 23:29	5.24	100	CH31007
Mercury	ND (0.020)		7471B		1	KJK	08/10/13 16:19	1.33	40	CH30807
Nickel	**5.5** (1.3)		6010B		1	ICP	08/11/13 23:29	5.24	100	CH31007
Selenium	ND (1.28)		6020A		50	SVD	08/12/13 23:59	5.24	100	CH31007
Silver	ND (0.26)		6010B		1	ICP	08/11/13 23:29	5.24	100	CH31007
Thallium	ND (1.28)		6020A		50	SVD	08/12/13 23:59	5.24	100	CH31007
Vanadium	**11.9** (0.5)		6010B		1	ICP	08/11/13 23:29	5.24	100	CH31007
Zinc	**16.1** (1.3)		6010B		1	ICP	08/11/13 23:29	5.24	100	CH31007

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-130 0-0.5ft
Date Sampled: 08/02/13 12:32
Percent Solids: 62

ESS Laboratory Work Order: 1308107
ESS Laboratory Sample ID: 1308107-09
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.6)		6020A		50	SVD	08/13/13 0:05	5.03	100	CH31007
Arsenic	**4.2** (1.6)		6010B		1	KJK	08/12/13 17:32	5.03	100	CH31007
Barium	**14.6** (1.6)		6010B		1	KJK	08/12/13 17:32	5.03	100	CH31007
Beryllium	**0.28** (0.07)		6010B		1	KJK	08/12/13 17:32	5.03	100	CH31007
Cadmium	ND (0.32)		6010B		1	KJK	08/12/13 17:32	5.03	100	CH31007
Chromium	**15.2** (0.6)		6010B		1	KJK	08/12/13 17:32	5.03	100	CH31007
Lead	**9.2** (3.2)		6010B		1	KJK	08/12/13 17:32	5.03	100	CH31007
Mercury	ND (0.030)		7471B		1	KJK	08/10/13 16:22	1.08	40	CH30807
Nickel	**8.9** (1.6)		6010B		1	KJK	08/12/13 17:32	5.03	100	CH31007
Selenium	ND (1.62)		6020A		50	SVD	08/13/13 0:05	5.03	100	CH31007
Silver	ND (0.32)		6010B		1	KJK	08/12/13 17:32	5.03	100	CH31007
Thallium	ND (1.62)		6020A		50	SVD	08/13/13 0:05	5.03	100	CH31007
Vanadium	**19.2** (0.6)		6010B		1	KJK	08/12/13 17:32	5.03	100	CH31007
Zinc	**29.8** (1.6)		6010B		1	KJK	08/12/13 17:32	5.03	100	CH31007

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-130 0-0.5ft
Date Sampled: 08/02/13 12:32
Percent Solids: 62

ESS Laboratory Work Order: 1308107
ESS Laboratory Sample ID: 1308107-09
Sample Matrix: Solid

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**16800** (1540)		TOC-LK		1	SUB	08/14/13 13:25	mg/kg	CH32011

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-130 2-4ft
Date Sampled: 08/02/13 12:32
Percent Solids: 77

ESS Laboratory Work Order: 1308107
ESS Laboratory Sample ID: 1308107-10
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.3)		6020A		50	SVD	08/13/13 0:11	5.15	100	CH31007
Arsenic	**3.1** (1.3)		6010B		1	ICP	08/11/13 23:39	5.15	100	CH31007
Barium	**6.6** (1.3)		6010B		1	ICP	08/11/13 23:39	5.15	100	CH31007
Beryllium	**0.15** (0.05)		6010B		1	ICP	08/11/13 23:39	5.15	100	CH31007
Cadmium	ND (0.25)		6010B		1	ICP	08/11/13 23:39	5.15	100	CH31007
Chromium	**7.7** (0.5)		6010B		1	ICP	08/11/13 23:39	5.15	100	CH31007
Lead	ND (2.5)		6010B		1	ICP	08/11/13 23:39	5.15	100	CH31007
Mercury	ND (0.020)		7471B		1	KJK	08/10/13 16:24	1.31	40	CH30807
Nickel	**4.8** (1.3)		6010B		1	ICP	08/11/13 23:39	5.15	100	CH31007
Selenium	ND (1.27)		6020A		50	SVD	08/13/13 0:11	5.15	100	CH31007
Silver	ND (0.25)		6010B		1	ICP	08/11/13 23:39	5.15	100	CH31007
Thallium	ND (1.27)		6020A		50	SVD	08/13/13 0:11	5.15	100	CH31007
Vanadium	**10.0** (0.5)		6010B		1	ICP	08/11/13 23:39	5.15	100	CH31007
Zinc	**13.6** (1.3)		6010B		1	ICP	08/11/13 23:39	5.15	100	CH31007

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-130 2-4ft
Date Sampled: 08/02/13 12:32
Percent Solids: 77

ESS Laboratory Work Order: 1308107
ESS Laboratory Sample ID: 1308107-10
Sample Matrix: Solid

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**6840** (1280)		TOC-LK		1	SUB	08/14/13 13:31	mg/kg	CH32011

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-130 4-6ft
Date Sampled: 08/02/13 12:32
Percent Solids: 70

ESS Laboratory Work Order: 1308107
ESS Laboratory Sample ID: 1308107-11
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.4)		6020A		50	SVD	08/13/13 0:41	5.1	100	CH31007
Arsenic	**2.4** (1.4)		6010B		1	KJK	08/12/13 17:37	5.1	100	CH31007
Barium	**8.8** (1.4)		6010B		1	KJK	08/12/13 17:37	5.1	100	CH31007
Beryllium	**0.18** (0.06)		6010B		1	KJK	08/12/13 17:37	5.1	100	CH31007
Cadmium	ND (0.28)		6010B		1	KJK	08/12/13 17:37	5.1	100	CH31007
Chromium	**10.1** (0.6)		6010B		1	KJK	08/12/13 17:37	5.1	100	CH31007
Lead	ND (2.8)		6010B		1	KJK	08/12/13 17:37	5.1	100	CH31007
Mercury	ND (0.024)		7471B		1	KJK	08/10/13 16:43	1.16	40	CH30807
Nickel	**6.2** (1.4)		6010B		1	KJK	08/12/13 17:37	5.1	100	CH31007
Selenium	ND (1.41)		6020A		50	SVD	08/13/13 0:41	5.1	100	CH31007
Silver	ND (0.28)		6010B		1	KJK	08/12/13 17:37	5.1	100	CH31007
Thallium	ND (1.41)		6020A		50	SVD	08/13/13 0:41	5.1	100	CH31007
Vanadium	**12.6** (0.6)		6010B		1	KJK	08/12/13 17:37	5.1	100	CH31007
Zinc	**17.2** (1.4)		6010B		1	KJK	08/12/13 17:37	5.1	100	CH31007

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-131 0-0.5ft
Date Sampled: 08/02/13 12:50
Percent Solids: 70

ESS Laboratory Work Order: 1308107
ESS Laboratory Sample ID: 1308107-12
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.4)		6020A		50	SVD	08/13/13 0:59	5.16	100	CH31007
Arsenic	**13.8** (1.4)		6010B		1	ICP	08/12/13 0:09	5.16	100	CH31007
Barium	**19.0** (1.4)		6010B		1	ICP	08/12/13 0:09	5.16	100	CH31007
Beryllium	**0.15** (0.06)		6010B		1	ICP	08/12/13 0:09	5.16	100	CH31007
Cadmium	ND (0.28)		6010B		1	ICP	08/12/13 0:09	5.16	100	CH31007
Chromium	**14.7** (0.6)		6010B		1	ICP	08/12/13 0:09	5.16	100	CH31007
Lead	**65.2** (2.8)		6010B		1	ICP	08/12/13 0:09	5.16	100	CH31007
Mercury	**0.269** (0.097)		7471B		5	KJK	08/10/13 13:07	1.45	40	CH30807
Nickel	**5.5** (1.4)		6010B		1	ICP	08/12/13 0:09	5.16	100	CH31007
Selenium	ND (1.39)		6020A		50	SVD	08/13/13 0:59	5.16	100	CH31007
Silver	**0.65** (0.28)		6010B		1	ICP	08/12/13 0:09	5.16	100	CH31007
Thallium	ND (1.39)		6020A		50	SVD	08/13/13 0:59	5.16	100	CH31007
Vanadium	**16.8** (0.6)		6010B		1	ICP	08/12/13 0:09	5.16	100	CH31007
Zinc	**72.7** (1.4)		6010B		1	ICP	08/12/13 0:09	5.16	100	CH31007

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-131 0-0.5ft
Date Sampled: 08/02/13 12:50
Percent Solids: 70

ESS Laboratory Work Order: 1308107
ESS Laboratory Sample ID: 1308107-12
Sample Matrix: Solid

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**12600** (1360)		TOC-LK		1	SUB	08/14/13 13:37	mg/kg	CH32011

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-131 0.5-2ft
Date Sampled: 08/02/13 12:50
Percent Solids: 74

ESS Laboratory Work Order: 1308107
ESS Laboratory Sample ID: 1308107-13
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.4)		6020A		50	SVD	08/13/13 1:05	5.03	100	CH31007
Arsenic	**23.4** (1.3)		6010B		1	ICP	08/12/13 0:24	5.03	100	CH31007
Barium	**18.6** (1.3)		6010B		1	ICP	08/12/13 0:24	5.03	100	CH31007
Beryllium	**0.22** (0.06)		6010B		1	ICP	08/12/13 0:24	5.03	100	CH31007
Cadmium	ND (0.27)		6010B		1	ICP	08/12/13 0:24	5.03	100	CH31007
Chromium	**16.2** (0.5)		6010B		1	ICP	08/12/13 0:24	5.03	100	CH31007
Lead	**112** (2.7)		6010B		1	ICP	08/12/13 0:24	5.03	100	CH31007
Mercury	**0.225** (0.091)		7471B		5	KJK	08/10/13 13:10	1.47	40	CH30807
Nickel	**6.3** (1.3)		6010B		1	ICP	08/12/13 0:24	5.03	100	CH31007
Selenium	**4.43** (1.35)		6020A		50	SVD	08/13/13 1:05	5.03	100	CH31007
Silver	**0.71** (0.27)		6010B		1	ICP	08/12/13 0:24	5.03	100	CH31007
Thallium	ND (1.35)		6020A		50	SVD	08/13/13 1:05	5.03	100	CH31007
Vanadium	**18.5** (0.5)		6010B		1	ICP	08/12/13 0:24	5.03	100	CH31007
Zinc	**132** (1.3)		6010B		1	KJK	08/12/13 17:43	5.03	100	CH31007

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-131 0.5-2ft
Date Sampled: 08/02/13 12:50
Percent Solids: 74

ESS Laboratory Work Order: 1308107
ESS Laboratory Sample ID: 1308107-13
Sample Matrix: Solid

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**27300** (1330)		TOC-LK		1	SUB	08/14/13 13:44	mg/kg	CH32011

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-131 2-4ft
Date Sampled: 08/02/13 12:50
Percent Solids: 79

ESS Laboratory Work Order: 1308107
ESS Laboratory Sample ID: 1308107-14
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.3)		6020A		50	SVD	08/13/13 1:11	5.1	100	CH31007
Arsenic	**3.5** (1.2)		6010B		1	ICP	08/12/13 0:29	5.1	100	CH31007
Barium	**6.3** (1.2)		6010B		1	ICP	08/12/13 0:29	5.1	100	CH31007
Beryllium	**0.14** (0.05)		6010B		1	ICP	08/12/13 0:29	5.1	100	CH31007
Cadmium	ND (0.25)		6010B		1	ICP	08/12/13 0:29	5.1	100	CH31007
Chromium	**7.4** (0.5)		6010B		1	ICP	08/12/13 0:29	5.1	100	CH31007
Lead	**3.4** (2.5)		6010B		1	ICP	08/12/13 0:29	5.1	100	CH31007
Mercury	**0.056** (0.017)		7471B		1	KJK	08/10/13 16:46	1.48	40	CH30807
Nickel	**4.6** (1.2)		6010B		1	ICP	08/12/13 0:29	5.1	100	CH31007
Selenium	ND (1.25)		6020A		50	SVD	08/13/13 1:11	5.1	100	CH31007
Silver	ND (0.25)		6010B		1	ICP	08/12/13 0:29	5.1	100	CH31007
Thallium	ND (1.25)		6020A		50	SVD	08/13/13 1:11	5.1	100	CH31007
Vanadium	**10.0** (0.5)		6010B		1	ICP	08/12/13 0:29	5.1	100	CH31007
Zinc	**14.6** (1.2)		6010B		1	KJK	08/12/13 18:01	5.1	100	CH31007

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-131 4-5ft
Date Sampled: 08/02/13 12:50
Percent Solids: 84

ESS Laboratory Work Order: 1308107
ESS Laboratory Sample ID: 1308107-15
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.1)		6020A		50	SVD	08/13/13 1:17	5.27	100	CH31007
Arsenic	**4.5** (1.1)		6010B		1	ICP	08/12/13 0:35	5.27	100	CH31007
Barium	**7.8** (1.1)		6010B		1	ICP	08/12/13 0:35	5.27	100	CH31007
Beryllium	**0.20** (0.05)		6010B		1	ICP	08/12/13 0:35	5.27	100	CH31007
Cadmium	ND (0.23)		6010B		1	ICP	08/12/13 0:35	5.27	100	CH31007
Chromium	**10.2** (0.4)		6010B		1	ICP	08/12/13 0:35	5.27	100	CH31007
Lead	**4.2** (2.3)		6010B		1	ICP	08/12/13 0:35	5.27	100	CH31007
Mercury	ND (0.023)		7471B		1	KJK	08/10/13 16:48	1.04	40	CH30807
Nickel	**7.1** (1.1)		6010B		1	ICP	08/12/13 0:35	5.27	100	CH31007
Selenium	ND (1.13)		6020A		50	SVD	08/13/13 1:17	5.27	100	CH31007
Silver	**0.25** (0.23)		6010B		1	ICP	08/12/13 0:35	5.27	100	CH31007
Thallium	ND (1.13)		6020A		50	SVD	08/13/13 1:17	5.27	100	CH31007
Vanadium	**19.3** (0.4)		6010B		1	ICP	08/12/13 0:35	5.27	100	CH31007
Zinc	**20.9** (1.1)		6010B		1	KJK	08/12/13 18:07	5.27	100	CH31007

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-132 0-0.5ft
Date Sampled: 08/05/13 13:50
Percent Solids: 70

ESS Laboratory Work Order: 1308107
ESS Laboratory Sample ID: 1308107-16
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.4)		6020A		50	SVD	08/13/13 1:23	5.06	100	CH31007
Arsenic	**21.5** (1.4)		6010B		1	ICP	08/12/13 0:40	5.06	100	CH31007
Barium	**27.3** (1.4)		6010B		1	ICP	08/12/13 0:40	5.06	100	CH31007
Beryllium	**0.19** (0.06)		6010B		1	ICP	08/12/13 0:40	5.06	100	CH31007
Cadmium	ND (0.28)		6010B		1	ICP	08/12/13 0:40	5.06	100	CH31007
Chromium	**18.1** (0.6)		6010B		1	ICP	08/12/13 0:40	5.06	100	CH31007
Lead	**100** (2.8)		6010B		1	ICP	08/12/13 0:40	5.06	100	CH31007
Mercury	**0.296** (0.119)		7471B		5	KJK	08/10/13 13:23	1.19	40	CH30807
Nickel	**6.7** (1.4)		6010B		1	ICP	08/12/13 0:40	5.06	100	CH31007
Selenium	ND (1.42)		6020A		50	SVD	08/13/13 1:23	5.06	100	CH31007
Silver	**0.85** (0.28)		6010B		1	ICP	08/12/13 0:40	5.06	100	CH31007
Thallium	ND (1.42)		6020A		50	SVD	08/13/13 1:23	5.06	100	CH31007
Vanadium	**24.1** (0.6)		6010B		1	ICP	08/12/13 0:40	5.06	100	CH31007
Zinc	**101** (1.4)		6010B		1	KJK	08/12/13 18:12	5.06	100	CH31007

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-132 0-0.5ft
Date Sampled: 08/05/13 13:50
Percent Solids: 70

ESS Laboratory Work Order: 1308107
ESS Laboratory Sample ID: 1308107-16
Sample Matrix: Solid

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**20700** (1340)		TOC-LK		1	SUB	08/14/13 13:50	mg/kg	CH32011

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-132 0.5-2ft
Date Sampled: 08/05/13 13:50
Percent Solids: 76

ESS Laboratory Work Order: 1308107
ESS Laboratory Sample ID: 1308107-17
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.3)		6020A		50	SVD	08/13/13 1:29	5.13	100	CH31007
Arsenic	**68.3** (6.4)		6010B		5	ICP	08/12/13 0:46	5.13	100	CH31007
Barium	**47.9** (6.4)		6010B		5	ICP	08/12/13 0:46	5.13	100	CH31007
Beryllium	**0.34** (0.27)		6010B		5	ICP	08/12/13 0:46	5.13	100	CH31007
Cadmium	**2.40** (1.29)		6010B		5	ICP	08/12/13 0:46	5.13	100	CH31007
Chromium	**20.8** (2.6)		6010B		5	ICP	08/12/13 0:46	5.13	100	CH31007
Lead	**238** (12.8)		6010B		5	ICP	08/12/13 0:46	5.13	100	CH31007
Mercury	**0.410** (0.097)		7471B		5	KJK	08/10/13 13:26	1.34	40	CH30807
Nickel	**16.6** (6.4)		6010B		5	ICP	08/12/13 0:46	5.13	100	CH31007
Selenium	**2.25** (1.29)		6020A		50	SVD	08/13/13 1:29	5.13	100	CH31007
Silver	ND (1.29)		6010B		5	ICP	08/12/13 0:46	5.13	100	CH31007
Thallium	ND (1.29)		6020A		50	SVD	08/13/13 1:29	5.13	100	CH31007
Vanadium	**21.3** (2.6)		6010B		5	ICP	08/12/13 0:46	5.13	100	CH31007
Zinc	**1310** (6.4)		6010B		5	KJK	08/12/13 18:18	5.13	100	CH31007

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-133 0-0.5ft
Date Sampled: 08/05/13 09:31
Percent Solids: 71

ESS Laboratory Work Order: 1308107
ESS Laboratory Sample ID: 1308107-18
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.4)		6020A		50	SVD	08/13/13 1:35	5.12	100	CH31007
Arsenic	**30.3** (1.4)		6010B		1	ICP	08/12/13 0:50	5.12	100	CH31007
Barium	**38.4** (1.4)		6010B		1	ICP	08/12/13 0:50	5.12	100	CH31007
Beryllium	**0.18** (0.06)		6010B		1	ICP	08/12/13 0:50	5.12	100	CH31007
Cadmium	ND (0.28)		6010B		1	ICP	08/12/13 0:50	5.12	100	CH31007
Chromium	**18.1** (0.5)		6010B		1	ICP	08/12/13 0:50	5.12	100	CH31007
Lead	**149** (2.7)		6010B		1	ICP	08/12/13 0:50	5.12	100	CH31007
Mercury	**0.497** (0.093)		7471B		5	KJK	08/10/13 13:29	1.5	40	CH30807
Nickel	**6.0** (1.4)		6010B		1	ICP	08/12/13 0:50	5.12	100	CH31007
Selenium	ND (1.38)		6020A		50	SVD	08/13/13 1:35	5.12	100	CH31007
Silver	**0.90** (0.28)		6010B		1	ICP	08/12/13 0:50	5.12	100	CH31007
Thallium	ND (1.38)		6020A		50	SVD	08/13/13 1:35	5.12	100	CH31007
Vanadium	**24.6** (0.5)		6010B		1	ICP	08/12/13 0:50	5.12	100	CH31007
Zinc	**123** (1.4)		6010B		1	KJK	08/12/13 18:22	5.12	100	CH31007

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-133 0-0.5ft
Date Sampled: 08/05/13 09:31
Percent Solids: 71

ESS Laboratory Work Order: 1308107
ESS Laboratory Sample ID: 1308107-18
Sample Matrix: Solid

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**22500** (1390)		TOC-LK		1	SUB	08/14/13 13:56	mg/kg	CH32011

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-133 0.5-2ft
Date Sampled: 08/05/13 09:31
Percent Solids: 57

ESS Laboratory Work Order: 1308107
ESS Laboratory Sample ID: 1308107-19
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	**1.8** (1.7)		6020A		50	SVD	08/13/13 1:41	5.22	100	CH31007
Arsenic	**52.8** (1.7)		6010B		1	ICP	08/12/13 0:56	5.22	100	CH31007
Barium	**51.3** (1.7)		6010B		1	ICP	08/12/13 0:56	5.22	100	CH31007
Beryllium	**0.27** (0.07)		6010B		1	ICP	08/12/13 0:56	5.22	100	CH31007
Cadmium	**0.34** (0.34)		6010B		1	ICP	08/12/13 0:56	5.22	100	CH31007
Chromium	**29.6** (0.7)		6010B		1	ICP	08/12/13 0:56	5.22	100	CH31007
Lead	**218** (3.4)		6010B		1	ICP	08/12/13 0:56	5.22	100	CH31007
Mercury	**1.05** (0.136)		7471B		5	KJK	08/10/13 13:31	1.28	40	CH30807
Nickel	**10.0** (1.7)		6010B		1	ICP	08/12/13 0:56	5.22	100	CH31007
Selenium	ND (1.69)		6020A		50	SVD	08/13/13 1:41	5.22	100	CH31007
Silver	**1.60** (0.34)		6010B		1	ICP	08/12/13 0:56	5.22	100	CH31007
Thallium	ND (1.69)		6020A		50	SVD	08/13/13 1:41	5.22	100	CH31007
Vanadium	**46.4** (0.7)		6010B		1	ICP	08/12/13 0:56	5.22	100	CH31007
Zinc	**165** (1.7)		6010B		1	KJK	08/12/13 18:27	5.22	100	CH31007

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-133 2-4.4ft
Date Sampled: 08/05/13 09:31
Percent Solids: 67

ESS Laboratory Work Order: 1308107
ESS Laboratory Sample ID: 1308107-20
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.5)		6020A		50	SVD	08/13/13 1:47	5.17	100	CH31007
Arsenic	**25.6** (1.4)		6010B		1	ICP	08/12/13 1:01	5.17	100	CH31007
Barium	**36.2** (1.4)		6010B		1	ICP	08/12/13 1:01	5.17	100	CH31007
Beryllium	**0.28** (0.06)		6010B		1	ICP	08/12/13 1:01	5.17	100	CH31007
Cadmium	ND (0.29)		6010B		1	ICP	08/12/13 1:01	5.17	100	CH31007
Chromium	**19.4** (0.6)		6010B		1	ICP	08/12/13 1:01	5.17	100	CH31007
Lead	**107** (2.9)		6010B		1	ICP	08/12/13 1:01	5.17	100	CH31007
Mercury	**0.816** (0.109)		7471B		5	KJK	08/10/13 16:51	1.36	40	CH30807
Nickel	**9.5** (1.4)		6010B		1	ICP	08/12/13 1:01	5.17	100	CH31007
Selenium	**1.78** (1.46)		6020A		50	SVD	08/13/13 1:47	5.17	100	CH31007
Silver	**0.96** (0.29)		6010B		1	ICP	08/12/13 1:01	5.17	100	CH31007
Thallium	ND (1.46)		6020A		50	SVD	08/13/13 1:47	5.17	100	CH31007
Vanadium	**23.7** (0.6)		6010B		1	ICP	08/12/13 1:01	5.17	100	CH31007
Zinc	**140** (1.4)		6010B		1	KJK	08/12/13 18:41	5.17	100	CH31007

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308107

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Total Metals Solid										
Batch CH30807 - 7471A										
Blank										
Mercury	ND	0.033	mg/kg wet							
LCS										
Mercury	8.40	0.739	mg/kg wet	9.250		91	80-120			
LCS Dup										
Mercury	9.26	0.773	mg/kg wet	9.250		100	80-120	10	20	
Batch CH31007 - 3050B										
Blank										
Antimony	ND	2.5	mg/kg wet							
Arsenic	ND	2.5	mg/kg wet							
Barium	ND	2.5	mg/kg wet							
Beryllium	ND	0.10	mg/kg wet							
Cadmium	ND	0.50	mg/kg wet							
Chromium	ND	1.0	mg/kg wet							
Lead	ND	5.0	mg/kg wet							
Nickel	ND	2.5	mg/kg wet							
Selenium	ND	2.51	mg/kg wet							
Silver	ND	0.50	mg/kg wet							
Thallium	ND	2.51	mg/kg wet							
Vanadium	ND	1.0	mg/kg wet							
Zinc	ND	2.5	mg/kg wet							
LCS										
Antimony	127	9.1	mg/kg wet	106.0		120	80-120			
Arsenic	164	9.1	mg/kg wet	182.0		90	80-120			
Barium	127	9.1	mg/kg wet	143.0		89	80-120			
Beryllium	87.9	0.38	mg/kg wet	98.30		89	80-120			
Cadmium	52.9	1.83	mg/kg wet	60.40		88	80-120			
Chromium	116	3.6	mg/kg wet	125.0		93	80-120			
Lead	123	18.2	mg/kg wet	136.0		91	80-120			
Nickel	119	9.1	mg/kg wet	128.0		93	80-120			
Selenium	84.8	9.14	mg/kg wet	85.90		99	80-120			
Silver	57.8	1.83	mg/kg wet	61.30		94	80-120			
Thallium	130	9.14	mg/kg wet	144.0		90	80-120			
Vanadium	98.9	3.6	mg/kg wet	104.0		95	80-120			
Zinc	178	9.1	mg/kg wet	204.0		87	80-120			
LCS Dup										
Antimony	114	9.3	mg/kg wet	108.7		104	80-120	11	20	
Arsenic	163	9.2	mg/kg wet	186.7		87	80-120	0.6	20	
Barium	126	9.2	mg/kg wet	146.7		86	80-120	3	20	
Beryllium	88.3	0.39	mg/kg wet	100.8		88	80-120	2	20	
Cadmium	53.9	1.86	mg/kg wet	61.97		87	80-120	0.7	20	
Chromium	108	3.7	mg/kg wet	128.2		84	80-120	10	20	
Lead	121	18.5	mg/kg wet	139.5		87	80-120	2	20	
Nickel	112	9.2	mg/kg wet	131.3		85	80-120	9	20	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308107

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Total Metals Solid										
Batch CH31007 - 3050B										
Selenium	85.7	9.31	mg/kg wet	88.13		97	80-120	1	20	
Silver	55.1	1.86	mg/kg wet	62.89		88	80-120	5	20	
Thallium	130	9.31	mg/kg wet	147.7		88	80-120	3	20	
Vanadium	94.0	3.7	mg/kg wet	106.7		88	80-120	8	20	
Zinc	168	9.2	mg/kg wet	209.3		80	80-120	9	20	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett ESS Laboratory Work Order: 1308107

Notes and Definitions

U	Analyte included in the analysis, but not detected
D	Diluted.
ND	Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
I/V	Initial Volume
F/V	Final Volume
§	Subcontracted analysis; see attached report
1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of target analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.
Avg	Results reported as a mathematical average.
NR	No Recovery
[CALC]	Calculated Analyte
SUB	Subcontracted analysis; see attached report

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308107

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Department of Defense (DoD) Environmental Laboratory Accreditation Program (ELAP)
A2LA Accredited: Testing Cert# 2864.01
http://www.a2la.org/scopepdf/2864-01.pdf

Rhode Island Potable and Non Potable Water: LAI00179
http://www.health.ri.gov/labs/waterlabs-instate.php

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750
http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutofStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI0002
http://www.maine.gov/dep/blwq/topic/vessel/lab_list.pdf

Massachusetts Potable and Non Potable Water: M-RI002
http://public.dep.state.ma.us/labcert/labcert.aspx

New Hampshire (NELAP accredited) Potable and Non PotableWater, Solid and Hazardous Waste: 2424
http://www4.egov.nh.gov/des/nhelap/namesearch.asp

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313
http://www.wadsworth.org/labcert/elap/comm.html

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006
http://datamine2.state.nj.us/dep/DEP_OPRA/

United States Department of Agriculture Soil Permit: S-54210

Maryland Potable Water: 301
http://www.mde.state.md.us/assets/document/WSP_labs-2009apr20.pdf

CHEMISTRY

A2LA Accredited: Testing Cert # 2864.01
Lead in Paint, Phthalates, Lead in Children's Metals Products (Including Jewelry)
http://www.A2LA.org/dirsearchnew/newsearch.cfm

CPSC ID# 1141
Lead Paint, Lead in Children's Metals Jewelry
http://www.cpsc.gov/cgi-bin/labapplist.aspx

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING



ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Burlington
30 Community Drive
Suite 11
South Burlington, VT 05403
Tel: (802)660-1990

TestAmerica Job ID: 200-17862-1
TestAmerica Sample Delivery Group: 200-17862-1
Client Project/Site: Soil Analysis

For:
ESS Laboratory
185 Frances Ave.
Cranston, Rhode Island 02910

Attn: Ms. Christine Taylor

Authorized for release by:
8/19/2013 4:38:19 PM

Kathryn Kelly, Project Manager I
kathryn.kelly@testamericainc.com

LINKS
Review your project results through TotalAccess
Have a Question? Ask The Expert
Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Qualifiers

General Chemistry

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Job ID: 200-17862-1

Laboratory: TestAmerica Burlington

Narrative

CASE NARRATIVE

Client: ESS Laboratory

Project: Soil Analysis

Report Number: 200-17862-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The samples were received on 08/09/2013; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 1.4 C.

TOTAL ORGANIC CARBON

Samples 1308107-4, 1308107-7, 1308107-9, 1308107-10, 1308107-12, 1308107-13, 1308107-16 and 1308107-18 were analyzed for total organic carbon in accordance with Lloyd Kahn Method. The samples were analyzed on 08/14/2013.

No difficulties were encountered during the TOC analysis.

All quality control parameters were within the acceptance limits.

Detection Summary

Client: ESS Laboratory
Project/Site: Soil Analysis

TestAmerica Job ID: 200-17862-1
SDG: 200-17862-1

Client Sample ID: 1308107-4 — Lab Sample ID: 200-17862-1

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	55600		2940	2940	mg/Kg	1	☼	Lloyd Kahn	Total/NA

Client Sample ID: 1308107-7 — Lab Sample ID: 200-17862-2

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	14500		1690	1690	mg/Kg	1	☼	Lloyd Kahn	Total/NA

Client Sample ID: 1308107-9 — Lab Sample ID: 200-17862-3

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	16800		1540	1540	mg/Kg	1	☼	Lloyd Kahn	Total/NA

Client Sample ID: 1308107-10 — Lab Sample ID: 200-17862-4

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	6840		1280	1280	mg/Kg	1	☼	Lloyd Kahn	Total/NA

Client Sample ID: 1308107-12 — Lab Sample ID: 200-17862-5

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	12600		1360	1360	mg/Kg	1	☼	Lloyd Kahn	Total/NA

Client Sample ID: 1308107-13 — Lab Sample ID: 200-17862-6

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	27300		1330	1330	mg/Kg	1	☼	Lloyd Kahn	Total/NA

Client Sample ID: 1308107-16 — Lab Sample ID: 200-17862-7

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	20700		1340	1340	mg/Kg	1	☼	Lloyd Kahn	Total/NA

Client Sample ID: 1308107-18 — Lab Sample ID: 200-17862-8

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	22500		1390	1390	mg/Kg	1	☼	Lloyd Kahn	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: 1308107-4 — **Lab Sample ID: 200-17862-1**
Date Collected: 08/06/13 00:00 — **Matrix: Sediment**
Date Received: 08/09/13 10:00 — **Percent Solids: 34.0**

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	55600		2940	2940	mg/Kg	☼		08/14/13 13:12	1
Percent Solids	34.0		0.25	0.25	%			08/12/13 15:49	1

Client Sample ID: 1308107-7 — **Lab Sample ID: 200-17862-2**
Date Collected: 08/01/13 00:00 — **Matrix: Sediment**
Date Received: 08/09/13 10:00 — **Percent Solids: 59.1**

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	14500		1690	1690	mg/Kg	☼		08/14/13 13:18	1
Percent Solids	59.1		0.25	0.25	%			08/12/13 15:49	1

Client Sample ID: 1308107-9 — **Lab Sample ID: 200-17862-3**
Date Collected: 08/02/13 00:00 — **Matrix: Sediment**
Date Received: 08/09/13 10:00 — **Percent Solids: 64.8**

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	16800		1540	1540	mg/Kg	☼		08/14/13 13:25	1
Percent Solids	64.8		0.25	0.25	%			08/12/13 15:49	1

Client Sample ID: 1308107-10 — **Lab Sample ID: 200-17862-4**
Date Collected: 08/02/13 00:00 — **Matrix: Sediment**
Date Received: 08/09/13 10:00 — **Percent Solids: 78.3**

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	6840		1280	1280	mg/Kg	☼		08/14/13 13:31	1
Percent Solids	78.3		0.25	0.25	%			08/12/13 15:49	1

Client Sample ID: 1308107-12 — **Lab Sample ID: 200-17862-5**
Date Collected: 08/05/13 00:00 — **Matrix: Sediment**
Date Received: 08/09/13 10:00 — **Percent Solids: 73.8**

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	12600		1360	1360	mg/Kg	☼		08/14/13 13:37	1
Percent Solids	73.8		0.25	0.25	%			08/12/13 15:49	1

Client Sample ID: 1308107-13 — **Lab Sample ID: 200-17862-6**
Date Collected: 08/05/13 00:00 — **Matrix: Sediment**
Date Received: 08/09/13 10:00 — **Percent Solids: 75.2**

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	27300		1330	1330	mg/Kg	☼		08/14/13 13:44	1
Percent Solids	75.2		0.25	0.25	%			08/12/13 15:49	1

Client Sample Results

Client: ESS Laboratory
Project/Site: Soil Analysis

TestAmerica Job ID: 200-17862-1
SDG: 200-17862-1

Client Sample ID: 1308107-16

Lab Sample ID: 200-17862-7

Date Collected: 08/05/13 00:00
Matrix: Sediment
Date Received: 08/09/13 10:00
Percent Solids: 74.7

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	20700		1340	1340	mg/Kg	☼		08/14/13 13:50	1
Percent Solids	74.7		0.25	0.25	%			08/12/13 15:49	1

Client Sample ID: 1308107-18

Lab Sample ID: 200-17862-8

Date Collected: 08/05/13 00:00
Matrix: Sediment
Date Received: 08/09/13 10:00
Percent Solids: 71.8

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	22500		1390	1390	mg/Kg	☼		08/14/13 13:56	1
Percent Solids	71.8		0.25	0.25	%			08/12/13 15:49	1

Method: Lloyd Kahn - Organic Carbon, Total (TOC)

Lab Sample ID: MB 200-59843/5
Matrix: Sediment
Analysis Batch: 59843

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	1000	U	1000	1000	mg/Kg			08/14/13 12:45	1

Lab Sample ID: LCS 200-59843/6
Matrix: Sediment
Analysis Batch: 59843

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Organic Carbon			20100	20500		mg/Kg		102	75 - 125		

Method: Moisture - Percent Moisture

Lab Sample ID: 200-17862-1 DU
Matrix: Sediment
Analysis Batch: 59672

Client Sample ID: 1308107-4
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Percent Solids	34.0			33.8		%				0.6	20

QC Association Summary

Client: ESS Laboratory
Project/Site: Soil Analysis

TestAmerica Job ID: 200-17862-1
SDG: 200-17862-1

General Chemistry

Analysis Batch: 59672

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
200-17862-1	1308107-4	Total/NA	Sediment	Moisture	
200-17862-1 DU	1308107-4	Total/NA	Sediment	Moisture	
200-17862-2	1308107-7	Total/NA	Sediment	Moisture	
200-17862-3	1308107-9	Total/NA	Sediment	Moisture	
200-17862-4	1308107-10	Total/NA	Sediment	Moisture	
200-17862-5	1308107-12	Total/NA	Sediment	Moisture	
200-17862-6	1308107-13	Total/NA	Sediment	Moisture	
200-17862-7	1308107-16	Total/NA	Sediment	Moisture	
200-17862-8	1308107-18	Total/NA	Sediment	Moisture	

Analysis Batch: 59843

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
200-17862-1	1308107-4	Total/NA	Sediment	Lloyd Kahn	
200-17862-2	1308107-7	Total/NA	Sediment	Lloyd Kahn	
200-17862-3	1308107-9	Total/NA	Sediment	Lloyd Kahn	
200-17862-4	1308107-10	Total/NA	Sediment	Lloyd Kahn	
200-17862-5	1308107-12	Total/NA	Sediment	Lloyd Kahn	
200-17862-6	1308107-13	Total/NA	Sediment	Lloyd Kahn	
200-17862-7	1308107-16	Total/NA	Sediment	Lloyd Kahn	
200-17862-8	1308107-18	Total/NA	Sediment	Lloyd Kahn	
LCS 200-59843/6	Lab Control Sample	Total/NA	Sediment	Lloyd Kahn	
MB 200-59843/5	Method Blank	Total/NA	Sediment	Lloyd Kahn	

Lab Chronicle

Client: ESS Laboratory
Project/Site: Soil Analysis

TestAmerica Job ID: 200-17862-1
SDG: 200-17862-1

Client Sample ID: 1308107-4
Lab Sample ID: 200-17862-1
Date Collected: 08/06/13 00:00
Matrix: Sediment
Date Received: 08/09/13 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	59672	08/12/13 15:49	VTP	TAL BUR
Total/NA	Analysis	Lloyd Kahn		1	59843	08/14/13 13:12	VTP	TAL BUR

Client Sample ID: 1308107-7
Lab Sample ID: 200-17862-2
Date Collected: 08/01/13 00:00
Matrix: Sediment
Date Received: 08/09/13 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	59672	08/12/13 15:49	VTP	TAL BUR
Total/NA	Analysis	Lloyd Kahn		1	59843	08/14/13 13:18	VTP	TAL BUR

Client Sample ID: 1308107-9
Lab Sample ID: 200-17862-3
Date Collected: 08/02/13 00:00
Matrix: Sediment
Date Received: 08/09/13 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	59672	08/12/13 15:49	VTP	TAL BUR
Total/NA	Analysis	Lloyd Kahn		1	59843	08/14/13 13:25	VTP	TAL BUR

Client Sample ID: 1308107-10
Lab Sample ID: 200-17862-4
Date Collected: 08/02/13 00:00
Matrix: Sediment
Date Received: 08/09/13 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	59672	08/12/13 15:49	VTP	TAL BUR
Total/NA	Analysis	Lloyd Kahn		1	59843	08/14/13 13:31	VTP	TAL BUR

Client Sample ID: 1308107-12
Lab Sample ID: 200-17862-5
Date Collected: 08/05/13 00:00
Matrix: Sediment
Date Received: 08/09/13 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	59672	08/12/13 15:49	VTP	TAL BUR
Total/NA	Analysis	Lloyd Kahn		1	59843	08/14/13 13:37	VTP	TAL BUR

Client Sample ID: 1308107-13
Lab Sample ID: 200-17862-6
Date Collected: 08/05/13 00:00
Matrix: Sediment
Date Received: 08/09/13 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	59672	08/12/13 15:49	VTP	TAL BUR

Lab Chronicle

Client: ESS Laboratory
Project/Site: Soil Analysis

TestAmerica Job ID: 200-17862-1
SDG: 200-17862-1

Client Sample ID: 1308107-13

Date Collected: 08/05/13 00:00
Date Received: 08/09/13 10:00

Lab Sample ID: 200-17862-6

Matrix: Sediment
Percent Solids: 75.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Lloyd Kahn		1	59843	08/14/13 13:44	VTP	TAL BUR

Client Sample ID: 1308107-16

Date Collected: 08/05/13 00:00
Date Received: 08/09/13 10:00

Lab Sample ID: 200-17862-7

Matrix: Sediment

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	59672	08/12/13 15:49	VTP	TAL BUR
Total/NA	Analysis	Lloyd Kahn		1	59843	08/14/13 13:50	VTP	TAL BUR

Client Sample ID: 1308107-18

Date Collected: 08/05/13 00:00
Date Received: 08/09/13 10:00

Lab Sample ID: 200-17862-8

Matrix: Sediment

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	59672	08/12/13 15:49	VTP	TAL BUR
Total/NA	Analysis	Lloyd Kahn		1	59843	08/14/13 13:56	VTP	TAL BUR

Laboratory References:

TAL BUR = TestAmerica Burlington, 30 Community Drive, Suite 11, South Burlington, VT 05403, TEL (802)660-1990

Certification Summary

Client: ESS Laboratory
Project/Site: Soil Analysis

TestAmerica Job ID: 200-17862-1
SDG: 200-17862-1

Laboratory: TestAmerica Burlington

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Connecticut	State Program	1	PH-0751	09-30-13
DE Haz. Subst. Cleanup Act (HSCA)	State Program	3	NA	02-13-15
Florida	NELAP	4	E87467	06-30-14
L-A-B	DoD ELAP		L2336	10-26-13
Louisiana	NELAP	6	176292	06-30-14
Maine	State Program	1	VT00008	04-17-15
Minnesota	NELAP	5	050-999-436	12-31-13
New Hampshire	NELAP	1	2006	12-18-13
New Jersey	NELAP	2	VT972	06-30-14
New York	NELAP	2	10391	04-01-14
Pennsylvania	NELAP	3	68-00489	04-30-14
Rhode Island	State Program	1	LAO00298	12-30-13
US Fish & Wildlife	Federal		LE-058448-0	02-28-14
USDA	Federal		P330-11-00093	02-17-14
Vermont	State Program	1	VT-4000	12-31-13
Virginia	NELAP	3	460209	12-14-13

Method Summary

Client: ESS Laboratory
Project/Site: Soil Analysis

TestAmerica Job ID: 200-17862-1
SDG: 200-17862-1

Method	Method Description	Protocol	Laboratory
Lloyd Kahn	Organic Carbon, Total (TOC)	EPA	TAL BUR
Moisture	Percent Moisture	EPA	TAL BUR

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

TAL BUR = TestAmerica Burlington, 30 Community Drive, Suite 11, South Burlington, VT 05403, TEL (802)660-1990

Sample Summary

Client: ESS Laboratory
Project/Site: Soil Analysis

TestAmerica Job ID: 200-17862-1
SDG: 200-17862-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
200-17862-1	1308107-4	Sediment	08/06/13 00:00	08/09/13 10:00
200-17862-2	1308107-7	Sediment	08/01/13 00:00	08/09/13 10:00
200-17862-3	1308107-9	Sediment	08/02/13 00:00	08/09/13 10:00
200-17862-4	1308107-10	Sediment	08/02/13 00:00	08/09/13 10:00
200-17862-5	1308107-12	Sediment	08/05/13 00:00	08/09/13 10:00
200-17862-6	1308107-13	Sediment	08/05/13 00:00	08/09/13 10:00
200-17862-7	1308107-16	Sediment	08/05/13 00:00	08/09/13 10:00
200-17862-8	1308107-18	Sediment	08/05/13 00:00	08/09/13 10:00

ESS Laboratory

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

Page _____ of _____

Turn Time ___ Standard Other 4 day
If faster than 5 days, prior approval by laboratory is required # _____

State where samples were collected from:
(MA) RI CT NH NJ NY ME Other _____

Is this project for any of the following:
(MA-MCP) Navy USACE Other _____

Reporting Limits | ESS LAB PROJECT ID

Electronic Deliverable Yes / No ___
Format: Excel __ Access __ PDF __ Other _____

Co. Name: ESS	Project #: 1308108	Project Name (20 Char. or less):	
Contact Person: Christine Taylor	Address:		
City:	State:	Zip:	PO#: 1308108
Telephone #:	Fax #:	Email Address: ctaylor@thielsch.com	

ESS LAB Sample #	Date	Collection Time	COMP	GRAB	MATRIX	Sample Identification (20 Char. or less)	Pres Code	Number of Containers	Type of Containers	Write Required Analysis: TOC Glycol VOCs
	8/6			✓	Sed	1308108-1	1	1	6	X
	8/2					-2				
	8/2					-4				
	8/6					-5				
	8/5					-9				
	8/5					-12				
	8/6					-13				
	8/5					-16				
	8/2					-18				
	8/2									

200-17862 COC

Container Type: P-Poly G-Glass S-Sterile V-VOA | Matrix: S-Soil SD-Solid D-Sludge WW-Waste Water GW-Ground Water SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filters

Cooler Present ___ Yes ___ No | Internal Use Only
Seals Intact ___ Yes ___ No NA: ___ [ ] Pickup
Cooler Temp: _____ [ ] Technicians _____

Preservation Code 1- NP, 2- HCl, 3- H_2SO_4, 4- HNO_3, 5- NaOH, 6- MeOH, 7- Asorbic Acid, 8- ZnAct, 9- _____

Sampled by:

Comments:

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
	8/9/13 1800						
		Stephanie Fowler	8/9/13 1000				

*By circling MA-MCP, client acknowledges samples were collected in accordance with MADEP CAM VII A

Please fax all changes to Chain of Custody in writing.

1 (White) Lab Copy 2 (Yellow) Client Receipt

10/26/04 A

ESS Laboratory

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

Page_____ of_____

Turn Time ___ Standard Other 4 day
If faster than 5 days, prior approval by laboratory is required #

State where samples were collected from:
(MA) RI CT NH NJ NY ME Other

Is this project for any of the following:
(MA-MCP) Navy USACE Other

Reporting Limits

ESS LAB PROJECT ID

Electronic Deliverable Yes ✓ No ___
Format: Excel ___ Access ___ PDF ✓ Other ___

Co. Name: ESS	Project #: 1308109	Project Name (20 Char. or less):	
Contact Person: C. Taylor	Address:		
City:	State:	Zip:	PO#: 1308109
Telephone #:	Fax #:	Email Address: ctaylor@thielsch.com	

ESS LAB Sample #	Date	Collection Time	COMP	GRAB	MATRIX	Sample Identification (20 Char. or less)	Pres Code	Number of Containers	Type of Containers	TIC Lloyd Khan	
	8/5			✓	Sed	1308109-1	1	1	6	X	
	8/5					-3					
	8/5					-6					
	8/6					-7					
	8/6					-9					
	8/6					-11					
	8/5					-12					
	8/5					-14					
	8/5					-17					
	8/5					-20					

Container Type: P-Poly G-Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Waste Water GW-Ground Water SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filters

Cooler Present ___ Yes ___ No Internal Use Only

Seals Intact ___ Yes ___ No NA: ___ [ ] Pickup

Cooler Temp: _____ [ ] Technicians _____

Preservation Code 1- NP, 2- HCl, 3- H_2SO_4, 4- HNO_3, 5- NaOH, 6- MeOH, 7- Asorbic Acid, 8- ZnAct, 9-_____

Sampled by:

Comments:

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
	3/8/13 1800	Fed ex					
			8/9/13 1000				

*By circling MA-MCP, client acknowledges samples were collected in accordance with MADEP CAM VII A

Please fax all changes to Chain of Custody in writing.

1 (White) Lab Copy 2 (Yellow) Client Receipt

10/26/04 A

ESS Laboratory

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185 Frances Avenue, Cranston, RI 02910-2211
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www.esslaboratory.com

CHAIN OF CUSTODY

Turn Time: Standard (5-7 days) Other 4 day
If faster than 5 days, prior approval by laboratory is required #

State where samples were collected from: MA RI CT NH NJ NY ME Other ____

Is this project for any of the following: MA-MCP Navy USACE Other ____

Reporting Limits

ESS LAB PROJECT ID

Electronic Deliverable Yes ✓ No ___

Format: Excel ___ Access ___ PDF ✓ Other ____

Co. Name	Project #	Project Name (20 Char. or less)
ESS	1308110	

Contact Person	Address
C Taylor	

City	State	Zip	PO#

Telephone #	Fax #	Email Address
		ctaylor@thielsch.com

ESS LAB Sample #	Date	Collection Time	COMP	GRAB	MATRIX	Sample Identification (20 Char. or less)	Pres Code	Number of Containers	Type of Containers	Write Required Analysis: BC (Cyc/Kan)
	8/15			✓	Sed	1308110-2	1	1	6	X
	8/15			↓	↓	-5	↓	↓	↓	↓
	8/15					-6				
	8/15					-9				
	8/15			↓	↓	-12	↓	↓	↓	↓

Container Type: P-Poly G-Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Waste Water GW-Ground Water SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filters

Cooler Present ___ Yes ___ No

Seals Intact ___ Yes ___ No NA: ___

Cooler Temp: ____

Internal Use Only

[ ] Pickup

[ ] Technicians ____

Preservation Code 1- NP, 2- HCl, 3- H_2SO_4, 4- HNO_3, 5- NaOH, 6- MeOH, 7- Asorbic Acid, 8- ZnAct, 9- ____

Sampled by:

Comments:

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
	8/15/13 1800	Fed ex					
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
			8/19/13 1000				

*By circling MA-MCP, client acknowledges samples were collected in accordance with MADEP CAM VII A

Please fax all changes to Chain of Custody in writing.

1 (White) Lab Copy 2 (Yellow) Client Receipt

10/26/04 A

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CHAIN OF CUSTODY

Page_____ of_____

Turn Time ___ Standard Other 4 day
If faster than 5 days, prior approval by laboratory is required # _____

State where samples were collected from:
(MA) RI CT NH NJ NY ME Other _____

Is this project for any of the following:
(MA-MCP) Navy USACE Other _____

Reporting Limits

ESS LAB PROJECT ID

Electronic Deliverable Yes ✓ No ___
Format: Excel ___ Access ___ PDF ✓ Other _____

Co. Name	Project #	Project Name (20 Char. or less)
ESS	1308107	

Contact Person	Address
Christine Taylor	

City	State	Zip	PO#

Telephone #	Fax #	Email Address
		ctaylor@thielsch.com

Write Required Analysis: TOC (Lloyd Kahn)

ESS LAB Sample #	Date	Collection Time	COMP	GRAB	MATRIX	Sample Identification (20 Char. or less)	Pres Code	Number of Containers	Type of Containers
	8/6	0837		✓	Sed	1308107-4	1	1	6
	8/1	1443				-6			
	8/2	1232				-9			
	8/2	1232				-10			
	8/5	1250				-12			
		1250				-13			
		1250				-16			
		1350				-18			

Container Type: P-Poly G-Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Waste Water GW-Ground Water SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filters

Cooler Present ___ Yes ___ No

Seals Intact ___ Yes ___ No NA: ___

Cooler Temp: _____

Internal Use Only
[ ] Pickup
[ ] Technicians _____

Preservation Code 1- NP, 2- HCl, 3- H_2SO_4, 4- HNO_3, 5- NaOH, 6- MeOH, 7- Asorbic Acid, 8- ZnAct, 9- _____

Sampled by:

Comments:

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
[signature]	8/8/13 1800	Fed Ex	8/8/13	[signature]			
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
		[signature]	8/9/13 1000				

*By circling MA-MCP, client acknowledges samples were collected in accordance with MADEP CAM VII A

Please fax all changes to Chain of Custody in writing.

1 (White) Lab Copy 2 (Yellow) Client Receipt

10/26/04 A

From: (401) 467-6454
Sample Receiving
ESS Lab
185 Frances Ave

Cranston, RI 02910

Origin ID: PVDA

FedEx Express

J13201306260326

Ship Date: 08AUG13
ActWgt: 47.0 LB
CAD: 105103550/INET3430

Delivery Address Bar Code

SHIP TO: (802) 660-1990 BILL SENDER

Sample Receiving
Test America
30 Community Dr
Ste 11
S BURLINGTON, VT 05403

Ref #
Invoice #
PO #
Dept #

FRI - 09 AUG 10:30A
PRIORITY OVERNIGHT

TRK# 0201 7964 2397 6923

EK BTVA

05403
VT-US
BTV

51AG1X09B9/1A9E

After printing this label:
1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.
Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com.FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery,misdelivery,or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim.Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental,consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss.Maximum for items of extraordinary value is $1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our ServiceGuide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

Login Sample Receipt Checklist

Client: ESS Laboratory

Job Number: 200-17862-1
SDG Number: 200-17862-1

Login Number: 17862
List Number: 1
Creator: Marion, Greg T

List Source: TestAmerica Burlington

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.4ºC IR GUN ID 181/CF=-0.2
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	False	Refer to Job Narrative for details.
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	Received extra samples not listed on COC.
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	False	Refer to Job Narrative for details.
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	N/A	
Residual Chlorine Checked.	N/A	

Sample and Cooler Receipt Checklist

Client: GZA GeoEnvironmental, Inc.
Client Project ID: _____
Shipped/Delivered Via: ESS Courier

ESS Project ID: 13080107
Date Project Due: 8/14/13
Days For Project: 5 Day

Items to be checked upon receipt:

1. Air Bill Manifest Present? *** No**
   Air No.:
2. Were Custody Seals Present? **No**
3. Were Custody Seals Intact? **N/A**
4. Is Radiation count < 100 CPM? **Yes**
5. Is a cooler present? **Yes**
   Cooler Temp: **4.8**
   Iced With: **Ice**
6. Was COC included with samples? **Yes**
7. Was COC signed and dated by client? **Yes**
8. Does the COC match the sample **Yes**
9. Is COC complete and correct? **Yes**
10. Are the samples properly preserved? **Yes**
11. Proper sample containers used? **Yes**
12. Any air bubbles in the VOA vials? **N/A**
13. Holding times exceeded? **No**
14. Sufficient sample volumes? **Yes**
15. Any Subcontracting needed? **No** Yes CW 8/7/13
16. Are ESS labels on correct containers? **Yes|No**
17. Were samples received intact? **Yes|No**
18. ESS Sample IDs: 1308107 4, 6, 9, 10, 12, 13, 16, & 18
    Sub Lab: TA
    Analysis: TOC
    TAT: 4day

18. Was there need to call project manager to discuss status? If yes, please explain.

_____

_____

_____

Who was called?:_____ By whom? _____

Sample Number	Properly Preserved	Container Type	# of Containers	Preservative
1	Yes	4 oz Soil Jar	1	NP
1	Yes	8 oz Soil Jar	1	NP
2	Yes	4 oz Soil Jar	1	NP
2	Yes	8 oz Soil Jar	1	NP
3	Yes	4 oz Soil Jar	1	NP
3	Yes	8 oz Soil Jar	1	NP
4	Yes	2 oz Soil Jar	1	NP
4	Yes	4 oz Soil Jar	1	NP
4	Yes	8 oz Soil Jar	1	NP
5	Yes	4 oz Soil Jar	1	NP
5	Yes	8 oz Soil Jar	1	NP
6	Yes	4 oz Soil Jar	1	NP
6	Yes	8 oz Soil Jar	1	NP
7	Yes	2 oz Soil Jar	1	NP
7	Yes	4 oz Soil Jar	1	NP
7	Yes	8 oz Soil Jar	1	NP
8	Yes	4 oz Soil Jar	1	NP
8	Yes	8 oz Soil Jar	1	NP
9	Yes	2 oz Soil Jar	1	NP
9	Yes	4 oz Soil Jar	1	NP
9	Yes	8 oz Soil Jar	1	NP
10	Yes	2 oz Soil Jar	1	NP
10	Yes	4 oz Soil Jar	1	NP
10	Yes	8 oz Soil Jar	1	NP
11	Yes	4 oz Soil Jar	1	NP

Sample and Cooler Receipt Checklist

Client: GZA GeoEnvironmental, Inc. ESS Project ID: 13080107

11	Yes	8 oz Soil Jar	1	NP
12	Yes	2 oz Soil Jar	1	NP
12	Yes	4 oz Soil Jar	1	NP
12	Yes	8 oz Soil Jar	1	NP
13	Yes	2 oz Soil Jar	1	NP
13	Yes	4 oz Soil Jar	1	NP
13	Yes	8 oz Soil Jar	1	NP
14	Yes	4 oz Soil Jar	1	NP
14	Yes	8 oz Soil Jar	1	NP
15	Yes	4 oz Soil Jar	1	NP
15	Yes	8 oz Soil Jar	1	NP
16	Yes	2 oz Soil Jar	1	NP
16	Yes	4 oz Soil Jar	1	NP
16	Yes	8 oz Soil Jar	1	NP
17	Yes	4 oz Soil Jar	1	NP
17	Yes	8 oz Soil Jar	1	NP
18	Yes	2 oz Soil Jar	1	NP
18	Yes	4 oz Soil Jar	1	NP
18	Yes	8 oz Soil Jar	1	NP
19	Yes	4 oz Soil Jar	1	NP
19	Yes	8 oz Soil Jar	1	NP
20	Yes	4 oz Soil Jar	1	NP
20	Yes	8 oz Soil Jar	1	NP

Completed By: _____ Date/Time: 8/7/13 1700

Reviewed By: _____ Date/Time: 8/7/13 1810

ESS Laboratory

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS LAB PROJECT ID: 1307107

Turn Time ___x___ Standard Rush _____ Approved By: _____

Reporting Limits - see prev. email correspondence

State where samples were collected: **MA RI CT NH NJ NY ME** Other_____

Is this project for any of the following: (please circle)
MA-MCP CT-RCP RGP DOD Other_____

Electonic Deliverable Yes__x__ No____
Format: Excel_x__ Access___ PDF___ Other_____

GZA Project Manager: David E. Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Avenue
Norwood, MA 02062
(781) 278-3700
PRESUMPTIVE CERTAINTY REQUIRED

Project # 171521.02
Project Name: Former Everett Staging Yard
Contract Pricing ____
Special Pricing WO#: _____

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	Analysis: # of Containers	MCP 14 metals	B/N Phthalates Esters 8270	PAH 8270 SIM	EPH Fractions	PCBs	TOC by Lloyd Kahn					Comment #
1	8/5/13	10:35	G	Sed	GZ-127 0.5-2'	2	X										
2	8/5/13	10:35	G	Sed	GZ-127 2-4'	2	X										
3	8/5/13	10:35	G	Sed	GZ-127 4-5'	2	X										
4	8/6/13	8:37	G	Sed	GZ-128 T 0-0.5'	2	X					X					
5	8/1/13	14:43	G	Sed	GZ-128 2-4'	2	X										
6	8/1/13	14:43	G	Sed	GZ-128 4-6'	2	X										
7	8/6/13	9:42	G	Sed	GZ-129 T 0-0.5'	2	X					X					
8	8/2/13	13:36	G	Sed	GZ-129 2-4'	2	X										
9	8/2/13	12:32	G	Sed	GZ-130 0-0.5'	2	X					X					
10	8/2/13	12:32	G	Sed	GZ-130 2-4'	2	X					X					
							AG	AG	AG	AG	AG	AG					

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-_____

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present ✓ Yes ____ No
Seals Intact ✓ Yes ____ No NA: ____
Cooler Temperature: 413-6 482-6 3.2

Sampled by : Dan Scanlon

Comments: Contract Price - 10%

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Wallen	8/6/13 07:45	Bec Burgess	Bec Burgess 8/7/13	1120	8/7/13 1631
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)

Please E-mail all changes to Chain of Custody in writing.

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ESS Laboratory

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS LAB PROJECT ID: 1308107

Turn Time ___x___Standard Rush_____ Approved By: _____

Reporting Limits - see prev. email correspondence

State where samples were collected: MA RI CT NH NJ NY ME Other_____

Is this project for any of the following: (please circle)
MA-MCP CT-RCP RGP DOD Other_____

Electonic Deliverable Yes__x__ No____
Format: Excel_x__ Access___ PDF___ Other_____

GZA Project Manager: David E. Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Avenue
Norwood, MA 02062
(781) 278-3700
PRESUMPTIVE CERTAINTY REQUIRED

Project # 171521.02

Project Name: Former Everett Staging Yard

Contract Pricing _____
Special Pricing WO#: _____

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	MCP 14 metals	B/N Phthalates Esters 8270	PAH 8270 SIM	EPH Fractions	PCBs	TOC by Lloyd Kahn					Comment #
						Analysis											
11	8/2/13	12:32	G	Sed	GZ-130 4-6'	2	X										
12	8/2/13	12:50	G	Sed	GZ-131 0-0.5'	2	X					X					
13	8/2/13	12:50	G	Sed	GZ-131 0.5-2'	2	X					X					
14	8/2/13	12:50	G	Sed	GZ-131 2-4'	2	X										
15	8/2/13	12:50	G	Sed	GZ-131 4-5'	2	X										
16	8/5/13	13:50	G	Sed	GZ-132 0-0.5'	2	X					X					
17	8/5/13	13:50	G	Sed	GZ-132 0.5-2'	2	X										
18	8/5/13	9:31	G	Sed	GZ-133 0-0.5'	2	X					X					
19	8/5/13	9:31	G	Sed	GZ-133 0.5-2'	2	X										
20	8/5/13	9:31	G	Sed	GZ-133 2-4'4"	2	X										
							AG	AG	AG	AG	AG	AG					

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-_____

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present ___✓___Yes _____No
Seals Intact ___✓___Yes _____No NA
Cooler Temperature: 4-1.3.6 4-8 2.C 3.2

Sampled by : Dan Scanlon

Comments: Contract Price - 10%

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
	8/6/13 20:00	8/7/13 1030	8/7/13	1120	8/7/13 1632

Please E-mail all changes to Chain of Custody in writing.

CERTIFICATE OF ANALYSIS

David E Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Avenue
Norwood, MA 02062

RE: Everett (01.0171521.02)
ESS Laboratory Work Order Number: 1308108

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director

REVIEWED
By ESS Laboratory at 12:27 pm, Aug 20, 2013

Analytical Summary
The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with NELAC Standards, A2LA and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibratins, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.

Subcontracted Analyses

TestAmerica Laboratories, Inc. - Burlington, VT	Total Organic Carbon

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308108

SAMPLE RECEIPT

The following samples were received on August 07, 2013 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has performed and reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Data Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

For EPH soil samples, the aromatic range results have been corrected for identified cartridge contaminant in accordance with the CAM protocol.

Question I: All samples for SVOA were analyzed for a subset of the required MCP list per the client's request.

Lab Number	SampleName	Matrix	Analysis
1308108-01	GZ-134T 0-0.5ft	Solid	6010B, 6020A, 7471B, 8082A, 8270D, EPH8270, MADEP-EPH, TOC-LK
1308108-02	GZ-134 2-3ft	Solid	6010B, 6020A, 7471B, 8082A, 8270D, EPH8270, MADEP-EPH, TOC-LK
1308108-03	GZ-134 4-6ft	Solid	6010B, 6020A, 7471B
1308108-04	GZ-134 6-8ft	Solid	6010B, 6020A, 7471B, 8082A, 8270D, EPH8270, MADEP-EPH, TOC-LK
1308108-05	GZ-135T 0-0.5ft	Solid	6010B, 6020A, 7471B, TOC-LK
1308108-06	GZ-135 2-4ft	Solid	6010B, 6020A, 7471B
1308108-07	GZ-135 4-6ft	Solid	6010B, 6020A, 7471B
1308108-08	GZ-136 0-0.5ft	Solid	6010B, 6020A, 7471B
1308108-09	GZ-136 0.5-2ft	Solid	6010B, 6020A, 7471B, 8082A, 8270D, EPH8270, MADEP-EPH, TOC-LK
1308108-10	GZ-136 2-4ft	Solid	6010B, 6020A, 7471B
1308108-11	GZ-136 4-6ft	Solid	6010B, 6020A, 7471B
1308108-12	GZ-136 8-10ft	Solid	6010B, 6020A, 7471B, TOC-LK
1308108-13	GZ-137T 0-0.5ft	Solid	6010B, 6020A, 7471B, 8082A, 8270D, EPH8270, MADEP-EPH, TOC-LK
1308108-14	GZ-137 2-4ft	Solid	6010B, 6020A, 7471B, 8082A, 8270D, EPH8270, MADEP-EPH, TOC-LK
1308108-15	GZ-137 4-5.5ft	Solid	6010B, 6020A, 7471B

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett ESS Laboratory Work Order: 1308108

1308108-16	GZ-138 0-0.5ft	Solid	6010B, 6020A, 7471B, TOC-LK
1308108-17	GZ-138 0.5-2ft	Solid	6010B, 6020A, 7471B
1308108-18	GZ-138 2-4ft	Solid	6010B, 6020A, 7471B, TOC-LK
1308108-19	GZ-138 4-6ft	Solid	6010B, 6020A, 7471B
1308108-20	GZ-138 6-8ft	Solid	6010B, 6020A, 7471B

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308108

PROJECT NARRATIVE

8082A Polychlorinated Biphenyls (PCB)

1308108-02 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

1308108-13 **Surrogate recovery(ies) below lower control limit (S-).**
Tetrachloro-m-xylene (20% @ 30-150%), Tetrachloro-m-xylene [2C] (15% @ 30-150%)

8270D Semi-Volatile Organic Compounds

CWH0106-CCV1 **Calibration required quadratic regression (Q).**
2,4-Dinitrophenol (110% @ 80-120%), 4,6-Dinitro-2-Methylphenol (114% @ 70-130%), Benzoic Acid (103% @ 70-130%), Pentachlorophenol (103% @ 80-120%)

CWH0106-CCV1 **Initial Calibration Verification recovery is outside of control limit (ICV).**
Benzidine , Hexachlorocyclopentadiene

CWH0118-CCV1 **Calibration required quadratic regression (Q).**
2,4-Dinitrophenol (85% @ 80-120%), 4,6-Dinitro-2-Methylphenol (100% @ 70-130%), Benzoic Acid (45% @ 70-130%), Pentachlorophenol (76% @ 80-120%)

CWH0118-CCV1 **Continuing Calibration recovery is below lower control limit (C-).**
Benzoic Acid (45% @ 70-130%), Pentachlorophenol (76% @ 80-120%)

CWH0118-CCV1 **Initial Calibration Verification recovery is outside of control limit (ICV).**
Benzidine , Hexachlorocyclopentadiene

CWH0124-CCV1 **Calibration required quadratic regression (Q).**
2,4-Dinitrophenol (109% @ 80-120%), Benzoic Acid (106% @ 70-130%)

CWH0124-CCV1 **Continuing Calibration recovery is above upper control limit (C+).**
3+4-Methylphenol (121% @ 80-120%), 4-Chloroaniline (126% @ 80-120%)

CWH0124-CCV1 **Continuing Calibration recovery is below lower control limit (C-).**
Acenaphthene (77% @ 80-120%)

CWH0124-CCV1 **Initial Calibration Verification recovery is below lower control limit (ICV-).**
2,4-Dinitrophenol

CWH0124-CCV1 **Initial Calibration Verification recovery is outside of control limit (ICV).**
1,1-Biphenyl

CWH0140-CCV1 **Calibration required quadratic regression (Q).**
2,4-Dinitrophenol (110% @ 80-120%), 4,6-Dinitro-2-Methylphenol (108% @ 70-130%), Benzoic Acid (66% @ 70-130%), Pentachlorophenol (73% @ 80-120%)

CWH0140-CCV1 **Continuing Calibration recovery is below lower control limit (C-).**
Benzoic Acid (66% @ 70-130%), N-Nitrosodimethylamine (71% @ 80-120%), Pentachlorophenol (73% @ 80-120%)

CWH0140-CCV1 **Initial Calibration Verification recovery is outside of control limit (ICV).**
Benzidine , Hexachlorocyclopentadiene

CWH0140-TUN1 **Pentachlorophenol tailing factor > 2.**

8270D(SIM) Polynuclear Aromatic Hydrocarbons

1308108-02 **Internal Standard(s) outside of criteria due to matrix (UCM/coelution is present) (IM).**

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
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Perylene-d12 (30% @ 50-200%)

MADEP-EPH Extractable Petroleum Hydrocarbons

1308108-04 **Surrogate recovery(ies) outside of criteria due to matrix (UCM/coelution/matrix is present) (SM).**
2-Bromonaphthalene (141% @ 40-140%)

CWH0135-CCV4 **Continuing Calibration recovery is above upper control limit (C+).**
Benzo(a)pyrene (121% @ 80-120%)

CWH0145-CCV2 **Continuing Calibration recovery is below lower control limit (C-).**
Benzo(g,h,i)perylene (54% @ 80-120%), Dibenzo(a,h)Anthracene (77% @ 80-120%), Indeno(1,2,3-cd)Pyrene (69% @ 80-120%)

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

Definitions of Quality Control Parameters

Semivolatile Organics Internal Standard Information

Semivolatile Organics Surrogate Information

Volatile Organics Internal Standard Information

Volatile Organics Surrogate Information

EPH and VPH Alkane Lists

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

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CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

1010A - Flashpoint
6010C - ICP
6020A - ICP MS
7010 - Graphite Furnace
7196A - Hexavalent Chromium
7470A - Aqueous Mercury
7471B - Solid Mercury
8011 - EDB/DBCP/TCP
8015C - GRO/DRO
8081B - Pesticides
8082A - PCB
8100M - TPH
8151A - Herbicides
8260B - VOA
8270D - SVOA
8270D SIM - SVOA Low Level
9014 - Cyanide
9038 - Sulfate
9040C - Aqueous pH
9045D - Solid pH (Corrosivity)
9050A - Specific Conductance
9056A - Anions (IC)
9060A - TOC
9095B - Paint Filter
MADEP 04-1.1 - EPH / VPH

Prep Methods

3005A - Aqueous ICP Digestion
3020A - Aqueous Graphite Furnace / ICP MS Digestion
3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
3060A - Solid Hexavalent Chromium Digestion
3510C - Separatory Funnel Extraction
3520C - Liquid / Liquid Extraction
3540C - Manual Soxhlet Extraction
3541 - Automated Soxhlet Extraction
3580A - Waste Dilution
5030B - Aqueous Purge and Trap
5035 - Solid Purge and Trap

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308108

MassDEP Analytical Protocol Certification Form

MADEP RTN: _____

This form provides certification for the following data set: **1308108-01 through 1308108-20**

Matrices: ( ) Ground Water/Surface Water (X) Soil/Sediment ( ) Drinking Water ( ) Air ( ) Other:_____

CAM Protocol (check all that apply below):

( ) 8260 VOC CAM II A	(X) 7470/7471 Hg CAM III B	( ) MassDEP VPH CAM IV A	( ) 8081 Pesticides CAM V B	( ) 7196 Hex Cr CAM VI B	( ) MassDEP APH CAM IX A
(X) 8270 SVOC CAM II B	( ) 7010 Metals CAM III C	(X) MassDEP EPH CAM IV B	( ) 8151 Herbicides CAM V C	( ) 8330 Explosives CAM VIII A	( ) TO-15 VOC CAM IX B
(X) 6010 Metals CAM III A	(X) 6020 Metals CAM III D	(X) 8082 PCB CAM V A	( ) 6860 Perchlorate CAM VIII B	( ) 9014 Total Cyanide/PAC CAM VI A	

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	Yes (X) No ( )
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	Yes (X) No ( )
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	Yes (X) No ( )
D	Does the laboratory report comply with all the reporting requirements specified in the CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	Yes (X) No ( )
E	a. VPH, EPH, APH and TO-15 only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	Yes (X) No ( )
	b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	Yes ( ) No ( )
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	Yes (X) No ( )

Responses to Questions G, H and I below are required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocols(s)?	Yes (X) No ( )*
	***Data User Note:* Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.**	
H	Were **all** QC performance standards specified in the CAM protocol(s) achieved?	Yes ( ) No (X)*
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	Yes ( ) No (X)*

All negative responses must be addressed in an attached laboratory narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Laurel Stoddard

Date: August 20, 2013

Printed Name: Laurel Stoddard

Position: Laboratory Director

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-134T 0-0.5ft
Date Sampled: 08/06/13 10:45
Percent Solids: 32

ESS Laboratory Work Order: 1308108
ESS Laboratory Sample ID: 1308108-01
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (3.0)		6020A		50	SVD	08/13/13 2:48	5.14	100	CH31008
Arsenic	**30.7** (3.0)		6010B		1	SVD	08/12/13 1:48	5.14	100	CH31008
Barium	**59.0** (3.0)		6010B		1	SVD	08/12/13 1:48	5.14	100	CH31008
Beryllium	**0.61** (0.13)		6010B		1	SVD	08/12/13 1:48	5.14	100	CH31008
Cadmium	**1.36** (0.61)		6010B		1	SVD	08/12/13 1:48	5.14	100	CH31008
Chromium	**79.0** (1.2)		6010B		1	SVD	08/12/13 1:48	5.14	100	CH31008
Lead	**191** (6.1)		6010B		1	SVD	08/12/13 1:48	5.14	100	CH31008
Mercury	**1.06** (0.273)		7471B		5	KJK	08/10/13 14:01	1.13	40	CH30808
Nickel	**23.4** (3.0)		6010B		1	SVD	08/12/13 1:48	5.14	100	CH31008
Selenium	ND (3.05)		6020A		50	SVD	08/13/13 2:48	5.14	100	CH31008
Silver	**2.19** (0.61)		6010B		1	SVD	08/12/13 1:48	5.14	100	CH31008
Thallium	ND (3.05)		6020A		50	SVD	08/13/13 2:48	5.14	100	CH31008
Vanadium	**71.7** (1.2)		6010B		1	SVD	08/12/13 1:48	5.14	100	CH31008
Zinc	**332** (3.0)		6010B		1	KJK	08/12/13 21:01	5.14	100	CH31008

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-134T 0-0.5ft
Date Sampled: 08/06/13 10:45
Percent Solids: 32
Initial Volume: 19.3
Final Volume: 5
Extraction Method: 3540

ESS Laboratory Work Order: 1308108
ESS Laboratory Sample ID: 1308108-01
Sample Matrix: Solid
Units: mg/kg dry
Analyst: ML
Prepared: 8/8/13 17:15
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0808)		8082A		1	08/12/13 13:39		CH30839
Aroclor 1221	ND (0.0808)		8082A		1	08/12/13 13:39		CH30839
Aroclor 1232	ND (0.0808)		8082A		1	08/12/13 13:39		CH30839
Aroclor 1242	ND (0.0808)		8082A		1	08/12/13 13:39		CH30839
Aroclor 1248	**0.991** (0.0808)		8082A		1	08/12/13 13:39		CH30839
Aroclor 1254	**1.46** (0.0808)		8082A		1	08/12/13 13:39		CH30839
Aroclor 1260	**0.939** (0.0808)		8082A		1	08/12/13 13:39		CH30839
Aroclor 1262	ND (0.0808)		8082A		1	08/12/13 13:39		CH30839
Aroclor 1268	ND (0.0808)		8082A		1	08/12/13 13:39		CH30839

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*126 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*142 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*108 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*107 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-134T 0-0.5ft
Date Sampled: 08/06/13 10:45
Percent Solids: 32
Initial Volume: 30.5
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308108
ESS Laboratory Sample ID: 1308108-01
Sample Matrix: Solid
Units: mg/kg dry
Analyst: IBM
Prepared: 8/8/13 16:48

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.511)		8270D		1	08/09/13 12:05	CWH0118	CH30815
1,2-Dichlorobenzene	ND (0.511)		8270D		1	08/09/13 12:05	CWH0118	CH30815
1,3-Dichlorobenzene	ND (0.511)		8270D		1	08/09/13 12:05	CWH0118	CH30815
1,4-Dichlorobenzene	ND (0.511)		8270D		1	08/09/13 12:05	CWH0118	CH30815
2-Methylnaphthalene	ND (0.511)		8270D		1	08/09/13 12:05	CWH0118	CH30815
2-Methylphenol	ND (0.511)		8270D		1	08/09/13 12:05	CWH0118	CH30815
Acenaphthene	ND (0.511)		8270D		1	08/09/13 12:05	CWH0118	CH30815
Acenaphthylene	ND (0.511)		8270D		1	08/09/13 12:05	CWH0118	CH30815
Anthracene	ND (0.511)		8270D		1	08/09/13 12:05	CWH0118	CH30815
Benzo(a)anthracene	**0.620** (0.511)		8270D		1	08/09/13 12:05	CWH0118	CH30815
Benzo(a)pyrene	**0.775** (0.256)		8270D		1	08/09/13 12:05	CWH0118	CH30815
Benzo(b)fluoranthene	**1.10** (0.511)		8270D		1	08/09/13 12:05	CWH0118	CH30815
Benzo(g,h,i)perylene	**0.554** (0.511)		8270D		1	08/09/13 12:05	CWH0118	CH30815
Benzo(k)fluoranthene	ND (0.511)		8270D		1	08/09/13 12:05	CWH0118	CH30815
bis(2-Ethylhexyl)phthalate	**4.51** (0.511)		8270D		1	08/09/13 12:05	CWH0118	CH30815
Butylbenzylphthalate	ND (0.511)		8270D		1	08/09/13 12:05	CWH0118	CH30815
Carbazole	ND (0.511)		8270D		1	08/09/13 12:05	CWH0118	CH30815
Chrysene	**0.866** (0.256)		8270D		1	08/09/13 12:05	CWH0118	CH30815
Dibenzo(a,h)Anthracene	ND (0.256)		8270D		1	08/09/13 12:05	CWH0118	CH30815
Dibenzofuran	ND (0.511)		8270D		1	08/09/13 12:05	CWH0118	CH30815
Diethylphthalate	ND (0.511)		8270D		1	08/09/13 12:05	CWH0118	CH30815
Dimethylphthalate	ND (0.511)		8270D		1	08/09/13 12:05	CWH0118	CH30815
Di-n-butylphthalate	ND (0.511)		8270D		1	08/09/13 12:05	CWH0118	CH30815
Di-n-octylphthalate	ND (0.511)		8270D		1	08/09/13 12:05	CWH0118	CH30815
Fluoranthene	**1.31** (0.511)		8270D		1	08/09/13 12:05	CWH0118	CH30815
Fluorene	ND (0.511)		8270D		1	08/09/13 12:05	CWH0118	CH30815
Hexachlorobenzene	ND (0.511)		8270D		1	08/09/13 12:05	CWH0118	CH30815
Hexachlorocyclopentadiene	ND (2.56)		8270D		1	08/09/13 12:05	CWH0118	CH30815
Indeno(1,2,3-cd)Pyrene	ND (0.511)		8270D		1	08/09/13 12:05	CWH0118	CH30815
Naphthalene	ND (0.511)		8270D		1	08/09/13 12:05	CWH0118	CH30815
Phenanthrene	ND (0.511)		8270D		1	08/09/13 12:05	CWH0118	CH30815

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-134T 0-0.5ft
Date Sampled: 08/06/13 10:45
Percent Solids: 32
Initial Volume: 30.5
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308108
ESS Laboratory Sample ID: 1308108-01
Sample Matrix: Solid
Units: mg/kg dry
Analyst: IBM
Prepared: 8/8/13 16:48

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Phenol	ND (0.511)		8270D		1	08/09/13 12:05	CWH0118	CH30815
Pyrene	**1.36** (0.511)		8270D		1	08/09/13 12:05	CWH0118	CH30815

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*64 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*52 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*68 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*73 %*		*30-130*
Surrogate: 2-Fluorophenol	*62 %*		*30-130*
Surrogate: Nitrobenzene-d5	*69 %*		*30-130*
Surrogate: Phenol-d6	*69 %*		*30-130*
Surrogate: p-Terphenyl-d14	*86 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-134T 0-0.5ft
Date Sampled: 08/06/13 10:45
Percent Solids: 32
Initial Volume: 15.1
Final Volume: 0.5
Extraction Method: 3541

ESS Laboratory Work Order: 1308108
ESS Laboratory Sample ID: 1308108-01
Sample Matrix: Solid
Units: mg/kg dry
Analyst: IBM
Prepared: 8/8/13 17:30

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	**0.155** (0.129)		8270D		5	08/11/13 18:48	CWH0139	CH30903
Acenaphthene	ND (0.129)		8270D		5	08/11/13 18:48	CWH0139	CH30903
Acenaphthylene	**0.646** (0.129)		8270D		5	08/11/13 18:48	CWH0139	CH30903
Anthracene	**0.677** (0.129)		8270D		5	08/11/13 18:48	CWH0139	CH30903
Benzo(a)anthracene	**1.28** (0.129)		8270D		5	08/11/13 18:48	CWH0139	CH30903
Benzo(a)pyrene	**2.04** (0.129)		8270D		5	08/11/13 18:48	CWH0139	CH30903
Benzo(b)fluoranthene	**3.20** (0.129)		8270D		5	08/11/13 18:48	CWH0139	CH30903
Benzo(g,h,i)perylene	**1.69** (0.129)		8270D		5	08/11/13 18:48	CWH0139	CH30903
Benzo(k)fluoranthene	**0.873** (0.129)		8270D		5	08/11/13 18:48	CWH0139	CH30903
Chrysene	**1.76** (0.129)		8270D		5	08/11/13 18:48	CWH0139	CH30903
Dibenzo(a,h)Anthracene	**0.460** (0.129)		8270D		5	08/11/13 18:48	CWH0139	CH30903
Fluoranthene	**2.07** (0.129)		8270D		5	08/11/13 18:48	CWH0139	CH30903
Fluorene	**0.176** (0.129)		8270D		5	08/11/13 18:48	CWH0139	CH30903
Indeno(1,2,3-cd)Pyrene	**1.89** (0.129)		8270D		5	08/11/13 18:48	CWH0139	CH30903
Naphthalene	**0.692** (0.129)		8270D		5	08/11/13 18:48	CWH0139	CH30903
Phenanthrene	**1.11** (0.129)		8270D		5	08/11/13 18:48	CWH0139	CH30903
Pyrene	**2.91** (0.129)		8270D		5	08/11/13 18:48	CWH0139	CH30903

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*36 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*46 %*		*30-130*
Surrogate: Nitrobenzene-d5	*45 %*		*30-130*
Surrogate: p-Terphenyl-d14	*93 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-134T 0-0.5ft
Date Sampled: 08/06/13 10:45
Percent Solids: 32

ESS Laboratory Work Order: 1308108
ESS Laboratory Sample ID: 1308108-01
Sample Matrix: Solid

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**55200** (3010)		TOC-LK		1	SUB	08/14/13 14:03	mg/kg	CH32011

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-134T 0-0.5ft
Date Sampled: 08/06/13 10:45
Percent Solids: 32
Initial Volume: 15.5
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1308108
ESS Laboratory Sample ID: 1308108-01
Sample Matrix: Solid
Units: mg/kg dry

Prepared: 8/9/13 15:00

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	**92.5** (75.5)		MADEP-EPH		1	SEP	08/11/13 0:06	CWH0134	CH30919
C19-C36 Aliphatics1	**783** (75.5)		MADEP-EPH		1	SEP	08/11/13 0:06	CWH0134	CH30919
C11-C22 Unadjusted Aromatics1	**363** (75.5)		EPH8270		1	VSC	08/12/13 15:37	CWH0145	CH30919
C11-C22 Aromatics1,2	**355** (75.5)		EPH8270			VSC	08/12/13 15:37		[CALC]

	%Recovery	*Qualifier*	*Limits*
Surrogate: 1-Chlorooctadecane	*74 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*112 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*104 %*		*40-140*
Surrogate: O-Terphenyl	*89 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-134 2-3ft
Date Sampled: 08/02/13 13:53
Percent Solids: 28

ESS Laboratory Work Order: 1308108
ESS Laboratory Sample ID: 1308108-02
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (3.6)		6020A		50	SVD	08/13/13 2:54	5.08	100	CH31008
Arsenic	**35.5** (3.5)		6010B		1	SVD	08/12/13 1:54	5.08	100	CH31008
Barium	**31.7** (3.5)		6010B		1	SVD	08/12/13 1:54	5.08	100	CH31008
Beryllium	**0.44** (0.15)		6010B		1	SVD	08/12/13 1:54	5.08	100	CH31008
Cadmium	**1.37** (0.71)		6010B		1	SVD	08/12/13 1:54	5.08	100	CH31008
Chromium	**54.5** (1.4)		6010B		1	SVD	08/12/13 1:54	5.08	100	CH31008
Lead	**132** (7.1)		6010B		1	SVD	08/12/13 1:54	5.08	100	CH31008
Mercury	**0.524** (0.293)		7471B		5	KJK	08/10/13 14:04	1.22	40	CH30808
Nickel	**15.4** (3.5)		6010B		1	SVD	08/12/13 1:54	5.08	100	CH31008
Selenium	ND (3.57)		6020A		50	SVD	08/13/13 2:54	5.08	100	CH31008
Silver	**1.11** (0.71)		6010B		1	SVD	08/12/13 1:54	5.08	100	CH31008
Thallium	ND (3.57)		6020A		50	SVD	08/13/13 2:54	5.08	100	CH31008
Vanadium	**83.0** (1.4)		6010B		1	SVD	08/12/13 1:54	5.08	100	CH31008
Zinc	**210** (3.5)		6010B		1	KJK	08/12/13 21:06	5.08	100	CH31008

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-134 2-3ft
Date Sampled: 08/02/13 13:53
Percent Solids: 28
Initial Volume: 19.3
Final Volume: 5
Extraction Method: 3540

ESS Laboratory Work Order: 1308108
ESS Laboratory Sample ID: 1308108-02
Sample Matrix: Solid
Units: mg/kg dry
Analyst: TAJ
Prepared: 8/8/13 17:15
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (9.35)		8082A		100	08/14/13 16:28		CH30839
Aroclor 1221	ND (9.35)		8082A		100	08/14/13 16:28		CH30839
Aroclor 1232	ND (9.35)		8082A		100	08/14/13 16:28		CH30839
Aroclor 1242	ND (9.35)		8082A		100	08/14/13 16:28		CH30839
Aroclor 1248	**113** (9.35)		8082A		100	08/14/13 16:28		CH30839
Aroclor 1254	ND (9.35)		8082A		100	08/14/13 16:28		CH30839
Aroclor 1260	ND (9.35)		8082A		100	08/14/13 16:28		CH30839
Aroclor 1262	ND (9.35)		8082A		100	08/14/13 16:28		CH30839
Aroclor 1268	ND (9.35)		8082A		100	08/14/13 16:28		CH30839

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-134 2-3ft
Date Sampled: 08/02/13 13:53
Percent Solids: 28
Initial Volume: 30.4
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308108
ESS Laboratory Sample ID: 1308108-02
Sample Matrix: Solid
Units: mg/kg dry
Analyst: IBM
Prepared: 8/8/13 16:48

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.593)		8270D		1	08/09/13 12:39	CWH0118	CH30815
1,2-Dichlorobenzene	ND (0.593)		8270D		1	08/09/13 12:39	CWH0118	CH30815
1,3-Dichlorobenzene	ND (0.593)		8270D		1	08/09/13 12:39	CWH0118	CH30815
1,4-Dichlorobenzene	ND (0.593)		8270D		1	08/09/13 12:39	CWH0118	CH30815
2-Methylnaphthalene	ND (0.593)		8270D		1	08/09/13 12:39	CWH0118	CH30815
2-Methylphenol	ND (0.593)		8270D		1	08/09/13 12:39	CWH0118	CH30815
Acenaphthene	ND (0.593)		8270D		1	08/09/13 12:39	CWH0118	CH30815
Acenaphthylene	ND (0.593)		8270D		1	08/09/13 12:39	CWH0118	CH30815
Anthracene	ND (0.593)		8270D		1	08/09/13 12:39	CWH0118	CH30815
Benzo(a)anthracene	ND (0.593)		8270D		1	08/09/13 12:39	CWH0118	CH30815
Benzo(a)pyrene	**0.325** (0.297)		8270D		1	08/09/13 12:39	CWH0118	CH30815
Benzo(b)fluoranthene	**0.799** (0.593)		8270D		1	08/09/13 12:39	CWH0118	CH30815
Benzo(g,h,i)perylene	ND (0.593)		8270D		1	08/09/13 12:39	CWH0118	CH30815
Benzo(k)fluoranthene	ND (0.593)		8270D		1	08/09/13 12:39	CWH0118	CH30815
bis(2-Ethylhexyl)phthalate	**1870** (593)		8270D		1000	08/12/13 12:42	CWH0118	CH30815
Butylbenzylphthalate	**0.844** (0.593)		8270D		1	08/09/13 12:39	CWH0118	CH30815
Carbazole	ND (0.593)		8270D		1	08/09/13 12:39	CWH0118	CH30815
Chrysene	**0.463** (0.297)		8270D		1	08/09/13 12:39	CWH0118	CH30815
Dibenzo(a,h)Anthracene	ND (0.297)		8270D		1	08/09/13 12:39	CWH0118	CH30815
Dibenzofuran	ND (0.593)		8270D		1	08/09/13 12:39	CWH0118	CH30815
Diethylphthalate	ND (0.593)		8270D		1	08/09/13 12:39	CWH0118	CH30815
Dimethylphthalate	ND (0.593)		8270D		1	08/09/13 12:39	CWH0118	CH30815
Di-n-butylphthalate	ND (0.593)		8270D		1	08/09/13 12:39	CWH0118	CH30815
Di-n-octylphthalate	**40.5** (5.93)		8270D		10	08/10/13 0:47	CWH0118	CH30815
Fluoranthene	**1.13** (0.593)		8270D		1	08/09/13 12:39	CWH0118	CH30815
Fluorene	ND (0.593)		8270D		1	08/09/13 12:39	CWH0118	CH30815
Hexachlorobenzene	ND (0.593)		8270D		1	08/09/13 12:39	CWH0118	CH30815
Hexachlorocyclopentadiene	ND (2.97)		8270D		1	08/09/13 12:39	CWH0118	CH30815
Indeno(1,2,3-cd)Pyrene	ND (0.593)		8270D		1	08/09/13 12:39	CWH0118	CH30815
Naphthalene	**4.34** (0.593)		8270D		1	08/09/13 12:39	CWH0118	CH30815
Phenanthrene	**1.56** (0.593)		8270D		1	08/09/13 12:39	CWH0118	CH30815

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-134 2-3ft
Date Sampled: 08/02/13 13:53
Percent Solids: 28
Initial Volume: 30.4
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308108
ESS Laboratory Sample ID: 1308108-02
Sample Matrix: Solid
Units: mg/kg dry
Analyst: IBM
Prepared: 8/8/13 16:48

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Phenol	ND (0.593)		8270D		1	08/09/13 12:39	CWH0118	CH30815
Pyrene	**0.870** (0.593)		8270D		1	08/09/13 12:39	CWH0118	CH30815

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*71 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*72 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*76 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*76 %*		*30-130*
Surrogate: 2-Fluorophenol	*70 %*		*30-130*
Surrogate: Nitrobenzene-d5	*80 %*		*30-130*
Surrogate: Phenol-d6	*76 %*		*30-130*
Surrogate: p-Terphenyl-d14	*68 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-134 2-3ft
Date Sampled: 08/02/13 13:53
Percent Solids: 28
Initial Volume: 15
Final Volume: 0.5
Extraction Method: 3541

ESS Laboratory Work Order: 1308108
ESS Laboratory Sample ID: 1308108-02
Sample Matrix: Solid
Units: mg/kg dry
Analyst: IBM
Prepared: 8/8/13 17:30

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	**0.571** (0.150)		8270D		5	08/14/13 5:53	CWH0174	CH30903
Acenaphthene	**0.505** (0.150)		8270D		5	08/14/13 5:53	CWH0174	CH30903
Acenaphthylene	**0.319** (0.150)		8270D		5	08/14/13 5:53	CWH0174	CH30903
Anthracene	**1.09** (0.150)		8270D		5	08/14/13 5:53	CWH0174	CH30903
Benzo(a)anthracene	**0.770** (0.150)		8270D		5	08/14/13 5:53	CWH0174	CH30903
Benzo(a)pyrene	**0.806** (0.150)		8270D		5	08/14/13 5:53	CWH0174	CH30903
Benzo(b)fluoranthene	**1.76** (0.150)		8270D		5	08/14/13 5:53	CWH0174	CH30903
Benzo(g,h,i)perylene	**1.12** (0.150)		8270D		5	08/14/13 5:53	CWH0174	CH30903
Benzo(k)fluoranthene	**1.07** (0.150)		8270D		5	08/14/13 5:53	CWH0174	CH30903
Chrysene	**1.26** (0.150)		8270D		5	08/14/13 5:53	CWH0174	CH30903
Dibenzo(a,h)Anthracene	**0.325** (0.150)		8270D		5	08/14/13 5:53	CWH0174	CH30903
Fluoranthene	**1.90** (0.150)		8270D		5	08/14/13 5:53	CWH0174	CH30903
Fluorene	**0.896** (0.150)		8270D		5	08/14/13 5:53	CWH0174	CH30903
Indeno(1,2,3-cd)Pyrene	**1.19** (0.150)		8270D		5	08/14/13 5:53	CWH0174	CH30903
Naphthalene	**7.91** (0.150)		8270D		5	08/14/13 5:53	CWH0174	CH30903
Phenanthrene	**3.63** (0.150)		8270D		5	08/14/13 5:53	CWH0174	CH30903
Pyrene	**2.48** (0.150)		8270D		5	08/14/13 5:53	CWH0174	CH30903

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*58 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*58 %*		*30-130*
Surrogate: Nitrobenzene-d5	*84 %*		*30-130*
Surrogate: p-Terphenyl-d14	*92 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-134 2-3ft
Date Sampled: 08/02/13 13:53
Percent Solids: 28

ESS Laboratory Work Order: 1308108
ESS Laboratory Sample ID: 1308108-02
Sample Matrix: Solid

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**138000** (3540)		TOC-LK		1	SUB	08/14/13 14:34	mg/kg	CH32011

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-134 2-3ft
Date Sampled: 08/02/13 13:53
Percent Solids: 28
Initial Volume: 15.4
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1308108
ESS Laboratory Sample ID: 1308108-02
Sample Matrix: Solid
Units: mg/kg dry

Prepared: 8/9/13 15:00

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	**524** (87.9)		MADEP-EPH		1	SEP	08/11/13 0:56	CWH0134	CH30919
C19-C36 Aliphatics1	**495** (87.9)		MADEP-EPH		1	SEP	08/11/13 0:56	CWH0134	CH30919
C11-C22 Unadjusted Aromatics1	**2800** (87.9)		EPH8270		1	SEP	08/11/13 11:15	CWH0135	CH30919
C11-C22 Aromatics1,2	**2790** (87.9)		EPH8270			SEP	08/11/13 11:15		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*80 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*103 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*103 %*		*40-140*
Surrogate: O-Terphenyl	*102 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-134 4-6ft
Date Sampled: 08/02/13 13:53
Percent Solids: 31

ESS Laboratory Work Order: 1308108
ESS Laboratory Sample ID: 1308108-03
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (3.2)		6020A		50	SVD	08/13/13 3:00	5.09	100	CH31008
Arsenic	**53.4** (3.2)		6010B		1	SVD	08/12/13 1:59	5.09	100	CH31008
Barium	**64.7** (3.2)		6010B		1	SVD	08/12/13 1:59	5.09	100	CH31008
Beryllium	**0.40** (0.14)		6010B		1	SVD	08/12/13 1:59	5.09	100	CH31008
Cadmium	**1.83** (0.65)		6010B		1	SVD	08/12/13 1:59	5.09	100	CH31008
Chromium	**74.2** (1.3)		6010B		1	SVD	08/12/13 1:59	5.09	100	CH31008
Lead	**187** (6.4)		6010B		1	SVD	08/12/13 1:59	5.09	100	CH31008
Mercury	**1.10** (0.270)		7471B		5	KJK	08/10/13 14:06	1.2	40	CH30808
Nickel	**11.4** (3.2)		6010B		1	SVD	08/12/13 1:59	5.09	100	CH31008
Selenium	ND (3.23)		6020A		50	SVD	08/13/13 3:00	5.09	100	CH31008
Silver	**1.81** (0.65)		6010B		1	SVD	08/12/13 1:59	5.09	100	CH31008
Thallium	ND (3.23)		6020A		50	SVD	08/13/13 3:00	5.09	100	CH31008
Vanadium	**72.6** (1.3)		6010B		1	SVD	08/12/13 1:59	5.09	100	CH31008
Zinc	**257** (3.2)		6010B		1	KJK	08/12/13 21:20	5.09	100	CH31008

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-134 6-8ft
Date Sampled: 08/02/13 13:53
Percent Solids: 52

ESS Laboratory Work Order: 1308108
ESS Laboratory Sample ID: 1308108-04
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.9)		6020A		50	SVD	08/13/13 3:06	5.06	100	CH31008
Arsenic	**31.2** (1.9)		6010B		1	SVD	08/12/13 2:05	5.06	100	CH31008
Barium	**69.0** (1.9)		6010B		1	SVD	08/12/13 2:05	5.06	100	CH31008
Beryllium	**0.72** (0.08)		6010B		1	SVD	08/12/13 2:05	5.06	100	CH31008
Cadmium	**1.76** (0.38)		6010B		1	SVD	08/12/13 2:05	5.06	100	CH31008
Chromium	**66.6** (0.8)		6010B		1	SVD	08/12/13 2:05	5.06	100	CH31008
Lead	**136** (3.8)		6010B		1	SVD	08/12/13 2:05	5.06	100	CH31008
Mercury	**1.09** (0.127)		7471B		5	KJK	08/10/13 14:09	1.5	40	CH30808
Nickel	**23.6** (1.9)		6010B		1	SVD	08/12/13 2:05	5.06	100	CH31008
Selenium	ND (1.92)		6020A		50	SVD	08/13/13 3:06	5.06	100	CH31008
Silver	**1.36** (0.38)		6010B		1	SVD	08/12/13 2:05	5.06	100	CH31008
Thallium	ND (1.92)		6020A		50	SVD	08/13/13 3:06	5.06	100	CH31008
Vanadium	**52.3** (0.8)		6010B		1	SVD	08/12/13 2:05	5.06	100	CH31008
Zinc	**276** (1.9)		6010B		1	KJK	08/12/13 21:25	5.06	100	CH31008

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-134 6-8ft
Date Sampled: 08/02/13 13:53
Percent Solids: 52
Initial Volume: 19.8
Final Volume: 5
Extraction Method: 3540

ESS Laboratory Work Order: 1308108
ESS Laboratory Sample ID: 1308108-04
Sample Matrix: Solid
Units: mg/kg dry
Analyst: TAJ
Prepared: 8/8/13 17:15
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0487)		8082A		1	08/13/13 19:01		CH30839
Aroclor 1221	ND (0.0487)		8082A		1	08/13/13 19:01		CH30839
Aroclor 1232	ND (0.0487)		8082A		1	08/13/13 19:01		CH30839
Aroclor 1242	ND (0.0487)		8082A		1	08/13/13 19:01		CH30839
Aroclor 1248	**0.290** (0.0487)		8082A		1	08/13/13 19:01		CH30839
Aroclor 1254	**0.499** (0.0487)		8082A		1	08/13/13 19:01		CH30839
Aroclor 1260	ND (0.0487)		8082A		1	08/13/13 19:01		CH30839
Aroclor 1262	**0.187** (0.0487)		8082A		1	08/13/13 19:01		CH30839
Aroclor 1268	ND (0.0487)		8082A		1	08/13/13 19:01		CH30839

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*137 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*127 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*98 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*94 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-134 6-8ft
Date Sampled: 08/02/13 13:53
Percent Solids: 52
Initial Volume: 30.5
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308108
ESS Laboratory Sample ID: 1308108-04
Sample Matrix: Solid
Units: mg/kg dry
Analyst: IBM
Prepared: 8/8/13 16:48

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.316)		8270D		1	08/09/13 13:12	CWH0118	CH30815
1,2-Dichlorobenzene	ND (0.316)		8270D		1	08/09/13 13:12	CWH0118	CH30815
1,3-Dichlorobenzene	ND (0.316)		8270D		1	08/09/13 13:12	CWH0118	CH30815
1,4-Dichlorobenzene	ND (0.316)		8270D		1	08/09/13 13:12	CWH0118	CH30815
2-Methylnaphthalene	**5.37** (0.316)		8270D		1	08/09/13 13:12	CWH0118	CH30815
2-Methylphenol	ND (0.316)		8270D		1	08/09/13 13:12	CWH0118	CH30815
Acenaphthene	**1.88** (0.316)		8270D		1	08/09/13 13:12	CWH0118	CH30815
Acenaphthylene	**0.677** (0.316)		8270D		1	08/09/13 13:12	CWH0118	CH30815
Anthracene	**2.38** (0.316)		8270D		1	08/09/13 13:12	CWH0118	CH30815
Benzo(a)anthracene	**1.90** (0.316)		8270D		1	08/09/13 13:12	CWH0118	CH30815
Benzo(a)pyrene	**1.22** (0.158)		8270D		1	08/09/13 13:12	CWH0118	CH30815
Benzo(b)fluoranthene	**1.49** (0.316)		8270D		1	08/09/13 13:12	CWH0118	CH30815
Benzo(g,h,i)perylene	ND (0.316)		8270D		1	08/09/13 13:12	CWH0118	CH30815
Benzo(k)fluoranthene	**0.872** (0.316)		8270D		1	08/09/13 13:12	CWH0118	CH30815
bis(2-Ethylhexyl)phthalate	**789** (31.6)		8270D		100	08/10/13 2:28	CWH0118	CH30815
Butylbenzylphthalate	**0.680** (0.316)		8270D		1	08/09/13 13:12	CWH0118	CH30815
Carbazole	ND (0.316)		8270D		1	08/09/13 13:12	CWH0118	CH30815
Chrysene	**1.85** (0.158)		8270D		1	08/09/13 13:12	CWH0118	CH30815
Dibenzo(a,h)Anthracene	ND (0.158)		8270D		1	08/09/13 13:12	CWH0118	CH30815
Dibenzofuran	**0.624** (0.316)		8270D		1	08/09/13 13:12	CWH0118	CH30815
Diethylphthalate	ND (0.316)		8270D		1	08/09/13 13:12	CWH0118	CH30815
Dimethylphthalate	ND (0.316)		8270D		1	08/09/13 13:12	CWH0118	CH30815
Di-n-butylphthalate	ND (0.316)		8270D		1	08/09/13 13:12	CWH0118	CH30815
Di-n-octylphthalate	**4.14** (3.16)		8270D		10	08/10/13 1:54	CWH0118	CH30815
Fluoranthene	**4.34** (0.316)		8270D		1	08/09/13 13:12	CWH0118	CH30815
Fluorene	**2.92** (0.316)		8270D		1	08/09/13 13:12	CWH0118	CH30815
Hexachlorobenzene	ND (0.316)		8270D		1	08/09/13 13:12	CWH0118	CH30815
Hexachlorocyclopentadiene	ND (1.58)		8270D		1	08/09/13 13:12	CWH0118	CH30815
Indeno(1,2,3-cd)Pyrene	ND (0.316)		8270D		1	08/09/13 13:12	CWH0118	CH30815
Naphthalene	ND (0.316)		8270D		1	08/09/13 13:12	CWH0118	CH30815
Phenanthrene	**6.55** (0.316)		8270D		1	08/09/13 13:12	CWH0118	CH30815

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-134 6-8ft
Date Sampled: 08/02/13 13:53
Percent Solids: 52
Initial Volume: 30.5
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308108
ESS Laboratory Sample ID: 1308108-04
Sample Matrix: Solid
Units: mg/kg dry
Analyst: IBM
Prepared: 8/8/13 16:48

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Phenol	ND (0.316)		8270D		1	08/09/13 13:12	CWH0118	CH30815
Pyrene	**3.79** (0.316)		8270D		1	08/09/13 13:12	CWH0118	CH30815

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*65 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*65 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*71 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*60 %*		*30-130*
Surrogate: 2-Fluorophenol	*65 %*		*30-130*
Surrogate: Nitrobenzene-d5	*75 %*		*30-130*
Surrogate: Phenol-d6	*71 %*		*30-130*
Surrogate: p-Terphenyl-d14	*65 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-134 6-8ft
Date Sampled: 08/02/13 13:53
Percent Solids: 52
Initial Volume: 15
Final Volume: 0.5
Extraction Method: 3541

ESS Laboratory Work Order: 1308108
ESS Laboratory Sample ID: 1308108-04
Sample Matrix: Solid
Units: mg/kg dry
Analyst: IBM
Prepared: 8/8/13 17:30

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	**6.35** (0.080)		8270D		5	08/14/13 6:42	CWH0174	CH30903
Acenaphthene	**3.34** (0.080)		8270D		5	08/14/13 6:42	CWH0174	CH30903
Acenaphthylene	**1.89** (0.080)		8270D		5	08/14/13 6:42	CWH0174	CH30903
Anthracene	**3.83** (0.080)		8270D		5	08/14/13 6:42	CWH0174	CH30903
Benzo(a)anthracene	**3.25** (0.080)		8270D		5	08/14/13 6:42	CWH0174	CH30903
Benzo(a)pyrene	**2.25** (0.080)		8270D		5	08/14/13 6:42	CWH0174	CH30903
Benzo(b)fluoranthene	**3.33** (0.080)		8270D		5	08/14/13 6:42	CWH0174	CH30903
Benzo(g,h,i)perylene	**1.62** (0.080)		8270D		5	08/14/13 6:42	CWH0174	CH30903
Benzo(k)fluoranthene	**1.40** (0.080)		8270D		5	08/14/13 6:42	CWH0174	CH30903
Chrysene	**3.09** (0.080)		8270D		5	08/14/13 6:42	CWH0174	CH30903
Dibenzo(a,h)Anthracene	**0.601** (0.080)		8270D		5	08/14/13 6:42	CWH0174	CH30903
Fluoranthene	**4.93** (0.080)		8270D		5	08/14/13 6:42	CWH0174	CH30903
Fluorene	**3.36** (0.080)		8270D		5	08/14/13 6:42	CWH0174	CH30903
Indeno(1,2,3-cd)Pyrene	**1.79** (0.080)		8270D		5	08/14/13 6:42	CWH0174	CH30903
Naphthalene	**15.2** (0.080)		8270D		5	08/14/13 6:42	CWH0174	CH30903
Phenanthrene	**9.55** (0.080)		8270D		5	08/14/13 6:42	CWH0174	CH30903
Pyrene	**6.84** (0.080)		8270D		5	08/14/13 6:42	CWH0174	CH30903

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*51 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*62 %*		*30-130*
Surrogate: Nitrobenzene-d5	*51 %*		*30-130*
Surrogate: p-Terphenyl-d14	*97 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-134 6-8ft
Date Sampled: 08/02/13 13:53
Percent Solids: 52

ESS Laboratory Work Order: 1308108
ESS Laboratory Sample ID: 1308108-04
Sample Matrix: Solid

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**31000** (1910)		TOC-LK		1	SUB	08/14/13 14:40	mg/kg	CH32011

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-134 6-8ft
Date Sampled: 08/02/13 13:53
Percent Solids: 52
Initial Volume: 15.4
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1308108
ESS Laboratory Sample ID: 1308108-04
Sample Matrix: Solid
Units: mg/kg dry

Prepared: 8/9/13 15:00

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	**612** (47.0)		MADEP-EPH		1	SEP	08/11/13 3:27	CWH0134	CH30919
C19-C36 Aliphatics1	**898** (47.0)		MADEP-EPH		1	SEP	08/11/13 3:27	CWH0134	CH30919
C11-C22 Unadjusted Aromatics1	**2590** (235)		EPH8270		5	VSC	08/12/13 23:26	CWH0145	CH30919
C11-C22 Aromatics1,2	**2530** (235)		EPH8270			VSC	08/12/13 23:26		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*86 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*141 %*	*SM*	*40-140*
Surrogate: 2-Fluorobiphenyl	*129 %*		*40-140*
Surrogate: O-Terphenyl	*102 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-135T 0-0.5ft
Date Sampled: 08/06/13 08:23
Percent Solids: 64

ESS Laboratory Work Order: 1308108
ESS Laboratory Sample ID: 1308108-05
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.5)		6020A		50	SVD	08/13/13 3:24	5.16	100	CH31008
Arsenic	**7.4** (1.5)		6010B		1	SVD	08/12/13 2:10	5.16	100	CH31008
Barium	**13.3** (1.5)		6010B		1	SVD	08/12/13 2:10	5.16	100	CH31008
Beryllium	**0.18** (0.06)		6010B		1	SVD	08/12/13 2:10	5.16	100	CH31008
Cadmium	ND (0.30)		6010B		1	SVD	08/12/13 2:10	5.16	100	CH31008
Chromium	**15.5** (0.6)		6010B		1	SVD	08/12/13 2:10	5.16	100	CH31008
Lead	**29.3** (3.0)		6010B		1	SVD	08/12/13 2:10	5.16	100	CH31008
Mercury	**0.099** (0.020)		7471B		1	KJK	08/10/13 17:13	1.5	40	CH30808
Nickel	**6.8** (1.5)		6010B		1	SVD	08/12/13 2:10	5.16	100	CH31008
Selenium	ND (1.51)		6020A		50	SVD	08/13/13 3:24	5.16	100	CH31008
Silver	**0.39** (0.30)		6010B		1	SVD	08/12/13 2:10	5.16	100	CH31008
Thallium	ND (1.51)		6020A		50	SVD	08/13/13 3:24	5.16	100	CH31008
Vanadium	**16.9** (0.6)		6010B		1	SVD	08/12/13 2:10	5.16	100	CH31008
Zinc	**57.5** (1.5)		6010B		1	KJK	08/12/13 21:31	5.16	100	CH31008

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-135T 0-0.5ft
Date Sampled: 08/06/13 08:23
Percent Solids: 64

ESS Laboratory Work Order: 1308108
ESS Laboratory Sample ID: 1308108-05
Sample Matrix: Solid

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**14100** (1460)		TOC-LK		1	SUB	08/14/13 14:47	mg/kg	CH32011

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-135 2-4ft
Date Sampled: 08/02/13 14:15
Percent Solids: 77

ESS Laboratory Work Order: 1308108
ESS Laboratory Sample ID: 1308108-06
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.3)		6020A		50	SVD	08/13/13 3:30	5.17	100	CH31008
Arsenic	**3.5** (1.3)		6010B		1	SVD	08/12/13 2:25	5.17	100	CH31008
Barium	**6.8** (1.3)		6010B		1	SVD	08/12/13 2:25	5.17	100	CH31008
Beryllium	**0.14** (0.05)		6010B		1	SVD	08/12/13 2:25	5.17	100	CH31008
Cadmium	ND (0.25)		6010B		1	SVD	08/12/13 2:25	5.17	100	CH31008
Chromium	**7.8** (0.5)		6010B		1	SVD	08/12/13 2:25	5.17	100	CH31008
Lead	ND (2.5)		6010B		1	SVD	08/12/13 2:25	5.17	100	CH31008
Mercury	ND (0.021)		7471B		1	KJK	08/10/13 17:15	1.24	40	CH30808
Nickel	**4.7** (1.3)		6010B		1	SVD	08/12/13 2:25	5.17	100	CH31008
Selenium	ND (1.26)		6020A		50	SVD	08/13/13 3:30	5.17	100	CH31008
Silver	ND (0.25)		6010B		1	SVD	08/12/13 2:25	5.17	100	CH31008
Thallium	ND (1.26)		6020A		50	SVD	08/13/13 3:30	5.17	100	CH31008
Vanadium	**10.1** (0.5)		6010B		1	SVD	08/12/13 2:25	5.17	100	CH31008
Zinc	**14.7** (1.3)		6010B		1	KJK	08/12/13 21:37	5.17	100	CH31008

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-135 4-6ft
Date Sampled: 08/02/13 14:15
Percent Solids: 70

ESS Laboratory Work Order: 1308108
ESS Laboratory Sample ID: 1308108-07
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.4)		6020A		50	SVD	08/13/13 3:36	5.01	100	CH31008
Arsenic	**5.5** (1.4)		6010B		1	SVD	08/12/13 2:30	5.01	100	CH31008
Barium	**12.2** (1.4)		6010B		1	SVD	08/12/13 2:30	5.01	100	CH31008
Beryllium	**0.24** (0.06)		6010B		1	SVD	08/12/13 2:30	5.01	100	CH31008
Cadmium	ND (0.29)		6010B		1	SVD	08/12/13 2:30	5.01	100	CH31008
Chromium	**12.9** (0.6)		6010B		1	SVD	08/12/13 2:30	5.01	100	CH31008
Lead	**3.0** (2.9)		6010B		1	SVD	08/12/13 2:30	5.01	100	CH31008
Mercury	ND (0.027)		7471B		1	KJK	08/10/13 17:18	1.06	40	CH30808
Nickel	**7.3** (1.4)		6010B		1	SVD	08/12/13 2:30	5.01	100	CH31008
Selenium	ND (1.44)		6020A		50	SVD	08/13/13 3:36	5.01	100	CH31008
Silver	ND (0.29)		6010B		1	SVD	08/12/13 2:30	5.01	100	CH31008
Thallium	ND (1.44)		6020A		50	SVD	08/13/13 3:36	5.01	100	CH31008
Vanadium	**16.2** (0.6)		6010B		1	SVD	08/12/13 2:30	5.01	100	CH31008
Zinc	**21.7** (1.4)		6010B		1	KJK	08/12/13 21:42	5.01	100	CH31008

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-136 0-0.5ft
Date Sampled: 08/05/13 08:50
Percent Solids: 73

ESS Laboratory Work Order: 1308108
ESS Laboratory Sample ID: 1308108-08
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	**1.4** (1.4)		6020A		50	SVD	08/13/13 3:42	5.12	100	CH31008
Arsenic	**34.6** (6.7)		6010B		5	SVD	08/12/13 2:36	5.12	100	CH31008
Barium	**55.0** (6.7)		6010B		5	SVD	08/12/13 2:36	5.12	100	CH31008
Beryllium	**0.33** (0.28)		6010B		5	SVD	08/12/13 2:36	5.12	100	CH31008
Cadmium	ND (1.35)		6010B		5	SVD	08/12/13 2:36	5.12	100	CH31008
Chromium	**28.4** (2.7)		6010B		5	SVD	08/12/13 2:36	5.12	100	CH31008
Lead	**180** (13.4)		6010B		5	SVD	08/12/13 2:36	5.12	100	CH31008
Mercury	**0.730** (0.131)		7471B		5	KJK	08/10/13 14:25	1.04	40	CH30808
Nickel	**11.0** (6.7)		6010B		5	SVD	08/12/13 2:36	5.12	100	CH31008
Selenium	**1.72** (1.35)		6020A		50	SVD	08/13/13 3:42	5.12	100	CH31008
Silver	**1.76** (1.35)		6010B		5	SVD	08/12/13 2:36	5.12	100	CH31008
Thallium	ND (1.35)		6020A		50	SVD	08/13/13 3:42	5.12	100	CH31008
Vanadium	**29.5** (2.7)		6010B		5	SVD	08/12/13 2:36	5.12	100	CH31008
Zinc	**248** (6.7)		6010B		5	KJK	08/12/13 21:48	5.12	100	CH31008

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-136 0.5-2ft
Date Sampled: 08/05/13 08:50
Percent Solids: 69

ESS Laboratory Work Order: 1308108
ESS Laboratory Sample ID: 1308108-09
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.4)		6020A		50	SVD	08/13/13 3:48	5.15	100	CH31008
Arsenic	**27.9** (1.4)		6010B		1	SVD	08/12/13 2:41	5.15	100	CH31008
Barium	**36.6** (1.4)		6010B		1	SVD	08/12/13 2:41	5.15	100	CH31008
Beryllium	**0.25** (0.06)		6010B		1	SVD	08/12/13 2:41	5.15	100	CH31008
Cadmium	**0.89** (0.28)		6010B		1	SVD	08/12/13 2:41	5.15	100	CH31008
Chromium	**28.9** (0.6)		6010B		1	SVD	08/12/13 2:41	5.15	100	CH31008
Lead	**127** (2.8)		6010B		1	SVD	08/12/13 2:41	5.15	100	CH31008
Mercury	**0.915** (0.119)		7471B		5	KJK	08/10/13 14:28	1.21	40	CH30808
Nickel	**9.8** (1.4)		6010B		1	SVD	08/12/13 2:41	5.15	100	CH31008
Selenium	ND (1.42)		6020A		50	SVD	08/13/13 3:48	5.15	100	CH31008
Silver	**1.43** (0.28)		6010B		1	SVD	08/12/13 2:41	5.15	100	CH31008
Thallium	ND (1.42)		6020A		50	SVD	08/13/13 3:48	5.15	100	CH31008
Vanadium	**35.0** (0.6)		6010B		1	SVD	08/12/13 2:41	5.15	100	CH31008
Zinc	**198** (1.4)		6010B		1	KJK	08/12/13 21:53	5.15	100	CH31008

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-136 0.5-2ft
Date Sampled: 08/05/13 08:50
Percent Solids: 69
Initial Volume: 19.3
Final Volume: 5
Extraction Method: 3540

ESS Laboratory Work Order: 1308108
ESS Laboratory Sample ID: 1308108-09
Sample Matrix: Solid
Units: mg/kg dry
Analyst: ML
Prepared: 8/8/13 17:15
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0377)		8082A		1	08/12/13 21:34		CH30839
Aroclor 1221	ND (0.0377)		8082A		1	08/12/13 21:34		CH30839
Aroclor 1232	ND (0.0377)		8082A		1	08/12/13 21:34		CH30839
Aroclor 1242	ND (0.0377)		8082A		1	08/12/13 21:34		CH30839
Aroclor 1248	ND (0.0377)		8082A		1	08/12/13 21:34		CH30839
Aroclor 1254	**1.44** (0.188)		8082A		5	08/13/13 19:20		CH30839
Aroclor 1260	ND (0.0377)		8082A		1	08/12/13 21:34		CH30839
Aroclor 1262	ND (0.0377)		8082A		1	08/12/13 21:34		CH30839
Aroclor 1268	ND (0.0377)		8082A		1	08/12/13 21:34		CH30839

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*104 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*107 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*74 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*72 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-136 0.5-2ft
Date Sampled: 08/05/13 08:50
Percent Solids: 69
Initial Volume: 30.1
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308108
ESS Laboratory Sample ID: 1308108-09
Sample Matrix: Solid
Units: mg/kg dry
Analyst: IBM
Prepared: 8/8/13 16:48

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.241)		8270D		1	08/09/13 13:46	CWH0118	CH30815
1,2-Dichlorobenzene	ND (0.241)		8270D		1	08/09/13 13:46	CWH0118	CH30815
1,3-Dichlorobenzene	ND (0.241)		8270D		1	08/09/13 13:46	CWH0118	CH30815
1,4-Dichlorobenzene	ND (0.241)		8270D		1	08/09/13 13:46	CWH0118	CH30815
2-Methylnaphthalene	ND (0.241)		8270D		1	08/09/13 13:46	CWH0118	CH30815
2-Methylphenol	ND (0.241)		8270D		1	08/09/13 13:46	CWH0118	CH30815
Acenaphthene	**0.300** (0.241)		8270D		1	08/09/13 13:46	CWH0118	CH30815
Acenaphthylene	ND (0.241)		8270D		1	08/09/13 13:46	CWH0118	CH30815
Anthracene	**1.46** (0.241)		8270D		1	08/09/13 13:46	CWH0118	CH30815
Benzo(a)anthracene	**0.828** (0.241)		8270D		1	08/09/13 13:46	CWH0118	CH30815
Benzo(a)pyrene	**0.754** (0.121)		8270D		1	08/09/13 13:46	CWH0118	CH30815
Benzo(b)fluoranthene	**1.15** (0.241)		8270D		1	08/09/13 13:46	CWH0118	CH30815
Benzo(g,h,i)perylene	ND (0.241)		8270D		1	08/09/13 13:46	CWH0118	CH30815
Benzo(k)fluoranthene	**0.321** (0.241)		8270D		1	08/09/13 13:46	CWH0118	CH30815
bis(2-Ethylhexyl)phthalate	**5.87** (0.241)		8270D		1	08/09/13 13:46	CWH0118	CH30815
Butylbenzylphthalate	ND (0.241)		8270D		1	08/09/13 13:46	CWH0118	CH30815
Carbazole	**0.400** (0.241)		8270D		1	08/09/13 13:46	CWH0118	CH30815
Chrysene	**0.853** (0.121)		8270D		1	08/09/13 13:46	CWH0118	CH30815
Dibenzo(a,h)Anthracene	ND (0.121)		8270D		1	08/09/13 13:46	CWH0118	CH30815
Dibenzofuran	**0.727** (0.241)		8270D		1	08/09/13 13:46	CWH0118	CH30815
Diethylphthalate	ND (0.241)		8270D		1	08/09/13 13:46	CWH0118	CH30815
Dimethylphthalate	ND (0.241)		8270D		1	08/09/13 13:46	CWH0118	CH30815
Di-n-butylphthalate	ND (0.241)		8270D		1	08/09/13 13:46	CWH0118	CH30815
Di-n-octylphthalate	ND (0.241)		8270D		1	08/09/13 13:46	CWH0118	CH30815
Fluoranthene	**3.55** (0.241)		8270D		1	08/09/13 13:46	CWH0118	CH30815
Fluorene	**0.528** (0.241)		8270D		1	08/09/13 13:46	CWH0118	CH30815
Hexachlorobenzene	ND (0.241)		8270D		1	08/09/13 13:46	CWH0118	CH30815
Hexachlorocyclopentadiene	ND (1.21)		8270D		1	08/09/13 13:46	CWH0118	CH30815
Indeno(1,2,3-cd)Pyrene	ND (0.241)		8270D		1	08/09/13 13:46	CWH0118	CH30815
Naphthalene	ND (0.241)		8270D		1	08/09/13 13:46	CWH0118	CH30815
Phenanthrene	**5.97** (0.241)		8270D		1	08/09/13 13:46	CWH0118	CH30815

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-136 0.5-2ft
Date Sampled: 08/05/13 08:50
Percent Solids: 69
Initial Volume: 30.1
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308108
ESS Laboratory Sample ID: 1308108-09
Sample Matrix: Solid
Units: mg/kg dry
Analyst: IBM
Prepared: 8/8/13 16:48

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Phenol	ND (0.241)		8270D		1	08/09/13 13:46	CWH0118	CH30815
Pyrene	**2.34** (0.241)		8270D		1	08/09/13 13:46	CWH0118	CH30815

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*56 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*60 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*61 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*63 %*		*30-130*
Surrogate: 2-Fluorophenol	*55 %*		*30-130*
Surrogate: Nitrobenzene-d5	*59 %*		*30-130*
Surrogate: Phenol-d6	*62 %*		*30-130*
Surrogate: p-Terphenyl-d14	*80 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-136 0.5-2ft
Date Sampled: 08/05/13 08:50
Percent Solids: 69
Initial Volume: 15
Final Volume: 0.5
Extraction Method: 3541

ESS Laboratory Work Order: 1308108
ESS Laboratory Sample ID: 1308108-09
Sample Matrix: Solid
Units: mg/kg dry
Analyst: IBM
Prepared: 8/8/13 17:30

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	**0.121** (0.061)		8270D		5	08/14/13 7:31	CWH0174	CH30903
Acenaphthene	**0.165** (0.061)		8270D		5	08/14/13 7:31	CWH0174	CH30903
Acenaphthylene	**0.317** (0.061)		8270D		5	08/14/13 7:31	CWH0174	CH30903
Anthracene	**0.613** (0.061)		8270D		5	08/14/13 7:31	CWH0174	CH30903
Benzo(a)anthracene	**0.640** (0.061)		8270D		5	08/14/13 7:31	CWH0174	CH30903
Benzo(a)pyrene	**0.870** (0.061)		8270D		5	08/14/13 7:31	CWH0174	CH30903
Benzo(b)fluoranthene	**1.30** (0.061)		8270D		5	08/14/13 7:31	CWH0174	CH30903
Benzo(g,h,i)perylene	**0.543** (0.061)		8270D		5	08/14/13 7:31	CWH0174	CH30903
Benzo(k)fluoranthene	**0.412** (0.061)		8270D		5	08/14/13 7:31	CWH0174	CH30903
Chrysene	**1.12** (0.061)		8270D		5	08/14/13 7:31	CWH0174	CH30903
Dibenzo(a,h)Anthracene	**0.170** (0.061)		8270D		5	08/14/13 7:31	CWH0174	CH30903
Fluoranthene	**1.25** (0.061)		8270D		5	08/14/13 7:31	CWH0174	CH30903
Fluorene	**0.218** (0.061)		8270D		5	08/14/13 7:31	CWH0174	CH30903
Indeno(1,2,3-cd)Pyrene	**0.628** (0.061)		8270D		5	08/14/13 7:31	CWH0174	CH30903
Naphthalene	**0.514** (0.061)		8270D		5	08/14/13 7:31	CWH0174	CH30903
Phenanthrene	**1.11** (0.061)		8270D		5	08/14/13 7:31	CWH0174	CH30903
Pyrene	**1.96** (0.061)		8270D		5	08/14/13 7:31	CWH0174	CH30903

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*58 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*60 %*		*30-130*
Surrogate: Nitrobenzene-d5	*58 %*		*30-130*
Surrogate: p-Terphenyl-d14	*101 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-136 0.5-2ft
Date Sampled: 08/05/13 08:50
Percent Solids: 69

ESS Laboratory Work Order: 1308108
ESS Laboratory Sample ID: 1308108-09
Sample Matrix: Solid

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**40700** (1510)		TOC-LK		1	SUB	08/14/13 14:53	mg/kg	CH32011

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-136 0.5-2ft
Date Sampled: 08/05/13 08:50
Percent Solids: 69
Initial Volume: 15.5
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1308108
ESS Laboratory Sample ID: 1308108-09
Sample Matrix: Solid
Units: mg/kg dry

Prepared: 8/9/13 15:00

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	**71.9** (35.2)		MADEP-EPH		1	SEP	08/11/13 4:18	CWH0134	CH30919
C19-C36 Aliphatics1	**270** (35.2)		MADEP-EPH		1	SEP	08/11/13 4:18	CWH0134	CH30919
C11-C22 Unadjusted Aromatics1	**269** (35.2)		EPH8270		1	VSC	08/12/13 17:10	CWH0145	CH30919
C11-C22 Aromatics1,2	**262** (35.2)		EPH8270			VSC	08/12/13 17:10		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*81 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*118 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*110 %*		*40-140*
Surrogate: O-Terphenyl	*91 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-136 2-4ft
Date Sampled: 08/05/13 08:50
Percent Solids: 75

ESS Laboratory Work Order: 1308108
ESS Laboratory Sample ID: 1308108-10
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.3)		6020A		50	SVD	08/13/13 3:54	5.01	100	CH31008
Arsenic	**5.1** (1.3)		6010B		1	SVD	08/12/13 2:47	5.01	100	CH31008
Barium	**9.8** (1.3)		6010B		1	SVD	08/12/13 2:47	5.01	100	CH31008
Beryllium	**0.18** (0.06)		6010B		1	SVD	08/12/13 2:47	5.01	100	CH31008
Cadmium	ND (0.27)		6010B		1	SVD	08/12/13 2:47	5.01	100	CH31008
Chromium	**10.6** (0.5)		6010B		1	SVD	08/12/13 2:47	5.01	100	CH31008
Lead	**3.5** (2.7)		6010B		1	SVD	08/12/13 2:47	5.01	100	CH31008
Mercury	ND (0.024)		7471B		1	KJK	08/10/13 17:21	1.12	40	CH30808
Nickel	**6.2** (1.3)		6010B		1	SVD	08/12/13 2:47	5.01	100	CH31008
Selenium	ND (1.34)		6020A		50	SVD	08/13/13 3:54	5.01	100	CH31008
Silver	ND (0.27)		6010B		1	SVD	08/12/13 2:47	5.01	100	CH31008
Thallium	ND (1.34)		6020A		50	SVD	08/13/13 3:54	5.01	100	CH31008
Vanadium	**13.9** (0.5)		6010B		1	SVD	08/12/13 2:47	5.01	100	CH31008
Zinc	**21.0** (1.3)		6010B		1	KJK	08/12/13 21:59	5.01	100	CH31008

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-136 4-6ft
Date Sampled: 08/05/13 08:50
Percent Solids: 73

ESS Laboratory Work Order: 1308108
ESS Laboratory Sample ID: 1308108-11
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.3)		6020A		50	SVD	08/13/13 4:36	5.47	100	CH31008
Arsenic	**3.9** (1.3)		6010B		1	SVD	08/12/13 3:12	5.47	100	CH31008
Barium	**8.2** (1.3)		6010B		1	SVD	08/12/13 3:12	5.47	100	CH31008
Beryllium	**0.15** (0.05)		6010B		1	SVD	08/12/13 3:12	5.47	100	CH31008
Cadmium	ND (0.25)		6010B		1	SVD	08/12/13 3:12	5.47	100	CH31008
Chromium	**9.0** (0.5)		6010B		1	SVD	08/12/13 3:12	5.47	100	CH31008
Lead	ND (2.5)		6010B		1	SVD	08/12/13 3:12	5.47	100	CH31008
Mercury	ND (0.025)		7471B		1	KJK	08/10/13 17:39	1.11	40	CH30808
Nickel	**5.4** (1.3)		6010B		1	SVD	08/12/13 3:12	5.47	100	CH31008
Selenium	ND (1.26)		6020A		50	SVD	08/13/13 4:36	5.47	100	CH31008
Silver	ND (0.25)		6010B		1	SVD	08/12/13 3:12	5.47	100	CH31008
Thallium	ND (1.26)		6020A		50	SVD	08/13/13 4:36	5.47	100	CH31008
Vanadium	**11.1** (0.5)		6010B		1	SVD	08/12/13 3:12	5.47	100	CH31008
Zinc	**17.2** (1.3)		6010B		1	KJK	08/12/13 22:33	5.47	100	CH31008

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-136 8-10ft
Date Sampled: 08/05/13 08:50
Percent Solids: 75

ESS Laboratory Work Order: 1308108
ESS Laboratory Sample ID: 1308108-12
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.3)		6020A		50	SVD	08/13/13 4:42	5.24	100	CH31008
Arsenic	**4.2** (1.3)		6010B		1	SVD	08/12/13 3:26	5.24	100	CH31008
Barium	**10.4** (1.3)		6010B		1	SVD	08/12/13 3:26	5.24	100	CH31008
Beryllium	**0.19** (0.05)		6010B		1	SVD	08/12/13 3:26	5.24	100	CH31008
Cadmium	ND (0.26)		6010B		1	SVD	08/12/13 3:26	5.24	100	CH31008
Chromium	**10.3** (0.5)		6010B		1	SVD	08/12/13 3:26	5.24	100	CH31008
Lead	ND (2.5)		6010B		1	SVD	08/12/13 3:26	5.24	100	CH31008
Mercury	ND (0.026)		7471B		1	KJK	08/10/13 17:42	1	40	CH30808
Nickel	**6.0** (1.3)		6010B		1	SVD	08/12/13 3:26	5.24	100	CH31008
Selenium	ND (1.28)		6020A		50	SVD	08/13/13 4:42	5.24	100	CH31008
Silver	ND (0.26)		6010B		1	SVD	08/12/13 3:26	5.24	100	CH31008
Thallium	ND (1.28)		6020A		50	SVD	08/13/13 4:42	5.24	100	CH31008
Vanadium	**13.3** (0.5)		6010B		1	SVD	08/12/13 3:26	5.24	100	CH31008
Zinc	**18.4** (1.3)		6010B		1	KJK	08/12/13 22:39	5.24	100	CH31008

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-136 8-10ft
Date Sampled: 08/05/13 08:50
Percent Solids: 75

ESS Laboratory Work Order: 1308108
ESS Laboratory Sample ID: 1308108-12
Sample Matrix: Solid

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**19100** (1340)		TOC-LK		1	SUB	08/14/13 15:00	mg/kg	CH32011

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-137T 0-0.5ft
Date Sampled: 08/06/13 08:30
Percent Solids: 50

ESS Laboratory Work Order: 1308108
ESS Laboratory Sample ID: 1308108-13
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.8)		6020A		50	SVD	08/13/13 4:48	5.5	100	CH31008
Arsenic	**17.9** (1.8)		6010B		1	KJK	08/12/13 22:44	5.5	100	CH31008
Barium	**37.3** (1.8)		6010B		1	KJK	08/12/13 22:44	5.5	100	CH31008
Beryllium	**0.39** (0.08)		6010B		1	KJK	08/12/13 22:44	5.5	100	CH31008
Cadmium	**0.85** (0.37)		6010B		1	KJK	08/12/13 22:44	5.5	100	CH31008
Chromium	**48.7** (0.7)		6010B		1	KJK	08/12/13 22:44	5.5	100	CH31008
Lead	**133** (3.6)		6010B		1	KJK	08/12/13 22:44	5.5	100	CH31008
Mercury	**0.777** (0.169)		7471B		5	KJK	08/10/13 14:55	1.17	40	CH30808
Nickel	**15.9** (1.8)		6010B		1	KJK	08/12/13 22:44	5.5	100	CH31008
Selenium	ND (1.83)		6020A		50	SVD	08/13/13 4:48	5.5	100	CH31008
Silver	**1.22** (0.37)		6010B		1	KJK	08/12/13 22:44	5.5	100	CH31008
Thallium	ND (1.83)		6020A		50	SVD	08/13/13 4:48	5.5	100	CH31008
Vanadium	**50.5** (0.7)		6010B		1	KJK	08/12/13 22:44	5.5	100	CH31008
Zinc	**216** (1.8)		6010B		1	KJK	08/12/13 22:44	5.5	100	CH31008

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-137T 0-0.5ft
Date Sampled: 08/06/13 08:30
Percent Solids: 50
Initial Volume: 19.3
Final Volume: 5
Extraction Method: 3540

ESS Laboratory Work Order: 1308108
ESS Laboratory Sample ID: 1308108-13
Sample Matrix: Solid
Units: mg/kg dry
Analyst: ML
Prepared: 8/8/13 17:15
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.259)		8082A		5	08/12/13 13:58		CH30839
Aroclor 1221	ND (0.0518)		8082A		1	08/12/13 13:58		CH30839
Aroclor 1232	ND (0.0518)		8082A		1	08/12/13 13:58		CH30839
Aroclor 1242	ND (0.0518)		8082A		1	08/12/13 13:58		CH30839
Aroclor 1248	**0.411** (0.0518)		8082A		1	08/12/13 13:58		CH30839
Aroclor 1254	**0.713** (0.0518)		8082A		1	08/12/13 13:58		CH30839
Aroclor 1260	**0.367** (0.0518)		8082A		1	08/12/13 13:58		CH30839
Aroclor 1262	ND (0.0518)		8082A		1	08/12/13 13:58		CH30839
Aroclor 1268	ND (0.0518)		8082A		1	08/12/13 13:58		CH30839

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*81 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*80 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*20 %*	*S-*	*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*15 %*	*S-*	*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-137T 0-0.5ft
Date Sampled: 08/06/13 08:30
Percent Solids: 50
Initial Volume: 30.3
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308108
ESS Laboratory Sample ID: 1308108-13
Sample Matrix: Solid
Units: mg/kg dry
Analyst: IBM
Prepared: 8/8/13 16:48

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.329)		8270D		1	08/09/13 14:19	CWH0118	CH30815
1,2-Dichlorobenzene	ND (0.329)		8270D		1	08/09/13 14:19	CWH0118	CH30815
1,3-Dichlorobenzene	ND (0.329)		8270D		1	08/09/13 14:19	CWH0118	CH30815
1,4-Dichlorobenzene	ND (0.329)		8270D		1	08/09/13 14:19	CWH0118	CH30815
2-Methylnaphthalene	ND (0.329)		8270D		1	08/09/13 14:19	CWH0118	CH30815
2-Methylphenol	ND (0.329)		8270D		1	08/09/13 14:19	CWH0118	CH30815
Acenaphthene	ND (0.329)		8270D		1	08/09/13 14:19	CWH0118	CH30815
Acenaphthylene	ND (0.329)		8270D		1	08/09/13 14:19	CWH0118	CH30815
Anthracene	ND (0.329)		8270D		1	08/09/13 14:19	CWH0118	CH30815
Benzo(a)anthracene	**0.819** (0.329)		8270D		1	08/09/13 14:19	CWH0118	CH30815
Benzo(a)pyrene	**1.04** (0.165)		8270D		1	08/09/13 14:19	CWH0118	CH30815
Benzo(b)fluoranthene	**1.48** (0.329)		8270D		1	08/09/13 14:19	CWH0118	CH30815
Benzo(g,h,i)perylene	ND (0.329)		8270D		1	08/09/13 14:19	CWH0118	CH30815
Benzo(k)fluoranthene	**0.632** (0.329)		8270D		1	08/09/13 14:19	CWH0118	CH30815
bis(2-Ethylhexyl)phthalate	**6.37** (0.329)		8270D		1	08/09/13 14:19	CWH0118	CH30815
Butylbenzylphthalate	ND (0.329)		8270D		1	08/09/13 14:19	CWH0118	CH30815
Carbazole	ND (0.329)		8270D		1	08/09/13 14:19	CWH0118	CH30815
Chrysene	**1.09** (0.165)		8270D		1	08/09/13 14:19	CWH0118	CH30815
Dibenzo(a,h)Anthracene	**0.173** (0.165)		8270D		1	08/09/13 14:19	CWH0118	CH30815
Dibenzofuran	ND (0.329)		8270D		1	08/09/13 14:19	CWH0118	CH30815
Diethylphthalate	ND (0.329)		8270D		1	08/09/13 14:19	CWH0118	CH30815
Dimethylphthalate	ND (0.329)		8270D		1	08/09/13 14:19	CWH0118	CH30815
Di-n-butylphthalate	ND (0.329)		8270D		1	08/09/13 14:19	CWH0118	CH30815
Di-n-octylphthalate	ND (0.329)		8270D		1	08/09/13 14:19	CWH0118	CH30815
Fluoranthene	**1.77** (0.329)		8270D		1	08/09/13 14:19	CWH0118	CH30815
Fluorene	ND (0.329)		8270D		1	08/09/13 14:19	CWH0118	CH30815
Hexachlorobenzene	ND (0.329)		8270D		1	08/09/13 14:19	CWH0118	CH30815
Hexachlorocyclopentadiene	ND (1.65)		8270D		1	08/09/13 14:19	CWH0118	CH30815
Indeno(1,2,3-cd)Pyrene	ND (0.329)		8270D		1	08/09/13 14:19	CWH0118	CH30815
Naphthalene	ND (0.329)		8270D		1	08/09/13 14:19	CWH0118	CH30815
Phenanthrene	**0.680** (0.329)		8270D		1	08/09/13 14:19	CWH0118	CH30815

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-137T 0-0.5ft
Date Sampled: 08/06/13 08:30
Percent Solids: 50
Initial Volume: 30.3
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308108
ESS Laboratory Sample ID: 1308108-13
Sample Matrix: Solid
Units: mg/kg dry
Analyst: IBM
Prepared: 8/8/13 16:48

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Phenol	ND (0.329)		8270D		1	08/09/13 14:19	CWH0118	CH30815
Pyrene	**1.55** (0.329)		8270D		1	08/09/13 14:19	CWH0118	CH30815

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*51 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*59 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*55 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*58 %*		*30-130*
Surrogate: 2-Fluorophenol	*50 %*		*30-130*
Surrogate: Nitrobenzene-d5	*55 %*		*30-130*
Surrogate: Phenol-d6	*55 %*		*30-130*
Surrogate: p-Terphenyl-d14	*66 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-137T 0-0.5ft
Date Sampled: 08/06/13 08:30
Percent Solids: 50
Initial Volume: 15.2
Final Volume: 0.5
Extraction Method: 3541

ESS Laboratory Work Order: 1308108
ESS Laboratory Sample ID: 1308108-13
Sample Matrix: Solid
Units: mg/kg dry
Analyst: IBM
Prepared: 8/8/13 17:30

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	**0.171** (0.082)		8270D		5	08/11/13 19:38	CWH0139	CH30903
Acenaphthene	**0.131** (0.082)		8270D		5	08/11/13 19:38	CWH0139	CH30903
Acenaphthylene	**0.496** (0.082)		8270D		5	08/11/13 19:38	CWH0139	CH30903
Anthracene	**0.625** (0.082)		8270D		5	08/11/13 19:38	CWH0139	CH30903
Benzo(a)anthracene	**1.15** (0.082)		8270D		5	08/11/13 19:38	CWH0139	CH30903
Benzo(a)pyrene	**1.50** (0.082)		8270D		5	08/11/13 19:38	CWH0139	CH30903
Benzo(b)fluoranthene	**2.16** (0.082)		8270D		5	08/11/13 19:38	CWH0139	CH30903
Benzo(g,h,i)perylene	**1.03** (0.082)		8270D		5	08/11/13 19:38	CWH0139	CH30903
Benzo(k)fluoranthene	**0.858** (0.082)		8270D		5	08/11/13 19:38	CWH0139	CH30903
Chrysene	**1.47** (0.082)		8270D		5	08/11/13 19:38	CWH0139	CH30903
Dibenzo(a,h)Anthracene	**0.299** (0.082)		8270D		5	08/11/13 19:38	CWH0139	CH30903
Fluoranthene	**1.88** (0.082)		8270D		5	08/11/13 19:38	CWH0139	CH30903
Fluorene	**0.197** (0.082)		8270D		5	08/11/13 19:38	CWH0139	CH30903
Indeno(1,2,3-cd)Pyrene	**1.16** (0.082)		8270D		5	08/11/13 19:38	CWH0139	CH30903
Naphthalene	**0.825** (0.082)		8270D		5	08/11/13 19:38	CWH0139	CH30903
Phenanthrene	**1.21** (0.082)		8270D		5	08/11/13 19:38	CWH0139	CH30903
Pyrene	**2.36** (0.082)		8270D		5	08/11/13 19:38	CWH0139	CH30903

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*46 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*58 %*		*30-130*
Surrogate: Nitrobenzene-d5	*62 %*		*30-130*
Surrogate: p-Terphenyl-d14	*85 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-137T 0-0.5ft
Date Sampled: 08/06/13 08:30
Percent Solids: 50

ESS Laboratory Work Order: 1308108
ESS Laboratory Sample ID: 1308108-13
Sample Matrix: Solid

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**35700** (1950)		TOC-LK		1	SUB	08/14/13 15:07	mg/kg	CH32011

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-137T 0-0.5ft
Date Sampled: 08/06/13 08:30
Percent Solids: 50
Initial Volume: 15.9
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1308108
ESS Laboratory Sample ID: 1308108-13
Sample Matrix: Solid
Units: mg/kg dry

Prepared: 8/9/13 15:00

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	**54.1** (47.1)		MADEP-EPH		1	SEP	08/11/13 5:08	CWH0134	CH30919
C19-C36 Aliphatics1	**398** (47.1)		MADEP-EPH		1	SEP	08/11/13 5:08	CWH0134	CH30919
C11-C22 Unadjusted Aromatics1	**234** (47.1)		EPH8270		1	VSC	08/12/13 17:58	CWH0145	CH30919
C11-C22 Aromatics1,2	**226** (47.1)		EPH8270			VSC	08/12/13 17:58		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*76 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*112 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*109 %*		*40-140*
Surrogate: O-Terphenyl	*86 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-137 2-4ft
Date Sampled: 08/05/13 09:16
Percent Solids: 78

ESS Laboratory Work Order: 1308108
ESS Laboratory Sample ID: 1308108-14
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	**1.5** (1.3)		6020A		50	SVD	08/13/13 4:54	5.05	100	CH31008
Arsenic	**15.4** (1.3)		6010B		1	SVD	08/12/13 3:36	5.05	100	CH31008
Barium	**30.5** (1.3)		6010B		1	SVD	08/12/13 3:36	5.05	100	CH31008
Beryllium	**0.17** (0.05)		6010B		1	SVD	08/12/13 3:36	5.05	100	CH31008
Cadmium	**0.36** (0.25)		6010B		1	SVD	08/12/13 3:36	5.05	100	CH31008
Chromium	**13.8** (0.5)		6010B		1	SVD	08/12/13 3:36	5.05	100	CH31008
Lead	**131** (2.5)		6010B		1	SVD	08/12/13 3:36	5.05	100	CH31008
Mercury	ND (0.018)		7471B		1	KJK	08/10/13 17:45	1.38	40	CH30808
Nickel	**6.7** (1.3)		6010B		1	SVD	08/12/13 3:36	5.05	100	CH31008
Selenium	ND (1.27)		6020A		50	SVD	08/13/13 4:54	5.05	100	CH31008
Silver	**0.96** (0.25)		6010B		1	SVD	08/12/13 3:36	5.05	100	CH31008
Thallium	ND (1.27)		6020A		50	SVD	08/13/13 4:54	5.05	100	CH31008
Vanadium	**16.0** (0.5)		6010B		1	SVD	08/12/13 3:36	5.05	100	CH31008
Zinc	**132** (1.3)		6010B		1	KJK	08/12/13 22:50	5.05	100	CH31008

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-137 2-4ft
Date Sampled: 08/05/13 09:16
Percent Solids: 78
Initial Volume: 19.8
Final Volume: 5
Extraction Method: 3540

ESS Laboratory Work Order: 1308108
ESS Laboratory Sample ID: 1308108-14
Sample Matrix: Solid
Units: mg/kg dry
Analyst: TAJ
Prepared: 8/8/13 17:15
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0323)		8082A		1	08/13/13 19:38		CH30839
Aroclor 1221	ND (0.0323)		8082A		1	08/13/13 19:38		CH30839
Aroclor 1232	ND (0.0323)		8082A		1	08/13/13 19:38		CH30839
Aroclor 1242	ND (0.0323)		8082A		1	08/13/13 19:38		CH30839
Aroclor 1248	**0.0796** (0.0323)		8082A		1	08/13/13 19:38		CH30839
Aroclor 1254	**0.0826** (0.0323)		8082A		1	08/13/13 19:38		CH30839
Aroclor 1260	ND (0.0323)		8082A		1	08/13/13 19:38		CH30839
Aroclor 1262	**0.0565** (0.0323)		8082A		1	08/13/13 19:38		CH30839
Aroclor 1268	ND (0.0323)		8082A		1	08/13/13 19:38		CH30839

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*141 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*125 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*98 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*96 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-137 2-4ft
Date Sampled: 08/05/13 09:16
Percent Solids: 78
Initial Volume: 15.4
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308108
ESS Laboratory Sample ID: 1308108-14
Sample Matrix: Solid
Units: mg/kg dry
Analyst: SEP
Prepared: 8/9/13 19:05

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.415)		8270D		1	08/11/13 13:35	CWH0140	CH30921
1,2-Dichlorobenzene	ND (0.415)		8270D		1	08/11/13 13:35	CWH0140	CH30921
1,3-Dichlorobenzene	ND (0.415)		8270D		1	08/11/13 13:35	CWH0140	CH30921
1,4-Dichlorobenzene	ND (0.415)		8270D		1	08/11/13 13:35	CWH0140	CH30921
2-Methylnaphthalene	ND (0.415)		8270D		1	08/11/13 13:35	CWH0140	CH30921
2-Methylphenol	ND (0.415)		8270D		1	08/11/13 13:35	CWH0140	CH30921
Acenaphthene	ND (0.415)		8270D		1	08/11/13 13:35	CWH0140	CH30921
Acenaphthylene	ND (0.415)		8270D		1	08/11/13 13:35	CWH0140	CH30921
Anthracene	ND (0.415)		8270D		1	08/11/13 13:35	CWH0140	CH30921
Benzo(a)anthracene	**0.451** (0.415)		8270D		1	08/11/13 13:35	CWH0140	CH30921
Benzo(a)pyrene	**0.399** (0.208)		8270D		1	08/11/13 13:35	CWH0140	CH30921
Benzo(b)fluoranthene	**0.425** (0.415)		8270D		1	08/11/13 13:35	CWH0140	CH30921
Benzo(g,h,i)perylene	ND (0.415)		8270D		1	08/11/13 13:35	CWH0140	CH30921
Benzo(k)fluoranthene	ND (0.415)		8270D		1	08/11/13 13:35	CWH0140	CH30921
bis(2-Ethylhexyl)phthalate	**30.1** (4.15)		8270D		10	08/12/13 13:16	CWH0140	CH30921
Butylbenzylphthalate	ND (0.415)		8270D		1	08/11/13 13:35	CWH0140	CH30921
Carbazole	ND (0.415)		8270D		1	08/11/13 13:35	CWH0140	CH30921
Chrysene	**0.421** (0.208)		8270D		1	08/11/13 13:35	CWH0140	CH30921
Dibenzo(a,h)Anthracene	ND (0.208)		8270D		1	08/11/13 13:35	CWH0140	CH30921
Dibenzofuran	ND (0.415)		8270D		1	08/11/13 13:35	CWH0140	CH30921
Diethylphthalate	ND (0.415)		8270D		1	08/11/13 13:35	CWH0140	CH30921
Dimethylphthalate	ND (0.415)		8270D		1	08/11/13 13:35	CWH0140	CH30921
Di-n-butylphthalate	ND (0.415)		8270D		1	08/11/13 13:35	CWH0140	CH30921
Di-n-octylphthalate	ND (0.415)		8270D		1	08/11/13 13:35	CWH0140	CH30921
Fluoranthene	**0.725** (0.415)		8270D		1	08/11/13 13:35	CWH0140	CH30921
Fluorene	ND (0.415)		8270D		1	08/11/13 13:35	CWH0140	CH30921
Hexachlorobenzene	ND (0.415)		8270D		1	08/11/13 13:35	CWH0140	CH30921
Hexachlorocyclopentadiene	ND (2.08)		8270D		1	08/11/13 13:35	CWH0140	CH30921
Indeno(1,2,3-cd)Pyrene	ND (0.415)		8270D		1	08/11/13 13:35	CWH0140	CH30921
Naphthalene	ND (0.415)		8270D		1	08/11/13 13:35	CWH0140	CH30921
Phenanthrene	ND (0.415)		8270D		1	08/11/13 13:35	CWH0140	CH30921

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-137 2-4ft
Date Sampled: 08/05/13 09:16
Percent Solids: 78
Initial Volume: 15.4
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308108
ESS Laboratory Sample ID: 1308108-14
Sample Matrix: Solid
Units: mg/kg dry
Analyst: SEP
Prepared: 8/9/13 19:05

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Phenol	ND (0.415)		8270D		1	08/11/13 13:35	CWH0140	CH30921
Pyrene	**1.10** (0.415)		8270D		1	08/11/13 13:35	CWH0140	CH30921

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*59 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*58 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*62 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*64 %*		*30-130*
Surrogate: 2-Fluorophenol	*58 %*		*30-130*
Surrogate: Nitrobenzene-d5	*62 %*		*30-130*
Surrogate: Phenol-d6	*63 %*		*30-130*
Surrogate: p-Terphenyl-d14	*88 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-137 2-4ft
Date Sampled: 08/05/13 09:16
Percent Solids: 78
Initial Volume: 15
Final Volume: 0.5
Extraction Method: 3541

ESS Laboratory Work Order: 1308108
ESS Laboratory Sample ID: 1308108-14
Sample Matrix: Solid
Units: mg/kg dry
Analyst: IBM
Prepared: 8/8/13 17:30

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	**0.107** (0.053)		8270D		5	08/14/13 8:22	CWH0174	CH30903
Acenaphthene	**0.190** (0.053)		8270D		5	08/14/13 8:22	CWH0174	CH30903
Acenaphthylene	**0.258** (0.053)		8270D		5	08/14/13 8:22	CWH0174	CH30903
Anthracene	**0.703** (0.053)		8270D		5	08/14/13 8:22	CWH0174	CH30903
Benzo(a)anthracene	**0.906** (0.053)		8270D		5	08/14/13 8:22	CWH0174	CH30903
Benzo(a)pyrene	**0.982** (0.053)		8270D		5	08/14/13 8:22	CWH0174	CH30903
Benzo(b)fluoranthene	**1.18** (0.053)		8270D		5	08/14/13 8:22	CWH0174	CH30903
Benzo(g,h,i)perylene	**0.552** (0.053)		8270D		5	08/14/13 8:22	CWH0174	CH30903
Benzo(k)fluoranthene	**0.437** (0.053)		8270D		5	08/14/13 8:22	CWH0174	CH30903
Chrysene	**0.946** (0.053)		8270D		5	08/14/13 8:22	CWH0174	CH30903
Dibenzo(a,h)Anthracene	**0.181** (0.053)		8270D		5	08/14/13 8:22	CWH0174	CH30903
Fluoranthene	**1.52** (0.053)		8270D		5	08/14/13 8:22	CWH0174	CH30903
Fluorene	**0.187** (0.053)		8270D		5	08/14/13 8:22	CWH0174	CH30903
Indeno(1,2,3-cd)Pyrene	**0.641** (0.053)		8270D		5	08/14/13 8:22	CWH0174	CH30903
Naphthalene	**0.394** (0.053)		8270D		5	08/14/13 8:22	CWH0174	CH30903
Phenanthrene	**1.19** (0.053)		8270D		5	08/14/13 8:22	CWH0174	CH30903
Pyrene	**2.02** (0.053)		8270D		5	08/14/13 8:22	CWH0174	CH30903

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*60 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*54 %*		*30-130*
Surrogate: Nitrobenzene-d5	*50 %*		*30-130*
Surrogate: p-Terphenyl-d14	*89 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-137 2-4ft
Date Sampled: 08/05/13 09:16
Percent Solids: 78

ESS Laboratory Work Order: 1308108
ESS Laboratory Sample ID: 1308108-14
Sample Matrix: Solid

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**6760** (1270)		TOC-LK		1	SUB	08/14/13 15:14	mg/kg	CH32011

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-137 2-4ft
Date Sampled: 08/05/13 09:16
Percent Solids: 78
Initial Volume: 15.3
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1308108
ESS Laboratory Sample ID: 1308108-14
Sample Matrix: Solid
Units: mg/kg dry

Prepared: 8/9/13 15:00

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	ND (31.3)		MADEP-EPH		1	SEP	08/11/13 5:59	CWH0134	CH30919
C19-C36 Aliphatics1	**61.2** (31.3)		MADEP-EPH		1	SEP	08/11/13 5:59	CWH0134	CH30919
C11-C22 Unadjusted Aromatics1	**66.9** (31.3)		EPH8270		1	SEP	08/11/13 5:46	CWH0135	CH30919
C11-C22 Aromatics1,2	**66.9** (31.3)		EPH8270			SEP	08/11/13 5:46		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*83 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*107 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*99 %*		*40-140*
Surrogate: O-Terphenyl	*87 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-137 4-5.5ft
Date Sampled: 08/05/13 09:16
Percent Solids: 82

ESS Laboratory Work Order: 1308108
ESS Laboratory Sample ID: 1308108-15
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.2)		6020A		50	SVD	08/13/13 5:00	5.31	100	CH31008
Arsenic	**7.2** (1.1)		6010B		1	SVD	08/12/13 3:42	5.31	100	CH31008
Barium	**7.8** (1.1)		6010B		1	SVD	08/12/13 3:42	5.31	100	CH31008
Beryllium	**0.25** (0.05)		6010B		1	SVD	08/12/13 3:42	5.31	100	CH31008
Cadmium	ND (0.23)		6010B		1	SVD	08/12/13 3:42	5.31	100	CH31008
Chromium	**9.8** (0.5)		6010B		1	SVD	08/12/13 3:42	5.31	100	CH31008
Lead	**7.0** (2.3)		6010B		1	SVD	08/12/13 3:42	5.31	100	CH31008
Mercury	ND (0.022)		7471B		1	KJK	08/10/13 17:47	1.1	40	CH30808
Nickel	**6.0** (1.1)		6010B		1	SVD	08/12/13 3:42	5.31	100	CH31008
Selenium	ND (1.16)		6020A		50	SVD	08/13/13 5:00	5.31	100	CH31008
Silver	ND (0.23)		6010B		1	SVD	08/12/13 3:42	5.31	100	CH31008
Thallium	ND (1.16)		6020A		50	SVD	08/13/13 5:00	5.31	100	CH31008
Vanadium	**14.1** (0.5)		6010B		1	SVD	08/12/13 3:42	5.31	100	CH31008
Zinc	**21.2** (1.1)		6010B		1	KJK	08/12/13 22:55	5.31	100	CH31008

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-138 0-0.5ft
Date Sampled: 08/02/13 14:25
Percent Solids: 36

ESS Laboratory Work Order: 1308108
ESS Laboratory Sample ID: 1308108-16
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (2.7)		6020A		50	SVD	08/13/13 5:07	5.21	100	CH31008
Arsenic	**30.3** (2.7)		6010B		1	SVD	08/12/13 3:47	5.21	100	CH31008
Barium	**58.2** (2.7)		6010B		1	SVD	08/12/13 3:47	5.21	100	CH31008
Beryllium	**0.59** (0.11)		6010B		1	SVD	08/12/13 3:47	5.21	100	CH31008
Cadmium	**1.47** (0.54)		6010B		1	SVD	08/12/13 3:47	5.21	100	CH31008
Chromium	**82.4** (1.1)		6010B		1	SVD	08/12/13 3:47	5.21	100	CH31008
Lead	**183** (5.4)		6010B		1	SVD	08/12/13 3:47	5.21	100	CH31008
Mercury	**0.949** (0.224)		7471B		5	KJK	08/10/13 15:03	1.23	40	CH30808
Nickel	**25.3** (2.7)		6010B		1	SVD	08/12/13 3:47	5.21	100	CH31008
Selenium	ND (2.69)		6020A		50	SVD	08/13/13 5:07	5.21	100	CH31008
Silver	**2.29** (0.54)		6010B		1	SVD	08/12/13 3:47	5.21	100	CH31008
Thallium	ND (2.69)		6020A		50	SVD	08/13/13 5:07	5.21	100	CH31008
Vanadium	**77.3** (1.1)		6010B		1	SVD	08/12/13 3:47	5.21	100	CH31008
Zinc	**322** (2.7)		6010B		1	KJK	08/12/13 23:01	5.21	100	CH31008

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-138 0-0.5ft
Date Sampled: 08/02/13 14:25
Percent Solids: 36

ESS Laboratory Work Order: 1308108
ESS Laboratory Sample ID: 1308108-16
Sample Matrix: Solid

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**61300** (2670)		TOC-LK		1	SUB	08/14/13 15:21	mg/kg	CH32011

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-138 0.5-2ft
Date Sampled: 08/02/13 14:25
Percent Solids: 34

ESS Laboratory Work Order: 1308108
ESS Laboratory Sample ID: 1308108-17
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (2.9)		6020A		50	SVD	08/13/13 5:13	5.02	100	CH31008
Arsenic	**28.6** (2.9)		6010B		1	SVD	08/12/13 3:53	5.02	100	CH31008
Barium	**48.4** (2.9)		6010B		1	SVD	08/12/13 3:53	5.02	100	CH31008
Beryllium	**0.59** (0.12)		6010B		1	SVD	08/12/13 3:53	5.02	100	CH31008
Cadmium	**1.51** (0.59)		6010B		1	SVD	08/12/13 3:53	5.02	100	CH31008
Chromium	**68.2** (1.2)		6010B		1	SVD	08/12/13 3:53	5.02	100	CH31008
Lead	**140** (5.8)		6010B		1	SVD	08/12/13 3:53	5.02	100	CH31008
Mercury	**0.779** (0.212)		7471B		5	KJK	08/10/13 15:06	1.37	40	CH30808
Nickel	**19.4** (2.9)		6010B		1	SVD	08/12/13 3:53	5.02	100	CH31008
Selenium	ND (2.93)		6020A		50	SVD	08/13/13 5:13	5.02	100	CH31008
Silver	**1.28** (0.59)		6010B		1	SVD	08/12/13 3:53	5.02	100	CH31008
Thallium	ND (2.93)		6020A		50	SVD	08/13/13 5:13	5.02	100	CH31008
Vanadium	**78.0** (1.2)		6010B		1	SVD	08/12/13 3:53	5.02	100	CH31008
Zinc	**250** (2.9)		6010B		1	KJK	08/12/13 23:07	5.02	100	CH31008

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-138 2-4ft
Date Sampled: 08/02/13 14:25
Percent Solids: 48

ESS Laboratory Work Order: 1308108
ESS Laboratory Sample ID: 1308108-18
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (2.0)		6020A		50	SVD	08/13/13 5:19	5.1	100	CH31008
Arsenic	**31.0** (2.0)		6010B		1	SVD	08/12/13 3:58	5.1	100	CH31008
Barium	**59.0** (2.0)		6010B		1	SVD	08/12/13 3:58	5.1	100	CH31008
Beryllium	**0.60** (0.09)		6010B		1	SVD	08/12/13 3:58	5.1	100	CH31008
Cadmium	**1.75** (0.41)		6010B		1	SVD	08/12/13 3:58	5.1	100	CH31008
Chromium	**61.6** (0.8)		6010B		1	SVD	08/12/13 3:58	5.1	100	CH31008
Lead	**146** (4.1)		6010B		1	SVD	08/12/13 3:58	5.1	100	CH31008
Mercury	**1.38** (0.166)		7471B		5	KJK	08/10/13 15:08	1.24	40	CH30808
Nickel	**19.2** (2.0)		6010B		1	SVD	08/12/13 3:58	5.1	100	CH31008
Selenium	ND (2.05)		6020A		50	SVD	08/13/13 5:19	5.1	100	CH31008
Silver	**1.38** (0.41)		6010B		1	SVD	08/12/13 3:58	5.1	100	CH31008
Thallium	ND (2.05)		6020A		50	SVD	08/13/13 5:19	5.1	100	CH31008
Vanadium	**51.3** (0.8)		6010B		1	SVD	08/12/13 3:58	5.1	100	CH31008
Zinc	**276** (2.0)		6010B		1	KJK	08/12/13 23:12	5.1	100	CH31008

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-138 2-4ft
Date Sampled: 08/02/13 14:25
Percent Solids: 48

ESS Laboratory Work Order: 1308108
ESS Laboratory Sample ID: 1308108-18
Sample Matrix: Solid

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**32100** (2290)		TOC-LK		1	SUB	08/14/13 15:28	mg/kg	CH32011

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-138 4-6ft
Date Sampled: 08/02/13 14:25
Percent Solids: 47

ESS Laboratory Work Order: 1308108
ESS Laboratory Sample ID: 1308108-19
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (2.0)		6020A		50	SVD	08/13/13 5:25	5.42	100	CH31008
Arsenic	**33.8** (2.0)		6010B		1	SVD	08/12/13 4:04	5.42	100	CH31008
Barium	**72.6** (2.0)		6010B		1	SVD	08/12/13 4:04	5.42	100	CH31008
Beryllium	**0.63** (0.08)		6010B		1	SVD	08/12/13 4:04	5.42	100	CH31008
Cadmium	**2.36** (0.39)		6010B		1	SVD	08/12/13 4:04	5.42	100	CH31008
Chromium	**75.7** (0.8)		6010B		1	SVD	08/12/13 4:04	5.42	100	CH31008
Lead	**177** (3.9)		6010B		1	SVD	08/12/13 4:04	5.42	100	CH31008
Mercury	**1.73** (0.140)		7471B		5	KJK	08/10/13 15:11	1.5	40	CH30808
Nickel	**20.0** (2.0)		6010B		1	SVD	08/12/13 4:04	5.42	100	CH31008
Selenium	ND (1.97)		6020A		50	SVD	08/13/13 5:25	5.42	100	CH31008
Silver	**1.53** (0.39)		6010B		1	SVD	08/12/13 4:04	5.42	100	CH31008
Thallium	ND (1.97)		6020A		50	SVD	08/13/13 5:25	5.42	100	CH31008
Vanadium	**57.3** (0.8)		6010B		1	SVD	08/12/13 4:04	5.42	100	CH31008
Zinc	**310** (2.0)		6010B		1	KJK	08/12/13 23:26	5.42	100	CH31008

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-138 6-8ft
Date Sampled: 08/02/13 14:25
Percent Solids: 41

ESS Laboratory Work Order: 1308108
ESS Laboratory Sample ID: 1308108-20
Sample Matrix: Solid
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (2.3)		6020A		50	SVD	08/13/13 5:31	5.39	100	CH31008
Arsenic	**42.5** (2.3)		6010B		1	SVD	08/12/13 4:10	5.39	100	CH31008
Barium	**90.1** (2.3)		6010B		1	SVD	08/12/13 4:10	5.39	100	CH31008
Beryllium	**0.44** (0.10)		6010B		1	SVD	08/12/13 4:10	5.39	100	CH31008
Cadmium	**3.74** (0.46)		6010B		1	SVD	08/12/13 4:10	5.39	100	CH31008
Chromium	**104** (0.9)		6010B		1	SVD	08/12/13 4:10	5.39	100	CH31008
Lead	**307** (4.5)		6010B		1	SVD	08/12/13 4:10	5.39	100	CH31008
Mercury	**2.44** (0.191)		7471B		5	KJK	08/10/13 15:13	1.27	40	CH30808
Nickel	**15.4** (2.3)		6010B		1	SVD	08/12/13 4:10	5.39	100	CH31008
Selenium	**3.12** (2.28)		6020A		50	SVD	08/13/13 5:31	5.39	100	CH31008
Silver	**2.08** (0.46)		6010B		1	SVD	08/12/13 4:10	5.39	100	CH31008
Thallium	ND (2.28)		6020A		50	SVD	08/13/13 5:31	5.39	100	CH31008
Vanadium	**97.5** (0.9)		6010B		1	SVD	08/12/13 4:10	5.39	100	CH31008
Zinc	**485** (2.3)		6010B		1	KJK	08/12/13 23:32	5.39	100	CH31008

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308108

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Total Metals Solid										
Batch CH30808 - 7471A										
Blank										
Mercury	ND	0.033	mg/kg wet							
LCS										
Mercury	7.30	0.750	mg/kg wet	9.250		79	80-120			
LCS Dup										
Mercury	7.82	0.786	mg/kg wet	9.250		85	80-120	7	20	
Batch CH31008 - 3050B										
Blank										
Antimony	ND	2.5	mg/kg wet							
Arsenic	ND	2.5	mg/kg wet							
Barium	ND	2.5	mg/kg wet							
Beryllium	ND	0.10	mg/kg wet							
Cadmium	ND	0.50	mg/kg wet							
Chromium	ND	1.0	mg/kg wet							
Lead	ND	5.0	mg/kg wet							
Nickel	ND	2.5	mg/kg wet							
Selenium	ND	2.51	mg/kg wet							
Silver	ND	0.50	mg/kg wet							
Thallium	ND	2.51	mg/kg wet							
Vanadium	ND	1.0	mg/kg wet							
Zinc	ND	2.5	mg/kg wet							
LCS										
Antimony	117	9.5	mg/kg wet	106.0		111	80-120			
Arsenic	153	9.4	mg/kg wet	182.0		84	80-120			
Barium	119	9.4	mg/kg wet	143.0		83	80-120			
Beryllium	85.2	0.40	mg/kg wet	98.30		87	80-120			
Cadmium	50.9	1.90	mg/kg wet	60.40		84	80-120			
Chromium	104	3.8	mg/kg wet	125.0		84	80-120			
Lead	113	18.9	mg/kg wet	136.0		83	80-120			
Nickel	106	9.4	mg/kg wet	128.0		83	80-120			
Selenium	83.3	9.48	mg/kg wet	85.90		97	80-120			
Silver	52.7	1.90	mg/kg wet	61.30		86	80-120			
Thallium	121	9.48	mg/kg wet	144.0		84	80-120			
Vanadium	91.3	3.8	mg/kg wet	104.0		88	80-120			
Zinc	185	9.4	mg/kg wet	204.0		91	80-120			
LCS Dup										
Antimony	106	9.0	mg/kg wet	106.0		100	80-120	10	20	
Arsenic	154	8.9	mg/kg wet	182.0		85	80-120	0.9	20	
Barium	122	8.9	mg/kg wet	143.0		86	80-120	3	20	
Beryllium	86.1	0.38	mg/kg wet	98.30		88	80-120	1	20	
Cadmium	51.4	1.79	mg/kg wet	60.40		85	80-120	0.8	20	
Chromium	107	3.6	mg/kg wet	125.0		86	80-120	2	20	
Lead	115	17.9	mg/kg wet	136.0		85	80-120	1	20	
Nickel	110	8.9	mg/kg wet	128.0		86	80-120	4	20	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308108

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Total Metals Solid										
Batch CH31008 - 3050B										
Selenium	87.0	8.97	mg/kg wet	85.90		101	80-120	4	20	
Silver	53.9	1.79	mg/kg wet	61.30		88	80-120	2	20	
Thallium	130	8.97	mg/kg wet	144.0		90	80-120	7	20	
Vanadium	93.0	3.6	mg/kg wet	104.0		89	80-120	2	20	
Zinc	182	8.9	mg/kg wet	204.0		89	80-120	2	20	
8082A Polychlorinated Biphenyls (PCB)										
Batch CH30839 - 3540										
Blank										
Aroclor 1016	ND	0.0250	mg/kg wet							
Aroclor 1016 (1)	ND	0.0250	mg/kg wet							
Aroclor 1016 (1) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1016 (2)	ND	0.0250	mg/kg wet							
Aroclor 1016 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1016 (3)	ND	0.0250	mg/kg wet							
Aroclor 1016 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1016 (4)	ND	0.0250	mg/kg wet							
Aroclor 1016 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1016 (5)	ND	0.0250	mg/kg wet							
Aroclor 1016 (5) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1221	ND	0.0250	mg/kg wet							
Aroclor 1221 (1)	ND	0.0250	mg/kg wet							
Aroclor 1221 (1) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1221 (2)	ND	0.0250	mg/kg wet							
Aroclor 1221 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1221 (3)	ND	0.0250	mg/kg wet							
Aroclor 1221 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1221 (4)	ND	0.0250	mg/kg wet							
Aroclor 1221 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1221 (5)	ND	0.0250	mg/kg wet							
Aroclor 1221 (5) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1232	ND	0.0250	mg/kg wet							
Aroclor 1232 (1)	ND	0.0250	mg/kg wet							
Aroclor 1232 (1) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1232 (2)	ND	0.0250	mg/kg wet							
Aroclor 1232 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1232 (3)	ND	0.0250	mg/kg wet							
Aroclor 1232 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1232 (4)	ND	0.0250	mg/kg wet							
Aroclor 1232 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1232 (5)	ND	0.0250	mg/kg wet							
Aroclor 1232 (5) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1242	ND	0.0250	mg/kg wet							
Aroclor 1242 (1)	ND	0.0250	mg/kg wet							
Aroclor 1242 (1) [2C]	ND	0.0250	mg/kg wet							

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Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch CH30839 - 3540										
Aroclor 1242 (2)	ND	0.0250	mg/kg wet							
Aroclor 1242 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1242 (3)	ND	0.0250	mg/kg wet							
Aroclor 1242 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1242 (4)	ND	0.0250	mg/kg wet							
Aroclor 1242 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1242 (5)	ND	0.0250	mg/kg wet							
Aroclor 1242 (5) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1248	ND	0.0250	mg/kg wet							
Aroclor 1248 (1)	ND	0.0250	mg/kg wet							
Aroclor 1248 (1) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1248 (2)	ND	0.0250	mg/kg wet							
Aroclor 1248 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1248 (3)	ND	0.0250	mg/kg wet							
Aroclor 1248 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1248 (4)	ND	0.0250	mg/kg wet							
Aroclor 1248 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1248 (5)	ND	0.0250	mg/kg wet							
Aroclor 1248 (5) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1254	ND	0.0250	mg/kg wet							
Aroclor 1254 (1)	ND	0.0250	mg/kg wet							
Aroclor 1254 (1) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1254 (2)	ND	0.0250	mg/kg wet							
Aroclor 1254 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1254 (3)	ND	0.0250	mg/kg wet							
Aroclor 1254 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1254 (4)	ND	0.0250	mg/kg wet							
Aroclor 1254 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1254 (5)	ND	0.0250	mg/kg wet							
Aroclor 1254 (5) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1260	ND	0.0250	mg/kg wet							
Aroclor 1260 (1)	ND	0.0250	mg/kg wet							
Aroclor 1260 (1) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1260 (2)	ND	0.0250	mg/kg wet							
Aroclor 1260 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1260 (3)	ND	0.0250	mg/kg wet							
Aroclor 1260 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1260 (4)	ND	0.0250	mg/kg wet							
Aroclor 1260 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1260 (5)	ND	0.0250	mg/kg wet							
Aroclor 1260 (5) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1262	ND	0.0250	mg/kg wet							
Aroclor 1262 (1)	ND	0.0250	mg/kg wet							
Aroclor 1262 (1) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1262 (2)	ND	0.0250	mg/kg wet							

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch CH30839 - 3540										
Aroclor 1262 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1262 (3)	ND	0.0250	mg/kg wet							
Aroclor 1262 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1262 (4)	ND	0.0250	mg/kg wet							
Aroclor 1262 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1262 (5)	ND	0.0250	mg/kg wet							
Aroclor 1262 (5) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1268	ND	0.0250	mg/kg wet							
Aroclor 1268 (1)	ND	0.0250	mg/kg wet							
Aroclor 1268 (1) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1268 (2)	ND	0.0250	mg/kg wet							
Aroclor 1268 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1268 (3)	ND	0.0250	mg/kg wet							
Aroclor 1268 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1268 (4)	ND	0.0250	mg/kg wet							
Aroclor 1268 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1268 (5)	ND	0.0250	mg/kg wet							
Aroclor 1268 (5) [2C]	ND	0.0250	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0132*		mg/kg wet	*0.01250*		*106*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0101*		mg/kg wet	*0.01250*		*81*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0106*		mg/kg wet	*0.01250*		*85*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.00948*		mg/kg wet	*0.01250*		*76*	*30-150*			
LCS										
Aroclor 1016	0.228	0.0250	mg/kg wet	0.2500		91	40-140			
Aroclor 1260	0.248	0.0250	mg/kg wet	0.2500		99	40-140			
Surrogate: Decachlorobiphenyl	*0.0129*		mg/kg wet	*0.01250*		*103*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.00990*		mg/kg wet	*0.01250*		*79*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.00997*		mg/kg wet	*0.01250*		*80*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.00859*		mg/kg wet	*0.01250*		*69*	*30-150*			
LCS Dup										
Aroclor 1016	0.255	0.0250	mg/kg wet	0.2500		102	40-140	11	30	
Aroclor 1260	0.253	0.0250	mg/kg wet	0.2500		101	40-140	2	30	
Surrogate: Decachlorobiphenyl	*0.0131*		mg/kg wet	*0.01250*		*105*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0101*		mg/kg wet	*0.01250*		*81*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0108*		mg/kg wet	*0.01250*		*86*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.00949*		mg/kg wet	*0.01250*		*76*	*30-150*			
8270D Semi-Volatile Organic Compounds										
Batch CH30815 - 3546										
Blank										
1,2,4-Trichlorobenzene	ND	0.333	mg/kg wet							
1,2-Dichlorobenzene	ND	0.333	mg/kg wet							

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch CH30815 - 3546										
1,3-Dichlorobenzene	ND	0.333	mg/kg wet							
1,4-Dichlorobenzene	ND	0.333	mg/kg wet							
2-Methylnaphthalene	ND	0.333	mg/kg wet							
2-Methylphenol	ND	0.333	mg/kg wet							
Acenaphthene	ND	0.333	mg/kg wet							
Acenaphthylene	ND	0.333	mg/kg wet							
Anthracene	ND	0.333	mg/kg wet							
Benzo(a)anthracene	ND	0.333	mg/kg wet							
Benzo(a)pyrene	ND	0.167	mg/kg wet							
Benzo(b)fluoranthene	ND	0.333	mg/kg wet							
Benzo(g,h,i)perylene	ND	0.333	mg/kg wet							
Benzo(k)fluoranthene	ND	0.333	mg/kg wet							
bis(2-Ethylhexyl)phthalate	ND	0.333	mg/kg wet							
Butylbenzylphthalate	ND	0.333	mg/kg wet							
Carbazole	ND	0.333	mg/kg wet							
Chrysene	ND	0.167	mg/kg wet							
Dibenzo(a,h)Anthracene	ND	0.167	mg/kg wet							
Dibenzofuran	ND	0.333	mg/kg wet							
Diethylphthalate	ND	0.333	mg/kg wet							
Dimethylphthalate	ND	0.333	mg/kg wet							
Di-n-butylphthalate	ND	0.333	mg/kg wet							
Di-n-octylphthalate	ND	0.333	mg/kg wet							
Fluoranthene	ND	0.333	mg/kg wet							
Fluorene	ND	0.333	mg/kg wet							
Hexachlorobenzene	ND	0.333	mg/kg wet							
Hexachlorocyclopentadiene	ND	1.67	mg/kg wet							
Indeno(1,2,3-cd)Pyrene	ND	0.333	mg/kg wet							
Naphthalene	ND	0.333	mg/kg wet							
Phenanthrene	ND	0.333	mg/kg wet							
Phenol	ND	0.333	mg/kg wet							
Pyrene	ND	0.333	mg/kg wet							
Surrogate: 1,2-Dichlorobenzene-d4	*2.36*		mg/kg wet	*3.333*		*71*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*3.81*		mg/kg wet	*5.000*		*76*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*3.78*		mg/kg wet	*5.000*		*76*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*2.38*		mg/kg wet	*3.333*		*72*	*30-130*			
Surrogate: 2-Fluorophenol	*3.53*		mg/kg wet	*5.000*		*71*	*30-130*			
Surrogate: Nitrobenzene-d5	*2.35*		mg/kg wet	*3.333*		*71*	*30-130*			
Surrogate: Phenol-d6	*3.76*		mg/kg wet	*5.000*		*75*	*30-130*			
Surrogate: p-Terphenyl-d14	*3.51*		mg/kg wet	*3.333*		*105*	*30-130*			
LCS										
1,2,4-Trichlorobenzene	2.16	0.333	mg/kg wet	3.333		65	40-140			
1,2-Dichlorobenzene	2.07	0.333	mg/kg wet	3.333		62	40-140			
1,3-Dichlorobenzene	2.06	0.333	mg/kg wet	3.333		62	40-140			
1,4-Dichlorobenzene	2.08	0.333	mg/kg wet	3.333		62	40-140			
2-Methylnaphthalene	2.32	0.333	mg/kg wet	3.333		70	40-140			

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch CH30815 - 3546										
2-Methylphenol	2.14	0.333	mg/kg wet	3.333		64	30-130			
Acenaphthene	2.58	0.333	mg/kg wet	3.333		77	40-140			
Acenaphthylene	2.45	0.333	mg/kg wet	3.333		74	40-140			
Anthracene	3.03	0.333	mg/kg wet	3.333		91	40-140			
Benzo(a)anthracene	2.81	0.333	mg/kg wet	3.333		84	40-140			
Benzo(a)pyrene	2.69	0.167	mg/kg wet	3.333		81	40-140			
Benzo(b)fluoranthene	3.15	0.333	mg/kg wet	3.333		95	40-140			
Benzo(g,h,i)perylene	3.08	0.333	mg/kg wet	3.333		92	40-140			
Benzo(k)fluoranthene	3.04	0.333	mg/kg wet	3.333		91	40-140			
bis(2-Ethylhexyl)phthalate	3.18	0.333	mg/kg wet	3.333		95	40-140			
Butylbenzylphthalate	3.15	0.333	mg/kg wet	3.333		95	40-140			
Carbazole	3.07	0.333	mg/kg wet	3.333		92	40-140			
Chrysene	2.94	0.167	mg/kg wet	3.333		88	40-140			
Dibenzo(a,h)Anthracene	3.54	0.167	mg/kg wet	3.333		106	40-140			
Dibenzofuran	2.62	0.333	mg/kg wet	3.333		78	40-140			
Diethylphthalate	2.88	0.333	mg/kg wet	3.333		86	40-140			
Dimethylphthalate	2.75	0.333	mg/kg wet	3.333		82	40-140			
Di-n-butylphthalate	3.22	0.333	mg/kg wet	3.333		97	40-140			
Di-n-octylphthalate	2.92	0.333	mg/kg wet	3.333		88	40-140			
Fluoranthene	3.10	0.333	mg/kg wet	3.333		93	40-140			
Fluorene	2.78	0.333	mg/kg wet	3.333		83	40-140			
Hexachlorobenzene	2.80	0.333	mg/kg wet	3.333		84	40-140			
Hexachlorocyclopentadiene	1.58	1.67	mg/kg wet	3.333		47	40-140			
Indeno(1,2,3-cd)Pyrene	2.98	0.333	mg/kg wet	3.333		89	40-140			
Naphthalene	2.28	0.333	mg/kg wet	3.333		68	40-140			
Phenanthrene	3.04	0.333	mg/kg wet	3.333		91	40-140			
Phenol	2.11	0.333	mg/kg wet	3.333		63	30-130			
Pyrene	3.05	0.333	mg/kg wet	3.333		92	40-140			
Surrogate: 1,2-Dichlorobenzene-d4	*2.14*		mg/kg wet	*3.333*		*64*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*4.28*		mg/kg wet	*5.000*		*86*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*3.34*		mg/kg wet	*5.000*		*67*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*2.48*		mg/kg wet	*3.333*		*74*	*30-130*			
Surrogate: 2-Fluorophenol	*3.21*		mg/kg wet	*5.000*		*64*	*30-130*			
Surrogate: Nitrobenzene-d5	*2.28*		mg/kg wet	*3.333*		*69*	*30-130*			
Surrogate: Phenol-d6	*3.31*		mg/kg wet	*5.000*		*66*	*30-130*			
Surrogate: p-Terphenyl-d14	*2.84*		mg/kg wet	*3.333*		*85*	*30-130*			
LCS Dup										
1,2,4-Trichlorobenzene	2.17	0.333	mg/kg wet	3.333		65	40-140	0.7	30	
1,2-Dichlorobenzene	2.16	0.333	mg/kg wet	3.333		65	40-140	4	30	
1,3-Dichlorobenzene	2.13	0.333	mg/kg wet	3.333		64	40-140	3	30	
1,4-Dichlorobenzene	2.18	0.333	mg/kg wet	3.333		65	40-140	5	30	
2-Methylnaphthalene	2.37	0.333	mg/kg wet	3.333		71	40-140	2	30	
2-Methylphenol	2.22	0.333	mg/kg wet	3.333		67	30-130	4	30	
Acenaphthene	2.71	0.333	mg/kg wet	3.333		81	40-140	5	30	
Acenaphthylene	2.57	0.333	mg/kg wet	3.333		77	40-140	5	30	

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch CH30815 - 3546										
Anthracene	3.14	0.333	mg/kg wet	3.333		94	40-140	4	30	
Benzo(a)anthracene	3.10	0.333	mg/kg wet	3.333		93	40-140	10	30	
Benzo(a)pyrene	2.73	0.167	mg/kg wet	3.333		82	40-140	2	30	
Benzo(b)fluoranthene	3.25	0.333	mg/kg wet	3.333		97	40-140	3	30	
Benzo(g,h,i)perylene	3.21	0.333	mg/kg wet	3.333		96	40-140	4	30	
Benzo(k)fluoranthene	3.20	0.333	mg/kg wet	3.333		96	40-140	5	30	
bis(2-Ethylhexyl)phthalate	3.26	0.333	mg/kg wet	3.333		98	40-140	2	30	
Butylbenzylphthalate	3.26	0.333	mg/kg wet	3.333		98	40-140	3	30	
Carbazole	3.18	0.333	mg/kg wet	3.333		95	40-140	3	30	
Chrysene	3.04	0.167	mg/kg wet	3.333		91	40-140	3	30	
Dibenzo(a,h)Anthracene	3.68	0.167	mg/kg wet	3.333		110	40-140	4	30	
Dibenzofuran	2.73	0.333	mg/kg wet	3.333		82	40-140	4	30	
Diethylphthalate	2.96	0.333	mg/kg wet	3.333		89	40-140	3	30	
Dimethylphthalate	2.86	0.333	mg/kg wet	3.333		86	40-140	4	30	
Di-n-butylphthalate	3.30	0.333	mg/kg wet	3.333		99	40-140	2	30	
Di-n-octylphthalate	3.01	0.333	mg/kg wet	3.333		90	40-140	3	30	
Fluoranthene	3.21	0.333	mg/kg wet	3.333		96	40-140	4	30	
Fluorene	2.90	0.333	mg/kg wet	3.333		87	40-140	4	30	
Hexachlorobenzene	2.95	0.333	mg/kg wet	3.333		88	40-140	5	30	
Hexachlorocyclopentadiene	1.70	1.67	mg/kg wet	3.333		51	40-140	7	30	
Indeno(1,2,3-cd)Pyrene	3.14	0.333	mg/kg wet	3.333		94	40-140	5	30	
Naphthalene	2.30	0.333	mg/kg wet	3.333		69	40-140	0.7	30	
Phenanthrene	3.14	0.333	mg/kg wet	3.333		94	40-140	3	30	
Phenol	2.18	0.333	mg/kg wet	3.333		65	30-130	3	30	
Pyrene	3.16	0.333	mg/kg wet	3.333		95	40-140	3	30	
Surrogate: 1,2-Dichlorobenzene-d4	*2.17*		mg/kg wet	*3.333*		*65*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*4.40*		mg/kg wet	*5.000*		*88*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*3.37*		mg/kg wet	*5.000*		*67*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*2.59*		mg/kg wet	*3.333*		*78*	*30-130*			
Surrogate: 2-Fluorophenol	*3.23*		mg/kg wet	*5.000*		*65*	*30-130*			
Surrogate: Nitrobenzene-d5	*2.27*		mg/kg wet	*3.333*		*68*	*30-130*			
Surrogate: Phenol-d6	*3.34*		mg/kg wet	*5.000*		*67*	*30-130*			
Surrogate: p-Terphenyl-d14	*2.76*		mg/kg wet	*3.333*		*83*	*30-130*			
Batch CH30921 - 3546										
Blank										
1,2,4-Trichlorobenzene	ND	0.333	mg/kg wet							
1,2-Dichlorobenzene	ND	0.333	mg/kg wet							
1,3-Dichlorobenzene	ND	0.333	mg/kg wet							
1,4-Dichlorobenzene	ND	0.333	mg/kg wet							
2-Methylnaphthalene	ND	0.333	mg/kg wet							
2-Methylphenol	ND	0.333	mg/kg wet							
Acenaphthene	ND	0.333	mg/kg wet							
Acenaphthylene	ND	0.333	mg/kg wet							
Anthracene	ND	0.333	mg/kg wet							
Benzo(a)anthracene	ND	0.333	mg/kg wet							

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch CH30921 - 3546										
Benzo(a)pyrene	ND	0.167	mg/kg wet							
Benzo(b)fluoranthene	ND	0.333	mg/kg wet							
Benzo(g,h,i)perylene	ND	0.333	mg/kg wet							
Benzo(k)fluoranthene	ND	0.333	mg/kg wet							
bis(2-Ethylhexyl)phthalate	ND	0.333	mg/kg wet							
Butylbenzylphthalate	ND	0.333	mg/kg wet							
Carbazole	ND	0.333	mg/kg wet							
Chrysene	ND	0.167	mg/kg wet							
Dibenzo(a,h)Anthracene	ND	0.167	mg/kg wet							
Dibenzofuran	ND	0.333	mg/kg wet							
Diethylphthalate	ND	0.333	mg/kg wet							
Dimethylphthalate	ND	0.333	mg/kg wet							
Di-n-butylphthalate	ND	0.333	mg/kg wet							
Di-n-octylphthalate	ND	0.333	mg/kg wet							
Fluoranthene	ND	0.333	mg/kg wet							
Fluorene	ND	0.333	mg/kg wet							
Hexachlorobenzene	ND	0.333	mg/kg wet							
Hexachlorocyclopentadiene	ND	1.67	mg/kg wet							
Indeno(1,2,3-cd)Pyrene	ND	0.333	mg/kg wet							
Naphthalene	ND	0.333	mg/kg wet							
Phenanthrene	ND	0.333	mg/kg wet							
Phenol	ND	0.333	mg/kg wet							
Pyrene	ND	0.333	mg/kg wet							
Surrogate: 1,2-Dichlorobenzene-d4	*2.83*		mg/kg wet	*3.333*		*85*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*4.52*		mg/kg wet	*5.000*		*90*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*4.20*		mg/kg wet	*5.000*		*84*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*2.96*		mg/kg wet	*3.333*		*89*	*30-130*			
Surrogate: 2-Fluorophenol	*2.87*		mg/kg wet	*5.000*		*57*	*30-130*			
Surrogate: Nitrobenzene-d5	*2.96*		mg/kg wet	*3.333*		*89*	*30-130*			
Surrogate: Phenol-d6	*4.36*		mg/kg wet	*5.000*		*87*	*30-130*			
Surrogate: p-Terphenyl-d14	*2.87*		mg/kg wet	*3.333*		*86*	*30-130*			
LCS										
1,2,4-Trichlorobenzene	2.55	0.333	mg/kg wet	3.333		77	40-140			
1,2-Dichlorobenzene	2.62	0.333	mg/kg wet	3.333		79	40-140			
1,3-Dichlorobenzene	2.55	0.333	mg/kg wet	3.333		77	40-140			
1,4-Dichlorobenzene	2.47	0.333	mg/kg wet	3.333		74	40-140			
2-Methylnaphthalene	2.76	0.333	mg/kg wet	3.333		83	40-140			
2-Methylphenol	2.97	0.333	mg/kg wet	3.333		89	30-130			
Acenaphthene	2.61	0.333	mg/kg wet	3.333		78	40-140			
Acenaphthylene	2.65	0.333	mg/kg wet	3.333		79	40-140			
Anthracene	2.94	0.333	mg/kg wet	3.333		88	40-140			
Benzo(a)anthracene	3.10	0.333	mg/kg wet	3.333		93	40-140			
Benzo(a)pyrene	3.01	0.167	mg/kg wet	3.333		90	40-140			
Benzo(b)fluoranthene	3.06	0.333	mg/kg wet	3.333		92	40-140			
Benzo(g,h,i)perylene	3.36	0.333	mg/kg wet	3.333		101	40-140			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch CH30921 - 3546										
Benzo(k)fluoranthene	3.31	0.333	mg/kg wet	3.333		99	40-140			
bis(2-Ethylhexyl)phthalate	3.29	0.333	mg/kg wet	3.333		99	40-140			
Butylbenzylphthalate	3.34	0.333	mg/kg wet	3.333		100	40-140			
Carbazole	2.80	0.333	mg/kg wet	3.333		84	40-140			
Chrysene	3.02	0.167	mg/kg wet	3.333		91	40-140			
Dibenzo(a,h)Anthracene	3.36	0.167	mg/kg wet	3.333		101	40-140			
Dibenzofuran	2.77	0.333	mg/kg wet	3.333		83	40-140			
Diethylphthalate	2.61	0.333	mg/kg wet	3.333		78	40-140			
Dimethylphthalate	2.96	0.333	mg/kg wet	3.333		89	40-140			
Di-n-butylphthalate	2.78	0.333	mg/kg wet	3.333		84	40-140			
Di-n-octylphthalate	3.58	0.333	mg/kg wet	3.333		107	40-140			
Fluoranthene	2.57	0.333	mg/kg wet	3.333		77	40-140			
Fluorene	2.85	0.333	mg/kg wet	3.333		85	40-140			
Hexachlorobenzene	2.81	0.333	mg/kg wet	3.333		84	40-140			
Hexachlorocyclopentadiene	1.86	1.67	mg/kg wet	3.333		56	40-140			
Indeno(1,2,3-cd)Pyrene	3.28	0.333	mg/kg wet	3.333		98	40-140			
Naphthalene	2.63	0.333	mg/kg wet	3.333		79	40-140			
Phenanthrene	2.93	0.333	mg/kg wet	3.333		88	40-140			
Phenol	2.58	0.333	mg/kg wet	3.333		77	30-130			
Pyrene	3.33	0.333	mg/kg wet	3.333		100	40-140			
Surrogate: 1,2-Dichlorobenzene-d4	*2.72*		mg/kg wet	*3.333*		*82*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*4.75*		mg/kg wet	*5.000*		*95*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*4.17*		mg/kg wet	*5.000*		*83*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*2.83*		mg/kg wet	*3.333*		*85*	*30-130*			
Surrogate: 2-Fluorophenol	*2.78*		mg/kg wet	*5.000*		*56*	*30-130*			
Surrogate: Nitrobenzene-d5	*2.73*		mg/kg wet	*3.333*		*82*	*30-130*			
Surrogate: Phenol-d6	*4.26*		mg/kg wet	*5.000*		*85*	*30-130*			
Surrogate: p-Terphenyl-d14	*3.32*		mg/kg wet	*3.333*		*100*	*30-130*			
LCS Dup										
1,2,4-Trichlorobenzene	2.76	0.333	mg/kg wet	3.333		83	40-140	8	30	
1,2-Dichlorobenzene	2.74	0.333	mg/kg wet	3.333		82	40-140	4	30	
1,3-Dichlorobenzene	2.58	0.333	mg/kg wet	3.333		77	40-140	1	30	
1,4-Dichlorobenzene	2.62	0.333	mg/kg wet	3.333		79	40-140	6	30	
2-Methylnaphthalene	2.90	0.333	mg/kg wet	3.333		87	40-140	5	30	
2-Methylphenol	3.12	0.333	mg/kg wet	3.333		94	30-130	5	30	
Acenaphthene	3.04	0.333	mg/kg wet	3.333		91	40-140	15	30	
Acenaphthylene	2.67	0.333	mg/kg wet	3.333		80	40-140	0.9	30	
Anthracene	3.16	0.333	mg/kg wet	3.333		95	40-140	7	30	
Benzo(a)anthracene	3.17	0.333	mg/kg wet	3.333		95	40-140	2	30	
Benzo(a)pyrene	3.14	0.167	mg/kg wet	3.333		94	40-140	4	30	
Benzo(b)fluoranthene	3.48	0.333	mg/kg wet	3.333		104	40-140	13	30	
Benzo(g,h,i)perylene	3.64	0.333	mg/kg wet	3.333		109	40-140	8	30	
Benzo(k)fluoranthene	3.15	0.333	mg/kg wet	3.333		95	40-140	5	30	
bis(2-Ethylhexyl)phthalate	3.64	0.333	mg/kg wet	3.333		109	40-140	10	30	
Butylbenzylphthalate	3.58	0.333	mg/kg wet	3.333		107	40-140	7	30	

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Client Name: GZA GeoEnvironmental, Inc.
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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch CH30921 - 3546										
Carbazole	3.10	0.333	mg/kg wet	3.333		93	40-140	10	30	
Chrysene	3.56	0.167	mg/kg wet	3.333		107	40-140	16	30	
Dibenzo(a,h)Anthracene	3.60	0.167	mg/kg wet	3.333		108	40-140	7	30	
Dibenzofuran	2.85	0.333	mg/kg wet	3.333		85	40-140	3	30	
Diethylphthalate	2.66	0.333	mg/kg wet	3.333		80	40-140	2	30	
Dimethylphthalate	2.76	0.333	mg/kg wet	3.333		83	40-140	7	30	
Di-n-butylphthalate	2.96	0.333	mg/kg wet	3.333		89	40-140	6	30	
Di-n-octylphthalate	3.68	0.333	mg/kg wet	3.333		110	40-140	3	30	
Fluoranthene	2.80	0.333	mg/kg wet	3.333		84	40-140	9	30	
Fluorene	2.99	0.333	mg/kg wet	3.333		90	40-140	5	30	
Hexachlorobenzene	3.04	0.333	mg/kg wet	3.333		91	40-140	8	30	
Hexachlorocyclopentadiene	2.06	1.67	mg/kg wet	3.333		62	40-140	10	30	
Indeno(1,2,3-cd)Pyrene	3.61	0.333	mg/kg wet	3.333		108	40-140	9	30	
Naphthalene	2.77	0.333	mg/kg wet	3.333		83	40-140	5	30	
Phenanthrene	3.14	0.333	mg/kg wet	3.333		94	40-140	7	30	
Phenol	2.62	0.333	mg/kg wet	3.333		79	30-130	2	30	
Pyrene	3.69	0.333	mg/kg wet	3.333		111	40-140	10	30	
Surrogate: 1,2-Dichlorobenzene-d4	*2.69*		mg/kg wet	*3.333*		*81*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*4.96*		mg/kg wet	*5.000*		*99*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*4.21*		mg/kg wet	*5.000*		*84*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*2.96*		mg/kg wet	*3.333*		*89*	*30-130*			
Surrogate: 2-Fluorophenol	*2.70*		mg/kg wet	*5.000*		*54*	*30-130*			
Surrogate: Nitrobenzene-d5	*2.80*		mg/kg wet	*3.333*		*84*	*30-130*			
Surrogate: Phenol-d6	*4.29*		mg/kg wet	*5.000*		*86*	*30-130*			
Surrogate: p-Terphenyl-d14	*3.56*		mg/kg wet	*3.333*		*107*	*30-130*			
8270D(SIM) Polynuclear Aromatic Hydrocarbons										
Batch CH30903 - 3541										
Blank										
2-Methylnaphthalene	ND	0.012	mg/kg wet							
Acenaphthene	ND	0.012	mg/kg wet							
Acenaphthylene	ND	0.012	mg/kg wet							
Anthracene	ND	0.012	mg/kg wet							
Benzo(a)anthracene	ND	0.012	mg/kg wet							
Benzo(a)pyrene	ND	0.012	mg/kg wet							
Benzo(b)fluoranthene	ND	0.012	mg/kg wet							
Benzo(g,h,i)perylene	ND	0.012	mg/kg wet							
Benzo(k)fluoranthene	ND	0.012	mg/kg wet							
Chrysene	ND	0.012	mg/kg wet							
Dibenzo(a,h)Anthracene	ND	0.012	mg/kg wet							
Fluoranthene	ND	0.012	mg/kg wet							
Fluorene	ND	0.012	mg/kg wet							
Indeno(1,2,3-cd)Pyrene	ND	0.012	mg/kg wet							
Naphthalene	ND	0.012	mg/kg wet							
Phenanthrene	ND	0.012	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D(SIM) Polynuclear Aromatic Hydrocarbons										
Batch CH30903 - 3541										
Pyrene	ND	0.012	mg/kg wet							
Surrogate: 1,2-Dichlorobenzene-d4	*0.150*		mg/kg wet	*0.2500*		*60*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*0.148*		mg/kg wet	*0.2500*		*59*	*30-130*			
Surrogate: Nitrobenzene-d5	*0.163*		mg/kg wet	*0.2500*		*65*	*30-130*			
Surrogate: p-Terphenyl-d14	*0.214*		mg/kg wet	*0.2500*		*86*	*30-130*			
LCS										
2-Methylnaphthalene	0.154	0.012	mg/kg wet	0.2000		77	40-140			
Acenaphthene	0.146	0.012	mg/kg wet	0.2000		73	40-140			
Acenaphthylene	0.132	0.012	mg/kg wet	0.2000		66	40-140			
Anthracene	0.160	0.012	mg/kg wet	0.2000		80	40-140			
Benzo(a)anthracene	0.162	0.012	mg/kg wet	0.2000		81	40-140			
Benzo(a)pyrene	0.147	0.012	mg/kg wet	0.2000		74	40-140			
Benzo(b)fluoranthene	0.152	0.012	mg/kg wet	0.2000		76	40-140			
Benzo(g,h,i)perylene	0.136	0.012	mg/kg wet	0.2000		68	40-140			
Benzo(k)fluoranthene	0.160	0.012	mg/kg wet	0.2000		80	40-140			
Chrysene	0.154	0.012	mg/kg wet	0.2000		77	40-140			
Dibenzo(a,h)Anthracene	0.170	0.012	mg/kg wet	0.2000		85	40-140			
Fluoranthene	0.149	0.012	mg/kg wet	0.2000		74	40-140			
Fluorene	0.149	0.012	mg/kg wet	0.2000		74	40-140			
Indeno(1,2,3-cd)Pyrene	0.150	0.012	mg/kg wet	0.2000		75	40-140			
Naphthalene	0.132	0.012	mg/kg wet	0.2000		66	40-140			
Phenanthrene	0.158	0.012	mg/kg wet	0.2000		79	40-140			
Pyrene	0.158	0.012	mg/kg wet	0.2000		79	40-140			
Surrogate: 1,2-Dichlorobenzene-d4	*0.154*		mg/kg wet	*0.2500*		*62*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*0.168*		mg/kg wet	*0.2500*		*67*	*30-130*			
Surrogate: Nitrobenzene-d5	*0.168*		mg/kg wet	*0.2500*		*67*	*30-130*			
Surrogate: p-Terphenyl-d14	*0.240*		mg/kg wet	*0.2500*		*96*	*30-130*			
LCS Dup										
2-Methylnaphthalene	0.180	0.012	mg/kg wet	0.2000		90	40-140	16	30	
Acenaphthene	0.164	0.012	mg/kg wet	0.2000		82	40-140	12	30	
Acenaphthylene	0.158	0.012	mg/kg wet	0.2000		79	40-140	18	30	
Anthracene	0.171	0.012	mg/kg wet	0.2000		86	40-140	7	30	
Benzo(a)anthracene	0.169	0.012	mg/kg wet	0.2000		84	40-140	4	30	
Benzo(a)pyrene	0.157	0.012	mg/kg wet	0.2000		78	40-140	6	30	
Benzo(b)fluoranthene	0.160	0.012	mg/kg wet	0.2000		80	40-140	5	30	
Benzo(g,h,i)perylene	0.143	0.012	mg/kg wet	0.2000		71	40-140	5	30	
Benzo(k)fluoranthene	0.169	0.012	mg/kg wet	0.2000		84	40-140	5	30	
Chrysene	0.167	0.012	mg/kg wet	0.2000		84	40-140	8	30	
Dibenzo(a,h)Anthracene	0.178	0.012	mg/kg wet	0.2000		89	40-140	4	30	
Fluoranthene	0.156	0.012	mg/kg wet	0.2000		78	40-140	4	30	
Fluorene	0.168	0.012	mg/kg wet	0.2000		84	40-140	12	30	
Indeno(1,2,3-cd)Pyrene	0.157	0.012	mg/kg wet	0.2000		78	40-140	5	30	
Naphthalene	0.162	0.012	mg/kg wet	0.2000		81	40-140	21	30	
Phenanthrene	0.169	0.012	mg/kg wet	0.2000		84	40-140	7	30	
Pyrene	0.166	0.012	mg/kg wet	0.2000		83	40-140	5	30	

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D(SIM) Polynuclear Aromatic Hydrocarbons										
Batch CH30903 - 3541										
Surrogate: 1,2-Dichlorobenzene-d4	*0.190*		mg/kg wet	*0.2500*		*76*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*0.186*		mg/kg wet	*0.2500*		*74*	*30-130*			
Surrogate: Nitrobenzene-d5	*0.206*		mg/kg wet	*0.2500*		*83*	*30-130*			
Surrogate: p-Terphenyl-d14	*0.248*		mg/kg wet	*0.2500*		*99*	*30-130*			
MADEP-EPH Extractable Petroleum Hydrocarbons										
Batch CH30919 - 3546										
Blank										
C19-C36 Aliphatics1	ND	15.0	mg/kg wet							
C9-C18 Aliphatics1	ND	15.0	mg/kg wet							
Decane (C10)	ND	0.5	mg/kg wet							
Docosane (C22)	ND	0.5	mg/kg wet							
Dodecane (C12)	ND	0.5	mg/kg wet							
Eicosane (C20)	ND	0.5	mg/kg wet							
Hexacosane (C26)	ND	0.5	mg/kg wet							
Hexadecane (C16)	ND	0.5	mg/kg wet							
Hexatriacontane (C36)	ND	0.5	mg/kg wet							
Nonadecane (C19)	ND	0.5	mg/kg wet							
Nonane (C9)	ND	0.5	mg/kg wet							
Octacosane (C28)	ND	0.5	mg/kg wet							
Octadecane (C18)	ND	0.5	mg/kg wet							
Tetracosane (C24)	ND	0.5	mg/kg wet							
Tetradecane (C14)	ND	0.5	mg/kg wet							
Triacontane (C30)	ND	0.5	mg/kg wet							
Surrogate: 1-Chlorooctadecane	*1.83*		mg/kg wet	*2.000*		*92*	*40-140*			
Blank										
2-Methylnaphthalene	ND	0.20	mg/kg wet							
Acenaphthene	ND	0.40	mg/kg wet							
Acenaphthylene	ND	0.20	mg/kg wet							
Anthracene	ND	0.40	mg/kg wet							
Benzo(a)anthracene	ND	0.40	mg/kg wet							
Benzo(a)pyrene	ND	0.40	mg/kg wet							
Benzo(b)fluoranthene	ND	0.40	mg/kg wet							
Benzo(g,h,i)perylene	ND	0.40	mg/kg wet							
Benzo(k)fluoranthene	ND	0.40	mg/kg wet							
C11-C22 Unadjusted Aromatics1	ND	15.0	mg/kg wet							
Chrysene	ND	0.40	mg/kg wet							
Dibenzo(a,h)Anthracene	ND	0.20	mg/kg wet							
Fluoranthene	ND	0.40	mg/kg wet							
Fluorene	ND	0.40	mg/kg wet							
Indeno(1,2,3-cd)Pyrene	ND	0.40	mg/kg wet							
Naphthalene	ND	0.40	mg/kg wet							
Phenanthrene	ND	0.40	mg/kg wet							

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
MADEP-EPH Extractable Petroleum Hydrocarbons										
Batch CH30919 - 3546										
Pyrene	ND	0.40	mg/kg wet							
Surrogate: 2-Bromonaphthalene	*2.08*		mg/kg wet	*2.000*		*104*	*40-140*			
Surrogate: 2-Fluorobiphenyl	*2.11*		mg/kg wet	*2.000*		*106*	*40-140*			
Surrogate: O-Terphenyl	*1.71*		mg/kg wet	*2.000*		*86*	*40-140*			
LCS										
C19-C36 Aliphatics1	16.4	15.0	mg/kg wet	16.00		103	40-140			
C9-C18 Aliphatics1	10.1	15.0	mg/kg wet	12.00		84	40-140			
Decane (C10)	1.1	0.5	mg/kg wet	2.000		54	40-140			
Docosane (C22)	1.7	0.5	mg/kg wet	2.000		87	40-140			
Dodecane (C12)	1.2	0.5	mg/kg wet	2.000		60	40-140			
Eicosane (C20)	1.7	0.5	mg/kg wet	2.000		85	40-140			
Hexacosane (C26)	1.7	0.5	mg/kg wet	2.000		85	40-140			
Hexadecane (C16)	1.6	0.5	mg/kg wet	2.000		79	40-140			
Hexatriacontane (C36)	1.6	0.5	mg/kg wet	2.000		82	40-140			
Nonadecane (C19)	1.7	0.5	mg/kg wet	2.000		83	40-140			
Nonane (C9)	0.8	0.5	mg/kg wet	2.000		40	30-140			
Octacosane (C28)	1.7	0.5	mg/kg wet	2.000		85	40-140			
Octadecane (C18)	1.7	0.5	mg/kg wet	2.000		83	40-140			
Tetracosane (C24)	1.7	0.5	mg/kg wet	2.000		85	40-140			
Tetradecane (C14)	1.4	0.5	mg/kg wet	2.000		70	40-140			
Triacontane (C30)	1.7	0.5	mg/kg wet	2.000		84	40-140			
Surrogate: 1-Chlorooctadecane	*1.78*		mg/kg wet	*2.000*		*89*	*40-140*			
LCS										
2-Methylnaphthalene	1.43	0.20	mg/kg wet	2.000		71	40-140			
Acenaphthene	1.41	0.40	mg/kg wet	2.000		70	40-140			
Acenaphthylene	1.44	0.20	mg/kg wet	2.000		72	40-140			
Anthracene	1.50	0.40	mg/kg wet	2.000		75	40-140			
Benzo(a)anthracene	1.49	0.40	mg/kg wet	2.000		75	40-140			
Benzo(a)pyrene	1.79	0.40	mg/kg wet	2.000		90	40-140			
Benzo(b)fluoranthene	1.51	0.40	mg/kg wet	2.000		75	40-140			
Benzo(g,h,i)perylene	1.51	0.40	mg/kg wet	2.000		75	40-140			
Benzo(k)fluoranthene	1.69	0.40	mg/kg wet	2.000		85	40-140			
C11-C22 Unadjusted Aromatics1	29.2	15.0	mg/kg wet	34.00		86	40-140			
Chrysene	1.59	0.40	mg/kg wet	2.000		79	40-140			
Dibenzo(a,h)Anthracene	1.58	0.20	mg/kg wet	2.000		79	40-140			
Fluoranthene	1.58	0.40	mg/kg wet	2.000		79	40-140			
Fluorene	1.53	0.40	mg/kg wet	2.000		76	40-140			
Indeno(1,2,3-cd)Pyrene	1.46	0.40	mg/kg wet	2.000		73	40-140			
Naphthalene	1.28	0.40	mg/kg wet	2.000		64	40-140			
Phenanthrene	1.51	0.40	mg/kg wet	2.000		76	40-140			
Pyrene	1.54	0.40	mg/kg wet	2.000		77	40-140			
Surrogate: 2-Bromonaphthalene	*1.96*		mg/kg wet	*2.000*		*98*	*40-140*			
Surrogate: 2-Fluorobiphenyl	*2.14*		mg/kg wet	*2.000*		*107*	*40-140*			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308108

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
MADEP-EPH Extractable Petroleum Hydrocarbons										
Batch CH30919 - 3546										
Surrogate: O-Terphenyl	*1.86*		mg/kg wet	*2.000*		*93*	*40-140*			
LCS										
2-Methylnaphthalene Breakthrough	0.0		%				0-5			
Naphthalene Breakthrough	0.0		%				0-5			
LCS Dup										
C19-C36 Aliphatics1	18.9	15.0	mg/kg wet	16.00		118	40-140	14	25	
C9-C18 Aliphatics1	11.7	15.0	mg/kg wet	12.00		98	40-140	15	25	
Decane (C10)	1.2	0.5	mg/kg wet	2.000		62	40-140	13	25	
Docosane (C22)	1.9	0.5	mg/kg wet	2.000		96	40-140	10	25	
Dodecane (C12)	1.4	0.5	mg/kg wet	2.000		69	40-140	13	25	
Eicosane (C20)	1.9	0.5	mg/kg wet	2.000		94	40-140	10	25	
Hexacosane (C26)	1.9	0.5	mg/kg wet	2.000		94	40-140	10	25	
Hexadecane (C16)	1.7	0.5	mg/kg wet	2.000		87	40-140	10	25	
Hexatriacontane (C36)	1.8	0.5	mg/kg wet	2.000		91	40-140	11	25	
Nonadecane (C19)	1.8	0.5	mg/kg wet	2.000		92	40-140	10	25	
Nonane (C9)	0.9	0.5	mg/kg wet	2.000		46	30-140	14	25	
Octacosane (C28)	1.9	0.5	mg/kg wet	2.000		94	40-140	10	25	
Octadecane (C18)	1.8	0.5	mg/kg wet	2.000		91	40-140	10	25	
Tetracosane (C24)	1.9	0.5	mg/kg wet	2.000		94	40-140	10	25	
Tetradecane (C14)	1.6	0.5	mg/kg wet	2.000		79	40-140	12	25	
Triacontane (C30)	1.9	0.5	mg/kg wet	2.000		93	40-140	10	25	
Surrogate: 1-Chlorooctadecane	*1.82*		mg/kg wet	*2.000*		*91*	*40-140*			
LCS Dup										
2-Methylnaphthalene	1.43	0.20	mg/kg wet	2.000		71	40-140	0.3	20	
Acenaphthene	1.45	0.40	mg/kg wet	2.000		72	40-140	3	20	
Acenaphthylene	1.44	0.20	mg/kg wet	2.000		72	40-140	0.4	20	
Anthracene	1.54	0.40	mg/kg wet	2.000		77	40-140	3	20	
Benzo(a)anthracene	1.56	0.40	mg/kg wet	2.000		78	40-140	4	20	
Benzo(a)pyrene	1.84	0.40	mg/kg wet	2.000		92	40-140	3	20	
Benzo(b)fluoranthene	1.62	0.40	mg/kg wet	2.000		81	40-140	7	20	
Benzo(g,h,i)perylene	1.56	0.40	mg/kg wet	2.000		78	40-140	4	20	
Benzo(k)fluoranthene	1.77	0.40	mg/kg wet	2.000		88	40-140	4	20	
C11-C22 Unadjusted Aromatics1	31.3	15.0	mg/kg wet	34.00		92	40-140	7	25	
Chrysene	1.66	0.40	mg/kg wet	2.000		83	40-140	4	20	
Dibenzo(a,h)Anthracene	1.64	0.20	mg/kg wet	2.000		82	40-140	4	20	
Fluoranthene	1.62	0.40	mg/kg wet	2.000		81	40-140	3	20	
Fluorene	1.57	0.40	mg/kg wet	2.000		79	40-140	3	20	
Indeno(1,2,3-cd)Pyrene	1.50	0.40	mg/kg wet	2.000		75	40-140	3	20	
Naphthalene	1.33	0.40	mg/kg wet	2.000		67	40-140	4	20	
Phenanthrene	1.56	0.40	mg/kg wet	2.000		78	40-140	3	20	
Pyrene	1.63	0.40	mg/kg wet	2.000		82	40-140	6	20	
Surrogate: 2-Bromonaphthalene	*1.95*		mg/kg wet	*2.000*		*97*	*40-140*			
Surrogate: 2-Fluorobiphenyl	*2.12*		mg/kg wet	*2.000*		*106*	*40-140*			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308108

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
MADEP-EPH Extractable Petroleum Hydrocarbons										
Batch CH30919 - 3546										
Surrogate: O-Terphenyl	*1.84*		mg/kg wet	*2.000*		*92*	*40-140*			
LCS Dup										
2-Methylnaphthalene Breakthrough	0.0		%				0-5		200	
Naphthalene Breakthrough	0.0		%				0-5		200	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308108

Notes and Definitions

U	Analyte included in the analysis, but not detected
SM	Surrogate recovery(ies) outside of criteria due to matrix (UCM/coelution/matrix is present) (SM).
SD	Surrogate recovery(ies) diluted below the MRL (SD).
S-	Surrogate recovery(ies) below lower control limit (S-).
Q	Calibration required quadratic regression (Q).
PT	Pentachlorophenol tailing factor > 2.
IM	Internal Standard(s) outside of criteria due to matrix (UCM/coelution is present) (IM).
ICV-	Initial Calibration Verification recovery is below lower control limit (ICV-).
ICV	Initial Calibration Verification recovery is outside of control limit (ICV).
D	Diluted.
C+	Continuing Calibration recovery is above upper control limit (C+).
C-	Continuing Calibration recovery is below lower control limit (C-).
ND	Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
I/V	Initial Volume
F/V	Final Volume
§	Subcontracted analysis; see attached report
1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of target analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.
Avg	Results reported as a mathematical average.
NR	No Recovery
[CALC]	Calculated Analyte
SUB	Subcontracted analysis; see attached report

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308108

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Department of Defense (DoD) Environmental Laboratory Accreditation Program (ELAP)
A2LA Accredited: Testing Cert# 2864.01
http://www.a2la.org/scopepdf/2864-01.pdf

Rhode Island Potable and Non Potable Water: LAI00179
http://www.health.ri.gov/labs/waterlabs-instate.php

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750
http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutofStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI0002
http://www.maine.gov/dep/blwq/topic/vessel/lab_list.pdf

Massachusetts Potable and Non Potable Water: M-RI002
http://public.dep.state.ma.us/labcert/labcert.aspx

New Hampshire (NELAP accredited) Potable and Non PotableWater, Solid and Hazardous Waste: 2424
http://www4.egov.nh.gov/des/nhelap/namesearch.asp

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313
http://www.wadsworth.org/labcert/elap/comm.html

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006
http://datamine2.state.nj.us/dep/DEP_OPRA/

United States Department of Agriculture Soil Permit: S-54210

Maryland Potable Water: 301
http://www.mde.state.md.us/assets/document/WSP_labs-2009apr20.pdf

CHEMISTRY

A2LA Accredited: Testing Cert # 2864.01
Lead in Paint, Phthalates, Lead in Children's Metals Products (Including Jewelry)
http://www.A2LA.org/dirsearchnew/newsearch.cfm

CPSC ID# 1141
Lead Paint, Lead in Children's Metals Jewelry
http://www.cpsc.gov/cgi-bin/labapplist.aspx

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING



ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Burlington
30 Community Drive
Suite 11
South Burlington, VT 05403
Tel: (802)660-1990

TestAmerica Job ID: 200-17862-2
TestAmerica Sample Delivery Group: 200-17862-2
Client Project/Site: Soil Analysis

For:
ESS Laboratory
185 Frances Ave.
Cranston, Rhode Island 02910

Attn: Ms. Christine Taylor

Authorized for release by:
8/19/2013 4:41:19 PM

Kathryn Kelly, Project Manager I
kathryn.kelly@testamericainc.com

LINKS

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Qualifiers

General Chemistry

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Job ID: 200-17862-2

Laboratory: TestAmerica Burlington

Narrative

CASE NARRATIVE

Client: ESS Laboratory

Project: Soil Analysis

Report Number: 200-17862-2

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The samples were received on 08/09/2013; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 1.4 C.

TOTAL ORGANIC CARBON

Samples 1308108-1, 1308108-2, 1308108-4, 1308108-5, 1308108-9, 1308108-12, 1308108-13, 1308108-14, 1308108-16 and 1308108-18 were analyzed for total organic carbon in accordance with Lloyd Kahn Method. The samples were analyzed on 08/14/2013.

No difficulties were encountered during the TOC analysis.

All quality control parameters were within the acceptance limits.

PERCENT SOLIDS

Samples 1308108-1, 1308108-2, 1308108-4, 1308108-5, 1308108-9, 1308108-12, 1308108-13, 1308108-14, 1308108-16 and 1308108-18 were analyzed for percent solids in accordance with EPA SW846 3550C. The samples were analyzed on 08/12/2013.

No difficulties were encountered during the % solids analysis.

All quality control parameters were within the acceptance limits.

Detection Summary

Client: ESS Laboratory
Project/Site: Soil Analysis

TestAmerica Job ID: 200-17862-2
SDG: 200-17862-2

Client Sample ID: 1308108-1 — Lab Sample ID: 200-17862-9

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	55200		3010	3010	mg/Kg	1	☼	Lloyd Kahn	Total/NA

Client Sample ID: 1308108-2 — Lab Sample ID: 200-17862-10

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	138000		3540	3540	mg/Kg	1	☼	Lloyd Kahn	Total/NA

Client Sample ID: 1308108-4 — Lab Sample ID: 200-17862-11

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	31000		1910	1910	mg/Kg	1	☼	Lloyd Kahn	Total/NA

Client Sample ID: 1308108-5 — Lab Sample ID: 200-17862-12

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	14100		1460	1460	mg/Kg	1	☼	Lloyd Kahn	Total/NA

Client Sample ID: 1308108-9 — Lab Sample ID: 200-17862-13

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	40700		1510	1510	mg/Kg	1	☼	Lloyd Kahn	Total/NA

Client Sample ID: 1308108-12 — Lab Sample ID: 200-17862-14

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	19100		1340	1340	mg/Kg	1	☼	Lloyd Kahn	Total/NA

Client Sample ID: 1308108-13 — Lab Sample ID: 200-17862-15

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	35700		1950	1950	mg/Kg	1	☼	Lloyd Kahn	Total/NA

Client Sample ID: 1308108-14 — Lab Sample ID: 200-17862-16

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	6760		1270	1270	mg/Kg	1	☼	Lloyd Kahn	Total/NA

Client Sample ID: 1308108-16 — Lab Sample ID: 200-17862-17

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	61300		2670	2670	mg/Kg	1	☼	Lloyd Kahn	Total/NA

Client Sample ID: 1308108-18 — Lab Sample ID: 200-17862-18

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	32100		2290	2290	mg/Kg	1	☼	Lloyd Kahn	Total/NA

This Detection Summary does not include radiochemical test results.

Client: ESS Laboratory
Project/Site: Soil Analysis

TestAmerica Job ID: 200-17862-2
SDG: 200-17862-2

Client Sample ID: 1308108-1
Lab Sample ID: 200-17862-9
Date Collected: 08/06/13 00:00
Matrix: Sediment
Date Received: 08/09/13 10:00
Percent Solids: 33.2

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	55200		3010	3010	mg/Kg	☼		08/14/13 14:03	1
Percent Solids	33.2		0.25	0.25	%			08/12/13 15:49	1

Client Sample ID: 1308108-2
Lab Sample ID: 200-17862-10
Date Collected: 08/02/13 00:00
Matrix: Sediment
Date Received: 08/09/13 10:00
Percent Solids: 28.2

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	138000		3540	3540	mg/Kg	☼		08/14/13 14:34	1
Percent Solids	28.2		0.25	0.25	%			08/12/13 15:49	1

Client Sample ID: 1308108-4
Lab Sample ID: 200-17862-11
Date Collected: 08/02/13 00:00
Matrix: Sediment
Date Received: 08/09/13 10:00
Percent Solids: 52.4

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	31000		1910	1910	mg/Kg	☼		08/14/13 14:40	1
Percent Solids	52.4		0.25	0.25	%			08/12/13 15:49	1

Client Sample ID: 1308108-5
Lab Sample ID: 200-17862-12
Date Collected: 08/06/13 00:00
Matrix: Sediment
Date Received: 08/09/13 10:00
Percent Solids: 68.5

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	14100		1460	1460	mg/Kg	☼		08/14/13 14:47	1
Percent Solids	68.5		0.25	0.25	%			08/12/13 15:49	1

Client Sample ID: 1308108-9
Lab Sample ID: 200-17862-13
Date Collected: 08/05/13 00:00
Matrix: Sediment
Date Received: 08/09/13 10:00
Percent Solids: 66.1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	40700		1510	1510	mg/Kg	☼		08/14/13 14:53	1
Percent Solids	66.1		0.25	0.25	%			08/12/13 15:49	1

Client Sample ID: 1308108-12
Lab Sample ID: 200-17862-14
Date Collected: 08/05/13 00:00
Matrix: Sediment
Date Received: 08/09/13 10:00
Percent Solids: 74.7

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	19100		1340	1340	mg/Kg	☼		08/14/13 15:00	1
Percent Solids	74.7		0.25	0.25	%			08/12/13 15:49	1

Client: ESS Laboratory
Project/Site: Soil Analysis

TestAmerica Job ID: 200-17862-2
SDG: 200-17862-2

Client Sample ID: 1308108-13

Date Collected: 08/06/13 00:00
Date Received: 08/09/13 10:00

Lab Sample ID: 200-17862-15

Matrix: Sediment
Percent Solids: 51.2

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	35700		1950	1950	mg/Kg	☼		08/14/13 15:07	1
Percent Solids	51.2		0.25	0.25	%			08/12/13 15:49	1

Client Sample ID: 1308108-14

Date Collected: 08/05/13 00:00
Date Received: 08/09/13 10:00

Lab Sample ID: 200-17862-16

Matrix: Sediment
Percent Solids: 78.8

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	6760		1270	1270	mg/Kg	☼		08/14/13 15:14	1
Percent Solids	78.8		0.25	0.25	%			08/12/13 15:49	1

Client Sample ID: 1308108-16

Date Collected: 08/05/13 00:00
Date Received: 08/09/13 10:00

Lab Sample ID: 200-17862-17

Matrix: Sediment
Percent Solids: 37.5

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	61300		2670	2670	mg/Kg	☼		08/14/13 15:21	1
Percent Solids	37.5		0.25	0.25	%			08/12/13 15:49	1

Client Sample ID: 1308108-18

Date Collected: 08/02/13 00:00
Date Received: 08/09/13 10:00

Lab Sample ID: 200-17862-18

Matrix: Sediment
Percent Solids: 43.6

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	32100		2290	2290	mg/Kg	☼		08/14/13 15:28	1
Percent Solids	43.6		0.25	0.25	%			08/12/13 15:49	1

Method: Lloyd Kahn - Organic Carbon, Total (TOC)

Lab Sample ID: MB 200-59843/5
Matrix: Sediment
Analysis Batch: 59843

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	1000	U	1000	1000	mg/Kg			08/14/13 12:45	1

Lab Sample ID: LCS 200-59843/6
Matrix: Sediment
Analysis Batch: 59843

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Organic Carbon			20100	20500		mg/Kg		102	75 - 125		

Method: Moisture - Percent Moisture

Lab Sample ID: 200-17862-13 DU
Matrix: Sediment
Analysis Batch: 59672

Client Sample ID: 1308108-9
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Percent Solids	66.1			66.3		%				0.3	20

QC Association Summary

Client: ESS Laboratory
Project/Site: Soil Analysis

TestAmerica Job ID: 200-17862-2
SDG: 200-17862-2

General Chemistry

Analysis Batch: 59672

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
200-17862-9	1308108-1	Total/NA	Sediment	Moisture	
200-17862-10	1308108-2	Total/NA	Sediment	Moisture	
200-17862-11	1308108-4	Total/NA	Sediment	Moisture	
200-17862-12	1308108-5	Total/NA	Sediment	Moisture	
200-17862-13	1308108-9	Total/NA	Sediment	Moisture	
200-17862-13 DU	1308108-9	Total/NA	Sediment	Moisture	
200-17862-14	1308108-12	Total/NA	Sediment	Moisture	
200-17862-15	1308108-13	Total/NA	Sediment	Moisture	
200-17862-16	1308108-14	Total/NA	Sediment	Moisture	
200-17862-17	1308108-16	Total/NA	Sediment	Moisture	
200-17862-18	1308108-18	Total/NA	Sediment	Moisture	

Analysis Batch: 59843

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
200-17862-9	1308108-1	Total/NA	Sediment	Lloyd Kahn	
200-17862-10	1308108-2	Total/NA	Sediment	Lloyd Kahn	
200-17862-11	1308108-4	Total/NA	Sediment	Lloyd Kahn	
200-17862-12	1308108-5	Total/NA	Sediment	Lloyd Kahn	
200-17862-13	1308108-9	Total/NA	Sediment	Lloyd Kahn	
200-17862-14	1308108-12	Total/NA	Sediment	Lloyd Kahn	
200-17862-15	1308108-13	Total/NA	Sediment	Lloyd Kahn	
200-17862-16	1308108-14	Total/NA	Sediment	Lloyd Kahn	
200-17862-17	1308108-16	Total/NA	Sediment	Lloyd Kahn	
200-17862-18	1308108-18	Total/NA	Sediment	Lloyd Kahn	
LCS 200-59843/6	Lab Control Sample	Total/NA	Sediment	Lloyd Kahn	
MB 200-59843/5	Method Blank	Total/NA	Sediment	Lloyd Kahn	

Lab Chronicle

Client: ESS Laboratory
Project/Site: Soil Analysis

TestAmerica Job ID: 200-17862-2
SDG: 200-17862-2

Client Sample ID: 1308108-1
Lab Sample ID: 200-17862-9
Date Collected: 08/06/13 00:00
Matrix: Sediment
Date Received: 08/09/13 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	59672	08/12/13 15:49	VTP	TAL BUR
Total/NA	Analysis	Lloyd Kahn		1	59843	08/14/13 14:03	VTP	TAL BUR

Client Sample ID: 1308108-2
Lab Sample ID: 200-17862-10
Date Collected: 08/02/13 00:00
Matrix: Sediment
Date Received: 08/09/13 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	59672	08/12/13 15:49	VTP	TAL BUR
Total/NA	Analysis	Lloyd Kahn		1	59843	08/14/13 14:34	VTP	TAL BUR

Client Sample ID: 1308108-4
Lab Sample ID: 200-17862-11
Date Collected: 08/02/13 00:00
Matrix: Sediment
Date Received: 08/09/13 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	59672	08/12/13 15:49	VTP	TAL BUR
Total/NA	Analysis	Lloyd Kahn		1	59843	08/14/13 14:40	VTP	TAL BUR

Client Sample ID: 1308108-5
Lab Sample ID: 200-17862-12
Date Collected: 08/06/13 00:00
Matrix: Sediment
Date Received: 08/09/13 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	59672	08/12/13 15:49	VTP	TAL BUR
Total/NA	Analysis	Lloyd Kahn		1	59843	08/14/13 14:47	VTP	TAL BUR

Client Sample ID: 1308108-9
Lab Sample ID: 200-17862-13
Date Collected: 08/05/13 00:00
Matrix: Sediment
Date Received: 08/09/13 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	59672	08/12/13 15:49	VTP	TAL BUR
Total/NA	Analysis	Lloyd Kahn		1	59843	08/14/13 14:53	VTP	TAL BUR

Client Sample ID: 1308108-12
Lab Sample ID: 200-17862-14
Date Collected: 08/05/13 00:00
Matrix: Sediment
Date Received: 08/09/13 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	59672	08/12/13 15:49	VTP	TAL BUR

Lab Chronicle

Client: ESS Laboratory
Project/Site: Soil Analysis

TestAmerica Job ID: 200-17862-2
SDG: 200-17862-2

Client Sample ID: 1308108-12

Date Collected: 08/05/13 00:00
Date Received: 08/09/13 10:00

Lab Sample ID: 200-17862-14

Matrix: Sediment
Percent Solids: 74.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Lloyd Kahn		1	59843	08/14/13 15:00	VTP	TAL BUR

Client Sample ID: 1308108-13

Date Collected: 08/06/13 00:00
Date Received: 08/09/13 10:00

Lab Sample ID: 200-17862-15

Matrix: Sediment

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	59672	08/12/13 15:49	VTP	TAL BUR
Total/NA	Analysis	Lloyd Kahn		1	59843	08/14/13 15:07	VTP	TAL BUR

Client Sample ID: 1308108-14

Date Collected: 08/05/13 00:00
Date Received: 08/09/13 10:00

Lab Sample ID: 200-17862-16

Matrix: Sediment

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	59672	08/12/13 15:49	VTP	TAL BUR
Total/NA	Analysis	Lloyd Kahn		1	59843	08/14/13 15:14	VTP	TAL BUR

Client Sample ID: 1308108-16

Date Collected: 08/05/13 00:00
Date Received: 08/09/13 10:00

Lab Sample ID: 200-17862-17

Matrix: Sediment

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	59672	08/12/13 15:49	VTP	TAL BUR
Total/NA	Analysis	Lloyd Kahn		1	59843	08/14/13 15:21	VTP	TAL BUR

Client Sample ID: 1308108-18

Date Collected: 08/02/13 00:00
Date Received: 08/09/13 10:00

Lab Sample ID: 200-17862-18

Matrix: Sediment

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	59672	08/12/13 15:49	VTP	TAL BUR
Total/NA	Analysis	Lloyd Kahn		1	59843	08/14/13 15:28	VTP	TAL BUR

Laboratory References:

TAL BUR = TestAmerica Burlington, 30 Community Drive, Suite 11, South Burlington, VT 05403, TEL (802)660-1990

Certification Summary

Client: ESS Laboratory
Project/Site: Soil Analysis

TestAmerica Job ID: 200-17862-2
SDG: 200-17862-2

Laboratory: TestAmerica Burlington

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Connecticut	State Program	1	PH-0751	09-30-13
DE Haz. Subst. Cleanup Act (HSCA)	State Program	3	NA	02-13-15
Florida	NELAP	4	E87467	06-30-14
L-A-B	DoD ELAP		L2336	10-26-13
Louisiana	NELAP	6	176292	06-30-14
Maine	State Program	1	VT00008	04-17-15
Minnesota	NELAP	5	050-999-436	12-31-13
New Hampshire	NELAP	1	2006	12-18-13
New Jersey	NELAP	2	VT972	06-30-14
New York	NELAP	2	10391	04-01-14
Pennsylvania	NELAP	3	68-00489	04-30-14
Rhode Island	State Program	1	LAO00298	12-30-13
US Fish & Wildlife	Federal		LE-058448-0	02-28-14
USDA	Federal		P330-11-00093	02-17-14
Vermont	State Program	1	VT-4000	12-31-13
Virginia	NELAP	3	460209	12-14-13

Method Summary

Client: ESS Laboratory
Project/Site: Soil Analysis

TestAmerica Job ID: 200-17862-2
SDG: 200-17862-2

Method	Method Description	Protocol	Laboratory
Lloyd Kahn	Organic Carbon, Total (TOC)	EPA	TAL BUR
Moisture	Percent Moisture	EPA	TAL BUR

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

TAL BUR = TestAmerica Burlington, 30 Community Drive, Suite 11, South Burlington, VT 05403, TEL (802)660-1990

Sample Summary

Client: ESS Laboratory
Project/Site: Soil Analysis

TestAmerica Job ID: 200-17862-2
SDG: 200-17862-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
200-17862-9	1308108-1	Sediment	08/06/13 00:00	08/09/13 10:00
200-17862-10	1308108-2	Sediment	08/02/13 00:00	08/09/13 10:00
200-17862-11	1308108-4	Sediment	08/02/13 00:00	08/09/13 10:00
200-17862-12	1308108-5	Sediment	08/06/13 00:00	08/09/13 10:00
200-17862-13	1308108-9	Sediment	08/05/13 00:00	08/09/13 10:00
200-17862-14	1308108-12	Sediment	08/05/13 00:00	08/09/13 10:00
200-17862-15	1308108-13	Sediment	08/06/13 00:00	08/09/13 10:00
200-17862-16	1308108-14	Sediment	08/05/13 00:00	08/09/13 10:00
200-17862-17	1308108-16	Sediment	08/05/13 00:00	08/09/13 10:00
200-17862-18	1308108-18	Sediment	08/02/13 00:00	08/09/13 10:00

ESS Laboratory

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

Page _____ of _____

Turn Time ___ Standard Other 4 day
If faster than 5 days, prior approval by laboratory is required # _____

State where samples were collected from:
MA RI CT NH NJ NY ME Other _____

Is this project for any of the following:
MA-MCP Navy USACE Other _____

Reporting Limits

ESS LAB PROJECT ID

Electronic Deliverable Yes ✓ No ___
Format: Excel __ Access __ PDF __ Other ✓

Co. Name: ESS
Project #: 1308108
Project Name (20 Char. or less):
Contact Person: Christine Taylor
Address:
City State Zip
PO# 1308108
Telephone #
Fax #
Email Address: ctaylor@thielsch.com

ESS LAB Sample #	Date	Collection Time	COMP	GRAB	MATRIX	Sample Identification (20 Char. or less)	Pres Code	Number of Containers	Type of Containers	Write Required Analysis: TOC Lloyd Kahn
	8/6			✓	Sed	1308108-1	1	1	6	X
	8/2					-2				
	8/2					-4				
	8/6					-5				
	8/5					-9				
	8/5					-12				
	8/6					-13				
	8/5					-16				
	8/2					-18				
	8/2									

200-17862 COC

Container Type: P-Poly G-Glass S-Sterile V-VOA
Matrix: S-Soil SD-Solid D-Sludge WW-Waste Water GW-Ground Water SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filters

Cooler Present ___ Yes ___ No
Seals Intact ___ Yes ___ No NA: ___
Cooler Temp: _____

Internal Use Only
[ ] Pickup
[ ] Technicians _____

Preservation Code 1- NP, 2- HCl, 3- H_2SO_4, 4- HNO_3, 5- NaOH, 6- MeOH, 7- Asorbic Acid, 8- ZnAct, 9- _____

Sampled by:

Comments:

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
	8/9/13 1800						
		Stephanie Fowler	8/9/13 1000				

*By circling MA-MCP, client acknowledges samples were collected in accordance with MADEP CAM VII A

Please fax all changes to Chain of Custody in writing.

1 (White) Lab Copy 2 (Yellow) Client Receipt

10/26/04 A

ESS Laboratory

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185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

Page_____ of_____

Turn Time ___ Standard Other 4 day
If faster than 5 days, prior approval by laboratory is required #

State where samples were collected from:
(MA) RI CT NH NJ NY ME Other

Is this project for any of the following:
(MA-MCP) Navy USACE Other

Reporting Limits

ESS LAB PROJECT ID

Electronic Deliverable Yes ✓ No ___
Format: Excel ___ Access ___ PDF ✓ Other ___

Co. Name	ESS	Project #	1308109	Project Name (20 Char. or less)	
Contact Person	C. Taylor	Address			
City	State	Zip	PO#	1308109	
Telephone #	Fax #	Email Address	ctaylor@thielsch.com		

ESS LAB Sample #	Date	Collection Time	COMP	GRAB	MATRIX	Sample Identification (20 Char. or less)	Pres Code	Number of Containers	Type of Containers	HC Hexyl Hexan	Write Required Analysis
	8/5			✓	Sed	1308109-1	1	1	6	X	
	8/5					-3					
	8/5					-6					
	8/6					-7					
	8/6					8/5 -9					
	8/6					-11					
	8/5					-12					
	8/5					-14					
	8/5					-17					
	8/5					-20					

Container Type: P-Poly G-Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Waste Water GW-Ground Water SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filters

Cooler Present ___ Yes ___ No Internal Use Only

Seals Intact ___ Yes ___ No NA: ___ [ ] Pickup

Cooler Temp: _____ [ ] Technicians _____

Preservation Code 1- NP, 2- HCl, 3- H_2SO_4, 4- HNO_3, 5- NaOH, 6- MeOH, 7- Asorbic Acid, 8- ZnAct, 9-_____

Sampled by:

Comments:

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
	3/8/13 1800	Fed ex					
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
			8/9/13 1000				

*By circling MA-MCP, client acknowledges samples were collected in accordance with MADEP CAM VII A

Please fax all changes to Chain of Custody in writing.

1 (White) Lab Copy 2 (Yellow) Client Receipt

10/26/04 A

ESS Laboratory

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185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

Page ____ of ____

Turn Time: Standard (5-7 days) Other 4 day
If faster than 5 days, prior approval by laboratory is required #

State where samples were collected from: MA RI CT NH NJ NY ME Other

Is this project for any of the following: MA-MCP Navy USACE Other

Reporting Limits

ESS LAB PROJECT ID

Electronic Deliverable Yes ✓ No ___
Format: Excel ___ Access ___ PDF ✓ Other ___

Co. Name	Project #	Project Name (20 Char. or less)
ESS	1308110	

Contact Person	Address
C Taylor	

City	State	Zip	PO#

Telephone #	Fax #	Email Address
		ctaylor@thielsch.com

ESS LAB Sample #	Date	Collection Time	COMP	GRAB	MATRIX	Sample Identification (20 Char. or less)	Pres Code	Number of Containers	Type of Containers	Write Required Analysis: BC (Cyc/Kan)
	8/5			✓	Sed	1308110-2	1	1	6	X
	8/5					-5				
	8/5					-6				
	8/5					-9				
	8/5					-12				

Container Type: P-Poly G-Glass S-Sterile V-VOA
Matrix: S-Soil SD-Solid D-Sludge WW-Waste Water GW-Ground Water SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filters

Cooler Present ___ Yes ___ No
Seals Intact ___ Yes ___ No NA: ___
Cooler Temp: ___

Internal Use Only
[ ] Pickup
[ ] Technicians ___

Preservation Code 1- NP, 2- HCl, 3- H_2SO_4, 4- HNO_3, 5- NaOH, 6- MeOH, 7- Asorbic Acid, 8- ZnAct, 9- ___

Sampled by:

Comments:

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
[signature]	8/8/13 1800	Fed ex					
		[signature]	8/9/13 1000				

*By circling MA-MCP, client acknowledges samples were collected in accordance with MADEP CAM VII A

Please fax all changes to Chain of Custody in writing.

1 (White) Lab Copy 2 (Yellow) Client Receipt

10/26/04 A

ESS Laboratory

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185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

Page_____ of_____

Turn Time ___ Standard Other 4 day
If faster than 5 days, prior approval by laboratory is required # _____

State where samples were collected from:
(MA) RI CT NH NJ NY ME Other _____

Is this project for any of the following:
(MA-MCP) Navy USACE Other _____

Reporting Limits

ESS LAB PROJECT ID

Electronic Deliverable Yes ✓ No ___
Format: Excel ___ Access ___ PDF ✓ Other _____

Co. Name	Project #	Project Name (20 Char. or less)
ESS	1308107	

Contact Person	Address
Christine Taylor	

City	State	Zip	PO#

Telephone #	Fax #	Email Address
		ctaylor@thielsch.com

Write Required Analysis: TOC (Lloyd Kahn)

ESS LAB Sample #	Date	Collection Time	COMP	GRAB	MATRIX	Sample Identification (20 Char. or less)	Pres Code	Number of Containers	Type of Containers
	8/6	0837		✓	Sed	1308107-4	1	1	6
	8/1	1443		↓	↓	-6	↓	↓	↓
	8/2	1232				-9			
	8/2	1232				-10			
	8/5	1250				-12			
	↓	1250				-13			
		1250				-16			
	↓	1350				-18	↓	↓	↓
				↓	↓				

Container Type: P-Poly G-Glass S-Sterile V-VOA | Matrix: S-Soil SD-Solid D-Sludge WW-Waste Water GW-Ground Water SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filters

Cooler Present ___ Yes ___ No Internal Use Only

Seals Intact ___ Yes ___ No NA: ___ [ ] Pickup

Cooler Temp: _____ [ ] Technicians _____

Preservation Code 1- NP, 2- HCl, 3- H_2SO_4, 4- HNO_3, 5- NaOH, 6- MeOH, 7- Asorbic Acid, 8- ZnAct, 9- _____

Sampled by:

Comments:

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
[signature]	8/8/13 1800	Fed Ex	8/8/13	[signature]			
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
		[signature]	8/9/13 1000				

*By circling MA-MCP, client acknowledges samples were collected in accordance with MADEP CAM VII A

Please fax all changes to Chain of Custody in writing.

1 (White) Lab Copy 2 (Yellow) Client Receipt

10/26/04 A

From: (401) 467-6454
Sample Receiving
ESS Lab
185 Frances Ave

Cranston, RI 02910

Origin ID: PVDA

FedEx Express

J13201306260326

Ship Date: 08AUG13
ActWgt: 47.0 LB
CAD: 105103550/INET3430

Delivery Address Bar Code

SHIP TO: (802) 660-1990 BILL SENDER

Sample Receiving
Test America
30 Community Dr
Ste 11
S BURLINGTON, VT 05403

Ref #
Invoice #
PO #
Dept #

FRI - 09 AUG 10:30A
PRIORITY OVERNIGHT

TRK# 0201 7964 2397 6923

EK BTVA

05403
VT-US
BTV

51AG1X09B9/1A9E

After printing this label:
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2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

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Login Sample Receipt Checklist

Client: ESS Laboratory

Job Number: 200-17862-2
SDG Number: 200-17862-2

Login Number: 17862
List Number: 1
Creator: Marion, Greg T

List Source: TestAmerica Burlington

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.4ºC IR GUN ID 181/CF=-0.2
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	False	Refer to Job Narrative for details.
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	Received extra samples not listed on COC.
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	False	Refer to Job Narrative for details.
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	N/A	
Residual Chlorine Checked.	N/A	

Sample and Cooler Receipt Checklist

Client: GZA GeoEnvironmental, Inc.
Client Project ID: _____
Shipped/Delivered Via: ESS Courier

ESS Project ID: 13080108
Date Project Due: 8/14/13
Days For Project: 5 Day

Items to be checked upon receipt:

1. Air Bill Manifest Present?	* No	10. Are the samples properly preserved?	Yes
Air No.:		11. Proper sample containers used?	Yes
2. Were Custody Seals Present?	No	12. Any air bubbles in the VOA vials?	N/A
3. Were Custody Seals Intact?	N/A	13. Holding times exceeded?	No
4. Is Radiation count < 100 CPM?	Yes	14. Sufficient sample volumes?	Yes
5. Is a cooler present?	Yes	15. Any Subcontracting needed?	* Yes
Cooler Temp: **2.6**		16. Are ESS labels on correct containers?	Yes|No
Iced With: **Ice**		17. Were samples received intact?	Yes|No
6. Was COC included with samples?	Yes	ESS Sample IDs:	108-1,2,4,5,9,12,13,14,16,18
7. Was COC signed and dated by client?	Yes	Sub Lab:	Stat (TA)
8. Does the COC match the sample	Yes	Analysis:	TOC
9. Is COC complete and correct?	Yes	TAT:	4 Dy

18. Was there need to call project manager to discuss status? If yes, please explain.

_____

_____

_____

Who was called?:_____ By whom? _____

Sample Number	Properly Preserved	Container Type	# of Containers	Preservative
1	Yes	2 oz Soil Jar	1	NP
1	Yes	4 oz Soil Jar	1	NP
1	Yes	8 oz Soil Jar	1	NP
2	Yes	2 oz Soil Jar	1	NP
2	Yes	4 oz Soil Jar	1	NP
2	Yes	8 oz Soil Jar	1	NP
3	Yes	4 oz Soil Jar	1	NP
3	Yes	8 oz Soil Jar	1	NP
4	Yes	2 oz Soil Jar	1	NP
4	Yes	4 oz Soil Jar	1	NP
4	Yes	8 oz Soil Jar	1	NP
5	Yes	2 oz Soil Jar	1	NP
5	Yes	4 oz Soil Jar	1	NP
5	Yes	8 oz Soil Jar	1	NP
6	Yes	4 oz Soil Jar	1	NP
6	Yes	8 oz Soil Jar	1	NP
7	Yes	4 oz Soil Jar	1	NP
7	Yes	8 oz Soil Jar	1	NP
8	Yes	4 oz Soil Jar	1	NP
8	Yes	8 oz Soil Jar	1	NP
9	Yes	2 oz Soil Jar	1	NP
9	Yes	4 oz Soil Jar	1	NP
9	Yes	8 oz Soil Jar	1	NP
10	Yes	4 oz Soil Jar	1	NP
10	Yes	8 oz Soil Jar	1	NP

Sample and Cooler Receipt Checklist

Client: GZA GeoEnvironmental, Inc. ESS Project ID: 13080108

11	Yes	4 oz Soil Jar	1	NP
11	Yes	8 oz Soil Jar	1	NP
12	Yes	2 oz Soil Jar	1	NP
12	Yes	4 oz Soil Jar	1	NP
12	Yes	8 oz Soil Jar	1	NP
13	Yes	2 oz Soil Jar	1	NP
13	Yes	4 oz Soil Jar	1	NP
13	Yes	8 oz Soil Jar	1	NP
14	Yes	2 oz Soil Jar	1	NP
14	Yes	4 oz Soil Jar	1	NP
14	Yes	8 oz Soil Jar	1	NP
15	Yes	4 oz Soil Jar	1	NP
15	Yes	8 oz Soil Jar	1	NP
16	Yes	2 oz Soil Jar	1	NP
16	Yes	4 oz Soil Jar	1	NP
16	Yes	8 oz Soil Jar	1	NP
17	Yes	4 oz Soil Jar	1	NP
17	Yes	8 oz Soil Jar	1	NP
18	Yes	2 oz Soil Jar	1	NP
18	Yes	4 oz Soil Jar	1	NP
18	Yes	8 oz Soil Jar	1	NP
19	Yes	4 oz Soil Jar	1	NP
19	Yes	8 oz Soil Jar	1	NP
20	Yes	4 oz Soil Jar	1	NP
20	Yes	8 oz Soil Jar	1	NP

Completed By: _____ Date/Time: 8/7/13 18:40

Reviewed By: _____ Date/Time: 8/7/13 1840

ESS Laboratory

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS LAB PROJECT ID: 130810

Turn Time ___x___Standard Rush_____ Approved By: _____

Reporting Limits - see prev. email correspondence

State where samples were collected: MA RI CT NH NJ NY ME Other_____

Is this project for any of the following: (please circle)
MA-MCP CT-RCP RGP DOD Other_____

Electonic Deliverable Yes__x__ No____
Format: Excel_x__ Access___ PDF___ Other_____

GZA Project Manager: David E. Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Avenue
Norwood, MA 02062
(781) 278-3700
PRESUMPTIVE CERTAINTY REQUIRED

Project # 171521.02
Project Name: Former Everett Staging Yard
Contract Pricing ____
Special Pricing WO#: _____

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	MCP 14 metals	B/N Phthalates Esters 8270	PAH 8270 SIM	EPH Fractions	PCBs	TOC by Lloyd Kahn					Comment #
						Analysis											
1	8/6/13	10:45	G	Sed	GZ-134 T 0-0.5'	2	X	X	X	X	X	X					
2	8/2/13	13:53	G	Sed	GZ-134 2-3'	2	X	X	X	X	X	X					
3	8/2/13	13:53	G	Sed	GZ-134 4-6'	2	X										
4	8/2/13	13:53	G	Sed	GZ-134 6-8'	2	X	X	X	X	X	X					
5	8/6/13	8:23	G	Sed	GZ-135 T 0-0.5'	2	X					X					
6	8/2/13	14:15	G	Sed	GZ-135 2-4'	2	X										
7	8/2/13	14:15	G	Sed	GZ-135 4-6'	2	X										
8	8/5/13	8:50	G	Sed	GZ-136 0-0.5'	2	X										
9	8/5/13	8:50	G	Sed	GZ-136 0.5-2'	2	X	X	X	X	X	X					
10	8/5/13	8:50	G	Sed	GZ-136 2-4'	2	X										
							AG	AG	AG	AG	AG	AG					

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-_____

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present ___✓___Yes _____No
Seals Intact ___✓___Yes _____No NA: ___✓___
Cooler Temperature: 4.1 3.6 4.8 2.6 3.2

Sampled by : Dan Scanlon

Comments: Contract Price - 10%

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Wallace	8/6/13	Rick Dorsan 8/7/13 1030	Rick Dorsan 8/7/13	1120	8/7/13 1635

Please E-mail all changes to Chain of Custody in writing.

ESS Laboratory

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Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS LAB PROJECT ID: 1308108

Turn Time ___x___ Standard Rush_____ Approved By: _____

Reporting Limits - see prev. email correspondence

State where samples were collected: **MA RI CT NH NJ NY ME** Other_____

Is this project for any of the following: (please circle)
MA-MCP CT-RCP RGP DOD Other_____

Electonic Deliverable Yes__x__ No____
Format: Excel_x__ Access___ PDF___ Other_____

GZA Project Manager: David E. Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Avenue
Norwood, MA 02062
(781) 278-3700
PRESUMPTIVE CERTAINTY REQUIRED

Project # 171521.02

Project Name: Former Everett Staging Yard

Contract Pricing ____
Special Pricing WO#: _____

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	Analysis: MCP 14 metals	B/N Phthalates Esters 8270	PAH 8270 SIM	EPH Fractions	PCBs	TOC by Lloyd Kahn					Comment #
11	8/5/13	8:50	G	Sed	GZ-136 4-6'	2	X										
12	8/5/13	8:50	G	Sed	GZ-136 8-10'	2	X					X					
13	8/6/13	8:30	G	Sed	GZ-137 T 0-0.5'	2	X	X	X	X	X	X					
14	8/5/13	9:16	G	Sed	GZ-137 2-4'	2	X	X	X	X	X	X					
15	8/5/13	9:16	G	Sed	GZ-137 4-5.5'	2	X										
16	8/2/13	14:25	G	Sed	GZ-138 0-0.5'	2	X					X					
17	8/2/13	14:25	G	Sed	GZ-138 0.5-2'	2	X										
18	8/2/13	14:25	G	Sed	GZ-138 2-4'	2	X					X					
19	8/2/13	14:25	G	Sed	GZ-138 4-6'	2	X										
20	8/2/13	14:25	G	Sed	GZ-138 6-8'	2	X										
							AG	AG	AG	AG	AG	AG					

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-_____

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present ✓ Yes ____ No
Seals Intact ✓ Yes ____ No NA: BB
Cooler Temperature: 4.1 3.6 4.8 2.6 3.2

Sampled by : Dan Scanlon

Comments: Contract Price - 10%

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
[signature]	6/6/13 20:0	[signature] 8/7/13 1030	[signature] 8/7/13	1120	[signature] 8/7/13 1635

Please E-mail all changes to Chain of Custody in writing.

CERTIFICATE OF ANALYSIS

David E Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Avenue
Norwood, MA 02062

RE: Everett (01.0171521.02)
ESS Laboratory Work Order Number: 1308109

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director

REVIEWED
By ESS Laboratory at 1:05 pm, Aug 20, 2013

Analytical Summary
The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with NELAC Standards, A2LA and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibratins, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.

Subcontracted Analyses

TestAmerica Laboratories, Inc. - Burlington, VT	Total Organic Carbon

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308109

SAMPLE RECEIPT

The following samples were received on August 07, 2013 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has performed and reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Data Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

For EPH soil samples, the aromatic range results have been corrected for identified cartridge contaminant in accordance with the CAM protocol.

Question I: All samples for SVOA were analyzed for a subset of the required MCP list per the client's request.

Lab Number	SampleName	Matrix	Analysis
1308109-01	GZ-139 0-0.5ft	Soil	6010B, 6020A, 7471B, TOC-LK
1308109-02	GZ-139 2-4ft	Soil	6010B, 6020A, 7471B
1308109-03	GZ-139 6-8ft	Soil	6010B, 6020A, 7471B, TOC-LK
1308109-04	GZ-140A 0-0.5ft	Soil	6010B, 6020A, 7471B
1308109-05	GZ-140A 0.5-2ft	Soil	6010B, 6020A, 7471B
1308109-06	GZ-140A 2-3ft	Soil	6010B, 6020A, 7471B, 8082A, 8270D, EPH8270, MADEP-EPH, TOC-LK
1308109-07	GZ-LC1 T 0-0.5ft	Soil	6010B, 6020A, 7471B, 8082A, 8270D, EPH8270, MADEP-EPH, TOC-LK
1308109-08	GZ-LC1 2-4ft	Soil	6010B, 6020A, 7471B, 8082A, 8270D, EPH8270, MADEP-EPH
1308109-09	GZ-LC2 T 0-0.5ft	Soil	6010B, 6020A, 7471B, 8082A, 8270D, EPH8270, MADEP-EPH, TOC-LK
1308109-10	GZ-LC2 2-4ft	Soil	6010B, 6020A, 7471B, 8082A, 8270D, EPH8270, MADEP-EPH
1308109-11	GZ-LC3 T 0-0.5ft	Soil	6010B, 6020A, 7471B, 8082A, 8270D, EPH8270, MADEP-EPH, TOC-LK
1308109-12	GZ-LC-3 0.5-2ft	Soil	6010B, 6020A, 7471B, 8082A, 8270D, EPH8270, MADEP-EPH, TOC-LK
1308109-13	GZ-LC-3 4-6ft	Soil	6010B, 6020A, 7471B, 8082A, 8270D, EPH8270, MADEP-EPH

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
ESS Laboratory Work Order: 1308109

1308109-14	GZ-LC4 T 0-0.5ft	Soil	6010B, 6020A, 7471B, 8082A, 8270D, EPH8270, MADEP-EPH, TOC-LK
1308109-15	GZ-LC4 0.5-2ft	Soil	6010B, 6020A, 7471B, 8082A, 8270D, EPH8270, MADEP-EPH
1308109-16	GZ-LC4 2-4ft	Soil	6010B, 6020A, 7471B, 8082A, 8270D, EPH8270, MADEP-EPH
1308109-17	GZ-LC4 4-6ft	Soil	6010B, 6020A, 7471B, 8082A, 8270D, EPH8270, MADEP-EPH
1308109-18	GZ-LC5 0-0.5ft	Soil	6010B, 6020A, 7471B, 8082A, 8270D, EPH8270, MADEP-EPH, TOC-LK
1308109-19	GZ-LC5 2-4ft	Soil	6010B, 6020A, 7471B, 8082A, 8270D, EPH8270, MADEP-EPH
1308109-20	GZ-LC6 0-0.5ft	Soil	6010B, 6020A, 7471B, 8082A, 8270D, EPH8270, MADEP-EPH, TOC-LK

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308109

PROJECT NARRATIVE

8082A Polychlorinated Biphenyls (PCB)

1308109-07	**Percent difference between primary and confirmation results exceeds 40% (P).** Aroclor 1260
1308109-09	**Surrogate recovery(ies) diluted below the MRL (SD).** Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)
1308109-10	**Surrogate recovery(ies) diluted below the MRL (SD).** Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)
1308109-12	**Percent difference between primary and confirmation results exceeds 40% (P).** Aroclor 1260
1308109-13	**Surrogate recovery(ies) diluted below the MRL (SD).** Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)
1308109-15	**Surrogate recovery(ies) above upper control limit (S+).** Decachlorobiphenyl (152% @ 30-150%)
1308109-16	**Surrogate recovery(ies) diluted below the MRL (SD).** Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)
1308109-17	**Surrogate recovery(ies) diluted below the MRL (SD).** Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

8270D Semi-Volatile Organic Compounds

1308109-10	**Elevated Method Reporting Limits due to sample matrix (EL).**
1308109-13	**Elevated Method Reporting Limits due to sample matrix (EL).**
1308109-13	**Surrogate recovery(ies) diluted below the MRL (SD).** 1,2-Dichlorobenzene-d4 (% @ 30-130%), 2,4,6-Tribromophenol (% @ 30-130%), 2-Chlorophenol-d4 (% @ 30-130%), 2-Fluorobiphenyl (% @ 30-130%), 2-Fluorophenol (% @ 30-130%), Nitrobenzene-d5 (% @ 30-130%), Phenol-d6 (% @ 30-130%), p-Terphenyl-d14 (% @ 30-130%)
1308109-14	**Elevated Method Reporting Limits due to sample matrix (EL).**
1308109-16	**Elevated Method Reporting Limits due to sample matrix (EL).**
1308109-16	**Internal Standard(s) outside of criteria due to matrix (UCM/coelution is present) (IM).** Perylene-d12 (22% @ 50-200%)
1308109-17	**Elevated Method Reporting Limits due to sample matrix (EL).**
1308109-17	**Internal Standard(s) outside of criteria due to matrix (UCM/coelution is present) (IM).** Perylene-d12 (24% @ 50-200%)
CWH0124-CCV1	**Calibration required quadratic regression (Q).** 2,4-Dinitrophenol (109% @ 80-120%), Benzoic Acid (106% @ 70-130%)
CWH0124-CCV1	**Continuing Calibration recovery is above upper control limit (C+).** 3+4-Methylphenol (121% @ 80-120%), 4-Chloroaniline (126% @ 80-120%)
CWH0124-CCV1	**Continuing Calibration recovery is below lower control limit (C-).**

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett ESS Laboratory Work Order: 1308109

Acenaphthene (77% @ 80-120%)

CWH0124-CCV1 **Initial Calibration Verification recovery is below lower control limit (ICV-).**
2,4-Dinitrophenol

CWH0124-CCV1 **Initial Calibration Verification recovery is outside of control limit (ICV).**
1,1-Biphenyl

CWH0140-CCV1 **Calibration required quadratic regression (Q).**
2,4-Dinitrophenol (110% @ 80-120%), 4,6-Dinitro-2-Methylphenol (108% @ 70-130%), Benzoic Acid (66% @ 70-130%), Pentachlorophenol (73% @ 80-120%)

CWH0140-CCV1 **Continuing Calibration recovery is below lower control limit (C-).**
Benzoic Acid (66% @ 70-130%), N-Nitrosodimethylamine (71% @ 80-120%), Pentachlorophenol (73% @ 80-120%)

CWH0140-CCV1 **Initial Calibration Verification recovery is outside of control limit (ICV).**
Benzidine , Hexachlorocyclopentadiene

CWH0140-TUN1 **Pentachlorophenol tailing factor > 2.**

CWH0143-CCV1 **Calibration required quadratic regression (Q).**
2,4-Dinitrophenol (106% @ 80-120%), Benzoic Acid (135% @ 70-130%)

CWH0143-CCV1 **Continuing Calibration recovery is above upper control limit (C+).**
2,4,6-Tribromophenol (127% @ 80-120%), 2-Fluorophenol (127% @ 80-120%), 4-Bromophenyl-phenylether (128% @ 80-120%), Aniline (130% @ 80-120%), Benzoic Acid (135% @ 70-130%)

CWH0143-CCV1 **Initial Calibration Verification recovery is outside of control limit (ICV).**
1,1-Biphenyl , 2,4-Dinitrophenol

CWH0147-CCV1 **Calibration required quadratic regression (Q).**
2,4-Dinitrophenol (78% @ 80-120%), 4,6-Dinitro-2-Methylphenol (93% @ 70-130%), Benzoic Acid (34% @ 70-130%), Pentachlorophenol (76% @ 80-120%)

CWH0147-CCV1 **Continuing Calibration recovery is below lower control limit (C-).**
2,4-Dinitrophenol (78% @ 80-120%), Benzoic Acid (34% @ 70-130%), Hexachlorocyclopentadiene (59% @ 70-130%), N-Nitrosodimethylamine (56% @ 80-120%), Pentachlorophenol (76% @ 80-120%)

CWH0147-CCV1 **Initial Calibration Verification recovery is outside of control limit (ICV).**
Benzidine , Hexachlorocyclopentadiene

CWH0147-TUN1 **Pentachlorophenol tailing factor > 2.**

8270D(SIM) Polynuclear Aromatic Hydrocarbons

1308109-10 **Elevated Method Reporting Limits due to sample matrix (EL).**

1308109-10 **Surrogate recovery(ies) outside of criteria due to matrix (UCM/coelution/matrix is present) (SM).**
Nitrobenzene-d5 (370% @ 30-130%), p-Terphenyl-d14 (148% @ 30-130%)

1308109-17 **Internal Standard(s) outside of criteria due to matrix (UCM/coelution is present) (IM).**
Perylene-d12 (41% @ 50-200%)

MADEP-EPH Extractable Petroleum Hydrocarbons

1308109-09 **Surrogate recovery(ies) outside of criteria due to matrix (UCM/coelution/matrix is present) (SM).**
O-Terphenyl (401% @ 40-140%)

1308109-10 **Surrogate recovery(ies) outside of criteria due to matrix (UCM/coelution/matrix is present) (SM).**
O-Terphenyl (227% @ 40-140%)

1308109-13 **Surrogate recovery(ies) outside of criteria due to matrix (UCM/coelution/matrix is present) (SM).**
O-Terphenyl (243% @ 40-140%)

1308109-15 **Surrogate recovery(ies) outside of criteria due to matrix (UCM/coelution/matrix is present) (SM).**

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett ESS Laboratory Work Order: 1308109

O-Terphenyl (162% @ 40-140%)

1308109-16 **Surrogate recovery(ies) outside of criteria due to matrix (UCM/coelution/matrix is present) (SM).**
O-Terphenyl (246% @ 40-140%)

1308109-17 **Surrogate recovery(ies) outside of criteria due to matrix (UCM/coelution/matrix is present) (SM).**
O-Terphenyl (173% @ 40-140%)

CWH0135-CCV4 **Continuing Calibration recovery is above upper control limit (C+).**
Benzo(a)pyrene (121% @ 80-120%)

CWH0145-CCV2 **Continuing Calibration recovery is below lower control limit (C-).**
Benzo(g,h,i)perylene (54% @ 80-120%), Dibenzo(a,h)Anthracene (77% @ 80-120%), Indeno(1,2,3-cd)Pyrene (69% @ 80-120%)

Total Metals Solid

CH30856-BSD1 **Blank Spike recovery is above upper control limit (B+).**
Antimony (178% @ 80-120%), Selenium (157% @ 80-120%), Thallium (177% @ 80-120%)

CH30856-BSD1 **Relative percent difference for duplicate is outside of criteria (D+).**
Antimony (56%), Selenium (39%), Thallium (50%)

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

Definitions of Quality Control Parameters

Semivolatile Organics Internal Standard Information

Semivolatile Organics Surrogate Information

Volatile Organics Internal Standard Information

Volatile Organics Surrogate Information

EPH and VPH Alkane Lists

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308109

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

1010A - Flashpoint
6010C - ICP
6020A - ICP MS
7010 - Graphite Furnace
7196A - Hexavalent Chromium
7470A - Aqueous Mercury
7471B - Solid Mercury
8011 - EDB/DBCP/TCP
8015C - GRO/DRO
8081B - Pesticides
8082A - PCB
8100M - TPH
8151A - Herbicides
8260B - VOA
8270D - SVOA
8270D SIM - SVOA Low Level
9014 - Cyanide
9038 - Sulfate
9040C - Aqueous pH
9045D - Solid pH (Corrosivity)
9050A - Specific Conductance
9056A - Anions (IC)
9060A - TOC
9095B - Paint Filter
MADEP 04-1.1 - EPH / VPH

Prep Methods

3005A - Aqueous ICP Digestion
3020A - Aqueous Graphite Furnace / ICP MS Digestion
3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
3060A - Solid Hexavalent Chromium Digestion
3510C - Separatory Funnel Extraction
3520C - Liquid / Liquid Extraction
3540C - Manual Soxhlet Extraction
3541 - Automated Soxhlet Extraction
3580A - Waste Dilution
5030B - Aqueous Purge and Trap
5035 - Solid Purge and Trap

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308109

MassDEP Analytical Protocol Certification Form

MADEP RTN: _____

This form provides certification for the following data set: **1308109-01 through 1308109-20**

Matrices: ( ) Ground Water/Surface Water (X) Soil/Sediment ( ) Drinking Water ( ) Air ( ) Other:_____

CAM Protocol (check all that apply below):

( ) 8260 VOC CAM II A	(X) 7470/7471 Hg CAM III B	( ) MassDEP VPH CAM IV A	( ) 8081 Pesticides CAM V B	( ) 7196 Hex Cr CAM VI B	( ) MassDEP APH CAM IX A
(X) 8270 SVOC CAM II B	( ) 7010 Metals CAM III C	(X) MassDEP EPH CAM IV B	( ) 8151 Herbicides CAM V C	( ) 8330 Explosives CAM VIII A	( ) TO-15 VOC CAM IX B
(X) 6010 Metals CAM III A	(X) 6020 Metals CAM III D	(X) 8082 PCB CAM V A	( ) 6860 Perchlorate CAM VIII B	( ) 9014 Total Cyanide/PAC CAM VI A	

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	Yes (X) No ( )
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	Yes (X) No ( )
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	Yes (X) No ( )
D	Does the laboratory report comply with all the reporting requirements specified in the CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	Yes (X) No ( )
E	a. VPH, EPH, APH and TO-15 only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	Yes (X) No ( )
	b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	Yes ( ) No ( )
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	Yes (X) No ( )

Responses to Questions G, H and I below are required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocols(s)?	Yes (X) No ( )*
	***Data User Note:* Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.**	
H	Were **all** QC performance standards specified in the CAM protocol(s) achieved?	Yes ( ) No (X)*
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	Yes ( ) No (X)*

****All negative responses must be addressed in an attached laboratory narrative.***

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Laurel Stoddard _____ Date: August 20, 2013

Printed Name: Laurel Stoddard Position: Laboratory Director

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-139 0-0.5ft
Date Sampled: 08/05/13 08:20
Percent Solids: 91

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-01
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.0)		6020A		50	SVD	08/12/13 15:55	5.41	100	CH30856
Arsenic	**11.0** (1.0)		6010B		1	JP	08/10/13 0:24	5.41	100	CH30856
Barium	**29.9** (1.0)		6010B		1	JP	08/10/13 0:24	5.41	100	CH30856
Beryllium	**0.32** (0.04)		6010B		1	JP	08/10/13 0:24	5.41	100	CH30856
Cadmium	**0.96** (0.20)		6010B		1	JP	08/10/13 0:24	5.41	100	CH30856
Chromium	**32.7** (0.4)		6010B		1	JP	08/10/13 0:24	5.41	100	CH30856
Lead	**78.3** (2.0)		6010B		1	JP	08/10/13 0:24	5.41	100	CH30856
Mercury	**0.472** (0.088)		7471B		5	JP	08/12/13 19:15	1.24	40	CH30931
Nickel	**10.5** (1.0)		6010B		1	JP	08/10/13 0:24	5.41	100	CH30856
Selenium	ND (1.02)		6020A		50	SVD	08/12/13 15:55	5.41	100	CH30856
Silver	**0.93** (0.20)		6010B		1	JP	08/10/13 0:24	5.41	100	CH30856
Thallium	ND (1.02)		6020A		50	SVD	08/12/13 15:55	5.41	100	CH30856
Vanadium	**34.3** (0.4)		6010B		1	JP	08/10/13 0:24	5.41	100	CH30856
Zinc	**134** (1.0)		6010B		1	JP	08/10/13 0:24	5.41	100	CH30856

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-139 0-0.5ft
Date Sampled: 08/05/13 08:20
Percent Solids: 91

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-01
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**43000** (2010)		TOC-LK		1	SUB	08/14/13 15:35	mg/kg	CH32011

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-139 2-4ft
Date Sampled: 08/05/13 08:20
Percent Solids: 49

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-02
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.9)		6020A		50	SVD	08/12/13 16:01	5.48	100	CH30856
Arsenic	**2.0** (1.9)		6010B		1	JP	08/10/13 0:38	5.48	100	CH30856
Barium	**12.6** (1.9)		6010B		1	JP	08/10/13 0:38	5.48	100	CH30856
Beryllium	**0.31** (0.08)		6010B		1	JP	08/10/13 0:38	5.48	100	CH30856
Cadmium	ND (0.37)		6010B		1	JP	08/10/13 0:38	5.48	100	CH30856
Chromium	**13.8** (0.7)		6010B		1	JP	08/10/13 0:38	5.48	100	CH30856
Lead	ND (3.7)		6010B		1	JP	08/10/13 0:38	5.48	100	CH30856
Mercury	ND (0.036)		7471B		1	JP	08/12/13 19:17	1.13	40	CH30931
Nickel	**8.4** (1.9)		6010B		1	JP	08/10/13 0:38	5.48	100	CH30856
Selenium	ND (1.87)		6020A		50	SVD	08/12/13 16:01	5.48	100	CH30856
Silver	ND (0.37)		6010B		1	JP	08/10/13 0:38	5.48	100	CH30856
Thallium	ND (1.87)		6020A		50	SVD	08/12/13 16:01	5.48	100	CH30856
Vanadium	**18.0** (0.7)		6010B		1	JP	08/10/13 0:38	5.48	100	CH30856
Zinc	**27.5** (1.9)		6010B		1	JP	08/10/13 0:38	5.48	100	CH30856

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-139 6-8ft
Date Sampled: 08/05/13 08:20
Percent Solids: 70

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-03
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.4)		6020A		50	SVD	08/12/13 16:07	5.26	100	CH30856
Arsenic	ND (1.4)		6010B		1	JP	08/10/13 0:44	5.26	100	CH30856
Barium	**10.4** (1.4)		6010B		1	JP	08/10/13 0:44	5.26	100	CH30856
Beryllium	**0.26** (0.06)		6010B		1	JP	08/10/13 0:44	5.26	100	CH30856
Cadmium	**0.28** (0.27)		6010B		1	JP	08/10/13 0:44	5.26	100	CH30856
Chromium	**11.3** (0.5)		6010B		1	JP	08/10/13 0:44	5.26	100	CH30856
Lead	ND (2.7)		6010B		1	JP	08/10/13 0:44	5.26	100	CH30856
Mercury	ND (0.026)		7471B		1	JP	08/12/13 19:20	1.08	40	CH30931
Nickel	**7.1** (1.4)		6010B		1	JP	08/10/13 0:44	5.26	100	CH30856
Selenium	ND (1.37)		6020A		50	SVD	08/12/13 16:07	5.26	100	CH30856
Silver	ND (0.27)		6010B		1	JP	08/10/13 0:44	5.26	100	CH30856
Thallium	ND (1.37)		6020A		50	SVD	08/12/13 16:07	5.26	100	CH30856
Vanadium	**14.8** (0.5)		6010B		1	JP	08/10/13 0:44	5.26	100	CH30856
Zinc	**19.4** (1.4)		6010B		1	JP	08/10/13 0:44	5.26	100	CH30856

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-139 6-8ft
Date Sampled: 08/05/13 08:20
Percent Solids: 70

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-03
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**10100** (1330)		TOC-LK		1	SUB	08/14/13 15:42	mg/kg	CH32011

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-140A 0-0.5ft
Date Sampled: 08/05/13 08:45
Percent Solids: 73

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-04
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.3)		6020A		50	SVD	08/12/13 16:13	5.24	100	CH30856
Arsenic	**11.3** (1.3)		6010B		1	JP	08/10/13 0:49	5.24	100	CH30856
Barium	**30.9** (1.3)		6010B		1	JP	08/10/13 0:49	5.24	100	CH30856
Beryllium	**0.37** (0.05)		6010B		1	JP	08/10/13 0:49	5.24	100	CH30856
Cadmium	**1.25** (0.26)		6010B		1	JP	08/10/13 0:49	5.24	100	CH30856
Chromium	**39.7** (0.5)		6010B		1	JP	08/10/13 0:49	5.24	100	CH30856
Lead	**99.7** (2.6)		6010B		1	JP	08/10/13 0:49	5.24	100	CH30856
Mercury	**0.845** (0.116)		7471B		5	JP	08/12/13 19:23	1.17	40	CH30931
Nickel	**12.0** (1.3)		6010B		1	JP	08/10/13 0:49	5.24	100	CH30856
Selenium	**1.41** (1.31)		6020A		50	SVD	08/12/13 16:13	5.24	100	CH30856
Silver	**1.07** (0.26)		6010B		1	JP	08/10/13 0:49	5.24	100	CH30856
Thallium	ND (1.31)		6020A		50	SVD	08/12/13 16:13	5.24	100	CH30856
Vanadium	**36.4** (0.5)		6010B		1	JP	08/10/13 0:49	5.24	100	CH30856
Zinc	**178** (1.3)		6010B		1	JP	08/10/13 0:49	5.24	100	CH30856

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-140A 0.5-2ft
Date Sampled: 08/05/13 08:45
Percent Solids: 39

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-05
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (2.6)		6020A		50	SVD	08/12/13 16:19	5	100	CH30856
Arsenic	**28.1** (2.6)		6010B		1	JP	08/10/13 0:55	5	100	CH30856
Barium	**64.9** (2.6)		6010B		1	JP	08/10/13 0:55	5	100	CH30856
Beryllium	**0.73** (0.11)		6010B		1	JP	08/10/13 0:55	5	100	CH30856
Cadmium	**3.38** (0.52)		6010B		1	JP	08/10/13 0:55	5	100	CH30856
Chromium	**86.6** (1.0)		6010B		1	JP	08/10/13 0:55	5	100	CH30856
Lead	**198** (5.1)		6010B		1	JP	08/10/13 0:55	5	100	CH30856
Mercury	**1.10** (0.221)		7471B		5	JP	08/12/13 19:25	1.15	40	CH30931
Nickel	**29.9** (2.6)		6010B		1	JP	08/10/13 0:55	5	100	CH30856
Selenium	ND (2.58)		6020A		50	SVD	08/12/13 16:19	5	100	CH30856
Silver	**2.83** (0.52)		6010B		1	JP	08/10/13 0:55	5	100	CH30856
Thallium	ND (2.58)		6020A		50	SVD	08/12/13 16:19	5	100	CH30856
Vanadium	**131** (1.0)		6010B		1	JP	08/10/13 0:55	5	100	CH30856
Zinc	**377** (2.6)		6010B		1	JP	08/10/13 0:55	5	100	CH30856

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-140A 2-3ft
Date Sampled: 08/05/13 08:45
Percent Solids: 51

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-06
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.9)		6020A		50	SVD	08/12/13 16:25	5.11	100	CH30856
Arsenic	**15.9** (1.9)		6010B		1	JP	08/10/13 1:01	5.11	100	CH30856
Barium	**38.9** (1.9)		6010B		1	JP	08/10/13 1:01	5.11	100	CH30856
Beryllium	**0.43** (0.08)		6010B		1	JP	08/10/13 1:01	5.11	100	CH30856
Cadmium	**0.97** (0.39)		6010B		1	JP	08/10/13 1:01	5.11	100	CH30856
Chromium	**37.1** (0.8)		6010B		1	JP	08/10/13 1:01	5.11	100	CH30856
Lead	**90.6** (3.8)		6010B		1	JP	08/10/13 1:01	5.11	100	CH30856
Mercury	**0.842** (0.159)		7471B		5	JP	08/12/13 19:28	1.22	40	CH30931
Nickel	**11.5** (1.9)		6010B		1	JP	08/10/13 1:01	5.11	100	CH30856
Selenium	**2.92** (1.93)		6020A		50	SVD	08/12/13 16:25	5.11	100	CH30856
Silver	**0.84** (0.39)		6010B		1	JP	08/10/13 1:01	5.11	100	CH30856
Thallium	ND (1.93)		6020A		50	SVD	08/12/13 16:25	5.11	100	CH30856
Vanadium	**26.3** (0.8)		6010B		1	JP	08/10/13 1:01	5.11	100	CH30856
Zinc	**141** (1.9)		6010B		1	JP	08/10/13 1:01	5.11	100	CH30856

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-140A 2-3ft
Date Sampled: 08/05/13 08:45
Percent Solids: 51
Initial Volume: 20.2
Final Volume: 5
Extraction Method: 3540

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 8/9/13 16:45
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0486)		8082A		1	08/13/13 17:45		CH30839
Aroclor 1221	ND (0.0486)		8082A		1	08/13/13 17:45		CH30839
Aroclor 1232	ND (0.0486)		8082A		1	08/13/13 17:45		CH30839
Aroclor 1242	ND (0.0486)		8082A		1	08/13/13 17:45		CH30839
Aroclor 1248	ND (0.0486)		8082A		1	08/13/13 17:45		CH30839
Aroclor 1254	ND (0.0486)		8082A		1	08/13/13 17:45		CH30839
Aroclor 1260	ND (0.0486)		8082A		1	08/13/13 17:45		CH30839
Aroclor 1262	ND (0.0486)		8082A		1	08/13/13 17:45		CH30839
Aroclor 1268	ND (0.0486)		8082A		1	08/13/13 17:45		CH30839

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*120 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*99 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*78 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*72 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-140A 2-3ft
Date Sampled: 08/05/13 08:45
Percent Solids: 51
Initial Volume: 15.6
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: SEP
Prepared: 8/9/13 19:05

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.629)		8270D		1	08/11/13 14:08	CWH0140	CH30921
1,2-Dichlorobenzene	ND (0.629)		8270D		1	08/11/13 14:08	CWH0140	CH30921
1,3-Dichlorobenzene	ND (0.629)		8270D		1	08/11/13 14:08	CWH0140	CH30921
1,4-Dichlorobenzene	ND (0.629)		8270D		1	08/11/13 14:08	CWH0140	CH30921
2-Methylnaphthalene	ND (0.629)		8270D		1	08/11/13 14:08	CWH0140	CH30921
2-Methylphenol	ND (0.629)		8270D		1	08/11/13 14:08	CWH0140	CH30921
Acenaphthene	ND (0.629)		8270D		1	08/11/13 14:08	CWH0140	CH30921
Acenaphthylene	ND (0.629)		8270D		1	08/11/13 14:08	CWH0140	CH30921
Anthracene	ND (0.629)		8270D		1	08/11/13 14:08	CWH0140	CH30921
Benzo(a)anthracene	**1.52** (0.629)		8270D		1	08/11/13 14:08	CWH0140	CH30921
Benzo(a)pyrene	**1.56** (0.316)		8270D		1	08/11/13 14:08	CWH0140	CH30921
Benzo(b)fluoranthene	**1.63** (0.629)		8270D		1	08/11/13 14:08	CWH0140	CH30921
Benzo(g,h,i)perylene	**0.717** (0.629)		8270D		1	08/11/13 14:08	CWH0140	CH30921
Benzo(k)fluoranthene	**0.824** (0.629)		8270D		1	08/11/13 14:08	CWH0140	CH30921
bis(2-Ethylhexyl)phthalate	**2.75** (0.629)		8270D		1	08/11/13 14:08	CWH0140	CH30921
Butylbenzylphthalate	ND (0.629)		8270D		1	08/11/13 14:08	CWH0140	CH30921
Carbazole	ND (0.629)		8270D		1	08/11/13 14:08	CWH0140	CH30921
Chrysene	**1.59** (0.316)		8270D		1	08/11/13 14:08	CWH0140	CH30921
Dibenzo(a,h)Anthracene	**0.332** (0.316)		8270D		1	08/11/13 14:08	CWH0140	CH30921
Dibenzofuran	ND (0.629)		8270D		1	08/11/13 14:08	CWH0140	CH30921
Diethylphthalate	ND (0.629)		8270D		1	08/11/13 14:08	CWH0140	CH30921
Dimethylphthalate	ND (0.629)		8270D		1	08/11/13 14:08	CWH0140	CH30921
Di-n-butylphthalate	ND (0.629)		8270D		1	08/11/13 14:08	CWH0140	CH30921
Di-n-octylphthalate	ND (0.629)		8270D		1	08/11/13 14:08	CWH0140	CH30921
Fluoranthene	**2.45** (0.629)		8270D		1	08/11/13 14:08	CWH0140	CH30921
Fluorene	ND (0.629)		8270D		1	08/11/13 14:08	CWH0140	CH30921
Hexachlorobenzene	ND (0.629)		8270D		1	08/11/13 14:08	CWH0140	CH30921
Hexachlorocyclopentadiene	ND (3.16)		8270D		1	08/11/13 14:08	CWH0140	CH30921
Indeno(1,2,3-cd)Pyrene	ND (0.629)		8270D		1	08/11/13 14:08	CWH0140	CH30921
Naphthalene	ND (0.629)		8270D		1	08/11/13 14:08	CWH0140	CH30921
Phenanthrene	ND (0.629)		8270D		1	08/11/13 14:08	CWH0140	CH30921

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-140A 2-3ft
Date Sampled: 08/05/13 08:45
Percent Solids: 51
Initial Volume: 15.6
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: SEP
Prepared: 8/9/13 19:05

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Phenol	ND (0.629)		8270D		1	08/11/13 14:08	CWH0140	CH30921
Pyrene	**4.05** (0.629)		8270D		1	08/11/13 14:08	CWH0140	CH30921

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*59 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*57 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*63 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*62 %*		*30-130*
Surrogate: 2-Fluorophenol	*58 %*		*30-130*
Surrogate: Nitrobenzene-d5	*62 %*		*30-130*
Surrogate: Phenol-d6	*65 %*		*30-130*
Surrogate: p-Terphenyl-d14	*80 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-140A 2-3ft
Date Sampled: 08/05/13 08:45
Percent Solids: 51
Initial Volume: 15.5
Final Volume: 0.5
Extraction Method: 3541

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/9/13 10:30

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.079)		8270D		5	08/13/13 7:02	CWH0159	CH30903
Acenaphthene	ND (0.079)		8270D		5	08/13/13 7:02	CWH0159	CH30903
Acenaphthylene	**0.463** (0.079)		8270D		5	08/13/13 7:02	CWH0159	CH30903
Anthracene	**0.513** (0.079)		8270D		5	08/13/13 7:02	CWH0159	CH30903
Benzo(a)anthracene	**0.973** (0.079)		8270D		5	08/13/13 7:02	CWH0159	CH30903
Benzo(a)pyrene	**1.06** (0.079)		8270D		5	08/13/13 7:02	CWH0159	CH30903
Benzo(b)fluoranthene	**1.24** (0.079)		8270D		5	08/13/13 7:02	CWH0159	CH30903
Benzo(g,h,i)perylene	**0.558** (0.079)		8270D		5	08/13/13 7:02	CWH0159	CH30903
Benzo(k)fluoranthene	**0.412** (0.079)		8270D		5	08/13/13 7:02	CWH0159	CH30903
Chrysene	**1.12** (0.079)		8270D		5	08/13/13 7:02	CWH0159	CH30903
Dibenzo(a,h)Anthracene	**0.190** (0.079)		8270D		5	08/13/13 7:02	CWH0159	CH30903
Fluoranthene	**1.13** (0.079)		8270D		5	08/13/13 7:02	CWH0159	CH30903
Fluorene	**0.082** (0.079)		8270D		5	08/13/13 7:02	CWH0159	CH30903
Indeno(1,2,3-cd)Pyrene	**0.634** (0.079)		8270D		5	08/13/13 7:02	CWH0159	CH30903
Naphthalene	**0.285** (0.079)		8270D		5	08/13/13 7:02	CWH0159	CH30903
Phenanthrene	**0.295** (0.079)		8270D		5	08/13/13 7:02	CWH0159	CH30903
Pyrene	**1.76** (0.079)		8270D		5	08/13/13 7:02	CWH0159	CH30903

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*50 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*62 %*		*30-130*
Surrogate: Nitrobenzene-d5	*60 %*		*30-130*
Surrogate: p-Terphenyl-d14	*94 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-140A 2-3ft
Date Sampled: 08/05/13 08:45
Percent Solids: 51

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-06
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**16800** (1260)		TOC-LK		1	SUB	08/14/13 16:47	mg/kg	CH32011

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-140A 2-3ft
Date Sampled: 08/05/13 08:45
Percent Solids: 51
Initial Volume: 15.6
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-06
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 8/9/13 15:00

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	**54.6** (47.2)		MADEP-EPH		1	SEP	08/11/13 6:49	CWH0134	CH30919
C19-C36 Aliphatics1	**151** (47.2)		MADEP-EPH		1	SEP	08/11/13 6:49	CWH0134	CH30919
C11-C22 Unadjusted Aromatics1	**181** (47.2)		EPH8270		1	VSC	08/12/13 18:45	CWH0145	CH30919
C11-C22 Aromatics1,2	**173** (47.2)		EPH8270			VSC	08/12/13 18:45		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*98 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*105 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*100 %*		*40-140*
Surrogate: O-Terphenyl	*83 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC1 T 0-0.5ft
Date Sampled: 08/06/13 11:20
Percent Solids: 75

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-07
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	**1.4** (1.2)		6020A		50	SVD	08/12/13 16:43	5.38	100	CH30856
Arsenic	**43.0** (6.2)		6010B		5	JP	08/10/13 18:21	5.38	100	CH30856
Barium	**49.7** (6.2)		6010B		5	JP	08/10/13 18:21	5.38	100	CH30856
Beryllium	**0.40** (0.26)		6010B		5	JP	08/10/13 18:21	5.38	100	CH30856
Cadmium	ND (1.24)		6010B		5	JP	08/10/13 18:21	5.38	100	CH30856
Chromium	**42.3** (2.5)		6010B		5	JP	08/10/13 18:21	5.38	100	CH30856
Lead	**148** (12.3)		6010B		5	JP	08/10/13 18:21	5.38	100	CH30856
Mercury	**0.634** (0.094)		7471B		5	JP	08/12/13 19:31	1.4	40	CH30931
Nickel	**13.7** (6.2)		6010B		5	JP	08/10/13 18:21	5.38	100	CH30856
Selenium	**1.32** (1.24)		6020A		50	SVD	08/12/13 16:43	5.38	100	CH30856
Silver	**2.16** (1.24)		6010B		5	JP	08/10/13 18:21	5.38	100	CH30856
Thallium	ND (1.24)		6020A		50	SVD	08/12/13 16:43	5.38	100	CH30856
Vanadium	**39.6** (2.5)		6010B		5	JP	08/10/13 18:21	5.38	100	CH30856
Zinc	**319** (6.2)		6010B		5	JP	08/10/13 18:21	5.38	100	CH30856

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC1 T 0-0.5ft
Date Sampled: 08/06/13 11:20
Percent Solids: 75
Initial Volume: 19.5
Final Volume: 5
Extraction Method: 3540

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 8/9/13 16:45
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0340)		8082A		1	08/14/13 11:53		CH30839
Aroclor 1221	ND (0.0340)		8082A		1	08/14/13 11:53		CH30839
Aroclor 1232	ND (0.0340)		8082A		1	08/14/13 11:53		CH30839
Aroclor 1242	ND (0.0340)		8082A		1	08/14/13 11:53		CH30839
Aroclor 1248	**0.166** (0.0340)		8082A		1	08/14/13 11:53		CH30839
Aroclor 1254	**0.213** (0.0340)		8082A		1	08/14/13 11:53		CH30839
Aroclor 1260	**P 0.0667** (0.0340)		8082A		1	08/14/13 11:53		CH30839
Aroclor 1262	ND (0.0340)		8082A		1	08/14/13 11:53		CH30839
Aroclor 1268	ND (0.0340)		8082A		1	08/14/13 11:53		CH30839

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*107 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*92 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*89 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*79 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC1 T 0-0.5ft
Date Sampled: 08/06/13 11:20
Percent Solids: 75
Initial Volume: 15.1
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: SEP
Prepared: 8/9/13 19:05

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.439)		8270D		1	08/11/13 14:41	CWH0140	CH30921
1,2-Dichlorobenzene	ND (0.439)		8270D		1	08/11/13 14:41	CWH0140	CH30921
1,3-Dichlorobenzene	ND (0.439)		8270D		1	08/11/13 14:41	CWH0140	CH30921
1,4-Dichlorobenzene	ND (0.439)		8270D		1	08/11/13 14:41	CWH0140	CH30921
2-Methylnaphthalene	ND (0.439)		8270D		1	08/11/13 14:41	CWH0140	CH30921
2-Methylphenol	ND (0.439)		8270D		1	08/11/13 14:41	CWH0140	CH30921
Acenaphthene	ND (0.439)		8270D		1	08/11/13 14:41	CWH0140	CH30921
Acenaphthylene	ND (0.439)		8270D		1	08/11/13 14:41	CWH0140	CH30921
Anthracene	ND (0.439)		8270D		1	08/11/13 14:41	CWH0140	CH30921
Benzo(a)anthracene	**0.711** (0.439)		8270D		1	08/11/13 14:41	CWH0140	CH30921
Benzo(a)pyrene	**0.804** (0.220)		8270D		1	08/11/13 14:41	CWH0140	CH30921
Benzo(b)fluoranthene	**0.854** (0.439)		8270D		1	08/11/13 14:41	CWH0140	CH30921
Benzo(g,h,i)perylene	ND (0.439)		8270D		1	08/11/13 14:41	CWH0140	CH30921
Benzo(k)fluoranthene	**0.548** (0.439)		8270D		1	08/11/13 14:41	CWH0140	CH30921
bis(2-Ethylhexyl)phthalate	**7.98** (0.439)		8270D		1	08/11/13 14:41	CWH0140	CH30921
Butylbenzylphthalate	ND (0.439)		8270D		1	08/11/13 14:41	CWH0140	CH30921
Carbazole	ND (0.439)		8270D		1	08/11/13 14:41	CWH0140	CH30921
Chrysene	**0.728** (0.220)		8270D		1	08/11/13 14:41	CWH0140	CH30921
Dibenzo(a,h)Anthracene	ND (0.220)		8270D		1	08/11/13 14:41	CWH0140	CH30921
Dibenzofuran	ND (0.439)		8270D		1	08/11/13 14:41	CWH0140	CH30921
Diethylphthalate	ND (0.439)		8270D		1	08/11/13 14:41	CWH0140	CH30921
Dimethylphthalate	ND (0.439)		8270D		1	08/11/13 14:41	CWH0140	CH30921
Di-n-butylphthalate	ND (0.439)		8270D		1	08/11/13 14:41	CWH0140	CH30921
Di-n-octylphthalate	ND (0.439)		8270D		1	08/11/13 14:41	CWH0140	CH30921
Fluoranthene	**0.945** (0.439)		8270D		1	08/11/13 14:41	CWH0140	CH30921
Fluorene	ND (0.439)		8270D		1	08/11/13 14:41	CWH0140	CH30921
Hexachlorobenzene	ND (0.439)		8270D		1	08/11/13 14:41	CWH0140	CH30921
Hexachlorocyclopentadiene	ND (2.20)		8270D		1	08/11/13 14:41	CWH0140	CH30921
Indeno(1,2,3-cd)Pyrene	ND (0.439)		8270D		1	08/11/13 14:41	CWH0140	CH30921
Naphthalene	ND (0.439)		8270D		1	08/11/13 14:41	CWH0140	CH30921
Phenanthrene	ND (0.439)		8270D		1	08/11/13 14:41	CWH0140	CH30921

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC1 T 0-0.5ft
Date Sampled: 08/06/13 11:20
Percent Solids: 75
Initial Volume: 15.1
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: SEP
Prepared: 8/9/13 19:05

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Phenol	ND (0.439)		8270D		1	08/11/13 14:41	CWH0140	CH30921
Pyrene	**1.53** (0.439)		8270D		1	08/11/13 14:41	CWH0140	CH30921

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*50 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*54 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*55 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*54 %*		*30-130*
Surrogate: 2-Fluorophenol	*50 %*		*30-130*
Surrogate: Nitrobenzene-d5	*53 %*		*30-130*
Surrogate: Phenol-d6	*55 %*		*30-130*
Surrogate: p-Terphenyl-d14	*71 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC1 T 0-0.5ft
Date Sampled: 08/06/13 11:20
Percent Solids: 75
Initial Volume: 15
Final Volume: 0.5
Extraction Method: 3541

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/9/13 10:30

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	**0.064** (0.055)		8270D		5	08/11/13 20:28	CWH0139	CH30903
Acenaphthene	ND (0.055)		8270D		5	08/11/13 20:28	CWH0139	CH30903
Acenaphthylene	**0.192** (0.055)		8270D		5	08/11/13 20:28	CWH0139	CH30903
Anthracene	**0.190** (0.055)		8270D		5	08/11/13 20:28	CWH0139	CH30903
Benzo(a)anthracene	**0.462** (0.055)		8270D		5	08/11/13 20:28	CWH0139	CH30903
Benzo(a)pyrene	**0.597** (0.055)		8270D		5	08/11/13 20:28	CWH0139	CH30903
Benzo(b)fluoranthene	**0.746** (0.055)		8270D		5	08/11/13 20:28	CWH0139	CH30903
Benzo(g,h,i)perylene	**0.350** (0.055)		8270D		5	08/11/13 20:28	CWH0139	CH30903
Benzo(k)fluoranthene	**0.208** (0.055)		8270D		5	08/11/13 20:28	CWH0139	CH30903
Chrysene	**0.533** (0.055)		8270D		5	08/11/13 20:28	CWH0139	CH30903
Dibenzo(a,h)Anthracene	**0.104** (0.055)		8270D		5	08/11/13 20:28	CWH0139	CH30903
Fluoranthene	**0.690** (0.055)		8270D		5	08/11/13 20:28	CWH0139	CH30903
Fluorene	**0.060** (0.055)		8270D		5	08/11/13 20:28	CWH0139	CH30903
Indeno(1,2,3-cd)Pyrene	**0.385** (0.055)		8270D		5	08/11/13 20:28	CWH0139	CH30903
Naphthalene	**0.124** (0.055)		8270D		5	08/11/13 20:28	CWH0139	CH30903
Phenanthrene	**0.352** (0.055)		8270D		5	08/11/13 20:28	CWH0139	CH30903
Pyrene	**0.916** (0.055)		8270D		5	08/11/13 20:28	CWH0139	CH30903

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*60 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*64 %*		*30-130*
Surrogate: Nitrobenzene-d5	*71 %*		*30-130*
Surrogate: p-Terphenyl-d14	*92 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC1 T 0-0.5ft
Date Sampled: 08/06/13 11:20
Percent Solids: 75

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-07
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**71800** (1700)		TOC-LK		1	SUB	08/14/13 16:55	mg/kg	CH32011

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC1 T 0-0.5ft
Date Sampled: 08/06/13 11:20
Percent Solids: 75
Initial Volume: 15.1
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-07
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 8/9/13 15:00

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	ND (33.0)		MADEP-EPH		1	SEP	08/11/13 7:39	CWH0134	CH30919
C19-C36 Aliphatics1	**194** (33.0)		MADEP-EPH		1	SEP	08/11/13 7:39	CWH0134	CH30919
C11-C22 Unadjusted Aromatics1	**152** (33.0)		EPH8270		1	VSC	08/12/13 19:32	CWH0145	CH30919
C11-C22 Aromatics1,2	**146** (33.0)		EPH8270			VSC	08/12/13 19:32		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*75 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*107 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*103 %*		*40-140*
Surrogate: O-Terphenyl	*87 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC1 2-4ft
Date Sampled: 08/05/13 13:30
Percent Solids: 58

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-08
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.7)		6020A		50	SVD	08/12/13 16:49	5.12	100	CH30856
Arsenic	**3.4** (1.7)		6010B		1	JP	08/10/13 1:11	5.12	100	CH30856
Barium	**20.5** (1.7)		6010B		1	JP	08/10/13 1:11	5.12	100	CH30856
Beryllium	**0.48** (0.07)		6010B		1	JP	08/10/13 1:11	5.12	100	CH30856
Cadmium	**0.46** (0.34)		6010B		1	JP	08/10/13 1:11	5.12	100	CH30856
Chromium	**19.9** (0.7)		6010B		1	JP	08/10/13 1:11	5.12	100	CH30856
Lead	ND (3.4)		6010B		1	JP	08/10/13 1:11	5.12	100	CH30856
Mercury	ND (0.032)		7471B		1	JP	08/12/13 19:39	1.06	40	CH30931
Nickel	**11.2** (1.7)		6010B		1	JP	08/10/13 1:11	5.12	100	CH30856
Selenium	ND (1.69)		6020A		50	SVD	08/12/13 16:49	5.12	100	CH30856
Silver	ND (0.34)		6010B		1	JP	08/10/13 1:11	5.12	100	CH30856
Thallium	ND (1.69)		6020A		50	SVD	08/12/13 16:49	5.12	100	CH30856
Vanadium	**25.6** (0.7)		6010B		1	JP	08/10/13 1:11	5.12	100	CH30856
Zinc	**32.6** (1.7)		6010B		1	JP	08/10/13 1:11	5.12	100	CH30856

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC1 2-4ft
Date Sampled: 08/05/13 13:30
Percent Solids: 58
Initial Volume: 19.4
Final Volume: 5
Extraction Method: 3540

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-08
Sample Matrix: Soil
Units: mg/kg dry
Analyst: ML
Prepared: 8/9/13 16:45
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0445)		8082A		1	08/12/13 12:48		CH30839
Aroclor 1221	ND (0.0445)		8082A		1	08/12/13 12:48		CH30839
Aroclor 1232	ND (0.0445)		8082A		1	08/12/13 12:48		CH30839
Aroclor 1242	ND (0.0445)		8082A		1	08/12/13 12:48		CH30839
Aroclor 1248	ND (0.0445)		8082A		1	08/12/13 12:48		CH30839
Aroclor 1254	ND (0.0445)		8082A		1	08/12/13 12:48		CH30839
Aroclor 1260	ND (0.0445)		8082A		1	08/12/13 12:48		CH30839
Aroclor 1262	ND (0.0445)		8082A		1	08/12/13 12:48		CH30839
Aroclor 1268	ND (0.0445)		8082A		1	08/12/13 12:48		CH30839

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*94 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*77 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*85 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*87 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC1 2-4ft
Date Sampled: 08/05/13 13:30
Percent Solids: 58
Initial Volume: 15.2
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-08
Sample Matrix: Soil
Units: mg/kg dry
Analyst: SEP
Prepared: 8/9/13 19:05

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.567)		8270D		1	08/11/13 15:15	CWH0140	CH30921
1,2-Dichlorobenzene	ND (0.567)		8270D		1	08/11/13 15:15	CWH0140	CH30921
1,3-Dichlorobenzene	ND (0.567)		8270D		1	08/11/13 15:15	CWH0140	CH30921
1,4-Dichlorobenzene	ND (0.567)		8270D		1	08/11/13 15:15	CWH0140	CH30921
2-Methylnaphthalene	ND (0.567)		8270D		1	08/11/13 15:15	CWH0140	CH30921
2-Methylphenol	ND (0.567)		8270D		1	08/11/13 15:15	CWH0140	CH30921
Acenaphthene	ND (0.567)		8270D		1	08/11/13 15:15	CWH0140	CH30921
Acenaphthylene	ND (0.567)		8270D		1	08/11/13 15:15	CWH0140	CH30921
Anthracene	ND (0.567)		8270D		1	08/11/13 15:15	CWH0140	CH30921
Benzo(a)anthracene	ND (0.567)		8270D		1	08/11/13 15:15	CWH0140	CH30921
Benzo(a)pyrene	ND (0.284)		8270D		1	08/11/13 15:15	CWH0140	CH30921
Benzo(b)fluoranthene	ND (0.567)		8270D		1	08/11/13 15:15	CWH0140	CH30921
Benzo(g,h,i)perylene	ND (0.567)		8270D		1	08/11/13 15:15	CWH0140	CH30921
Benzo(k)fluoranthene	ND (0.567)		8270D		1	08/11/13 15:15	CWH0140	CH30921
bis(2-Ethylhexyl)phthalate	ND (0.567)		8270D		1	08/11/13 15:15	CWH0140	CH30921
Butylbenzylphthalate	ND (0.567)		8270D		1	08/11/13 15:15	CWH0140	CH30921
Carbazole	ND (0.567)		8270D		1	08/11/13 15:15	CWH0140	CH30921
Chrysene	ND (0.284)		8270D		1	08/11/13 15:15	CWH0140	CH30921
Dibenzo(a,h)Anthracene	ND (0.284)		8270D		1	08/11/13 15:15	CWH0140	CH30921
Dibenzofuran	ND (0.567)		8270D		1	08/11/13 15:15	CWH0140	CH30921
Diethylphthalate	ND (0.567)		8270D		1	08/11/13 15:15	CWH0140	CH30921
Dimethylphthalate	ND (0.567)		8270D		1	08/11/13 15:15	CWH0140	CH30921
Di-n-butylphthalate	ND (0.567)		8270D		1	08/11/13 15:15	CWH0140	CH30921
Di-n-octylphthalate	ND (0.567)		8270D		1	08/11/13 15:15	CWH0140	CH30921
Fluoranthene	ND (0.567)		8270D		1	08/11/13 15:15	CWH0140	CH30921
Fluorene	ND (0.567)		8270D		1	08/11/13 15:15	CWH0140	CH30921
Hexachlorobenzene	ND (0.567)		8270D		1	08/11/13 15:15	CWH0140	CH30921
Hexachlorocyclopentadiene	ND (2.84)		8270D		1	08/11/13 15:15	CWH0140	CH30921
Indeno(1,2,3-cd)Pyrene	ND (0.567)		8270D		1	08/11/13 15:15	CWH0140	CH30921
Naphthalene	ND (0.567)		8270D		1	08/11/13 15:15	CWH0140	CH30921
Phenanthrene	ND (0.567)		8270D		1	08/11/13 15:15	CWH0140	CH30921

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC1 2-4ft
Date Sampled: 08/05/13 13:30
Percent Solids: 58
Initial Volume: 15.2
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-08
Sample Matrix: Soil
Units: mg/kg dry
Analyst: SEP
Prepared: 8/9/13 19:05

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Phenol	ND (0.567)		8270D		1	08/11/13 15:15	CWH0140	CH30921
Pyrene	ND (0.567)		8270D		1	08/11/13 15:15	CWH0140	CH30921

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*57 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*41 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*62 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*62 %*		*30-130*
Surrogate: 2-Fluorophenol	*57 %*		*30-130*
Surrogate: Nitrobenzene-d5	*62 %*		*30-130*
Surrogate: Phenol-d6	*63 %*		*30-130*
Surrogate: p-Terphenyl-d14	*81 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC1 2-4ft
Date Sampled: 08/05/13 13:30
Percent Solids: 58
Initial Volume: 14.7
Final Volume: 0.5
Extraction Method: 3541

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-08
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/9/13 10:30

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.015)		8270D		1	08/11/13 3:03	CWH0138	CH30903
Acenaphthene	ND (0.015)		8270D		1	08/11/13 3:03	CWH0138	CH30903
Acenaphthylene	ND (0.015)		8270D		1	08/11/13 3:03	CWH0138	CH30903
Anthracene	ND (0.015)		8270D		1	08/11/13 3:03	CWH0138	CH30903
Benzo(a)anthracene	ND (0.015)		8270D		1	08/11/13 3:03	CWH0138	CH30903
Benzo(a)pyrene	ND (0.015)		8270D		1	08/11/13 3:03	CWH0138	CH30903
Benzo(b)fluoranthene	ND (0.015)		8270D		1	08/11/13 3:03	CWH0138	CH30903
Benzo(g,h,i)perylene	ND (0.015)		8270D		1	08/11/13 3:03	CWH0138	CH30903
Benzo(k)fluoranthene	ND (0.015)		8270D		1	08/11/13 3:03	CWH0138	CH30903
Chrysene	ND (0.015)		8270D		1	08/11/13 3:03	CWH0138	CH30903
Dibenzo(a,h)Anthracene	ND (0.015)		8270D		1	08/11/13 3:03	CWH0138	CH30903
Fluoranthene	ND (0.015)		8270D		1	08/11/13 3:03	CWH0138	CH30903
Fluorene	ND (0.015)		8270D		1	08/11/13 3:03	CWH0138	CH30903
Indeno(1,2,3-cd)Pyrene	ND (0.015)		8270D		1	08/11/13 3:03	CWH0138	CH30903
Naphthalene	ND (0.015)		8270D		1	08/11/13 3:03	CWH0138	CH30903
Phenanthrene	ND (0.015)		8270D		1	08/11/13 3:03	CWH0138	CH30903
Pyrene	ND (0.015)		8270D		1	08/11/13 3:03	CWH0138	CH30903

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*43 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*51 %*		*30-130*
Surrogate: Nitrobenzene-d5	*49 %*		*30-130*
Surrogate: p-Terphenyl-d14	*99 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC1 2-4ft
Date Sampled: 08/05/13 13:30
Percent Solids: 58
Initial Volume: 15.2
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-08
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 8/9/13 15:00

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	ND (42.6)		MADEP-EPH		1	SEP	08/11/13 8:30	CWH0134	CH30919
C19-C36 Aliphatics1	ND (42.6)		MADEP-EPH		1	SEP	08/11/13 8:30	CWH0134	CH30919
C11-C22 Unadjusted Aromatics1	ND (42.6)		EPH8270		1	SEP	08/11/13 6:33	CWH0135	CH30919
C11-C22 Aromatics1,2	ND (42.6)		EPH8270			SEP	08/11/13 6:33		[CALC]

	%Recovery	*Qualifier*	*Limits*
Surrogate: 1-Chlorooctadecane	*81 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*101 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*97 %*		*40-140*
Surrogate: O-Terphenyl	*77 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC2 T 0-0.5ft
Date Sampled: 08/06/13 11:26
Percent Solids: 26

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-09
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (3.8)		6020A		50	SVD	08/12/13 16:55	5.07	100	CH30856
Arsenic	**7.1** (3.8)		6010B		1	JP	08/10/13 1:17	5.07	100	CH30856
Barium	**54.4** (3.8)		6010B		1	JP	08/10/13 1:17	5.07	100	CH30856
Beryllium	**0.43** (0.16)		6010B		1	JP	08/10/13 1:17	5.07	100	CH30856
Cadmium	**2.11** (0.77)		6010B		1	JP	08/10/13 1:17	5.07	100	CH30856
Chromium	**62.2** (1.5)		6010B		1	JP	08/10/13 1:17	5.07	100	CH30856
Lead	**217** (7.6)		6010B		1	JP	08/10/13 1:17	5.07	100	CH30856
Mercury	**0.895** (0.280)		7471B		5	JP	08/12/13 19:41	1.37	40	CH30931
Nickel	**19.3** (3.8)		6010B		1	JP	08/10/13 1:17	5.07	100	CH30856
Selenium	ND (3.84)		6020A		50	SVD	08/12/13 16:55	5.07	100	CH30856
Silver	**1.96** (0.77)		6010B		1	JP	08/10/13 1:17	5.07	100	CH30856
Thallium	ND (3.84)		6020A		50	SVD	08/12/13 16:55	5.07	100	CH30856
Vanadium	**126** (1.5)		6010B		1	JP	08/10/13 1:17	5.07	100	CH30856
Zinc	**276** (3.8)		6010B		1	JP	08/10/13 1:17	5.07	100	CH30856

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC2 T 0-0.5ft
Date Sampled: 08/06/13 11:26
Percent Solids: 26
Initial Volume: 19.3
Final Volume: 5
Extraction Method: 3540

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-09
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 8/9/13 16:45
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (5.02)		8082A		50	08/14/13 12:13		CH30839
Aroclor 1221	ND (5.02)		8082A		50	08/14/13 12:13		CH30839
Aroclor 1232	ND (5.02)		8082A		50	08/14/13 12:13		CH30839
Aroclor 1242	ND (5.02)		8082A		50	08/14/13 12:13		CH30839
Aroclor 1248	**11.9** (5.02)		8082A		50	08/14/13 12:13		CH30839
Aroclor 1254	**28.2** (5.02)		8082A		50	08/14/13 12:13		CH30839
Aroclor 1260	ND (5.02)		8082A		50	08/14/13 12:13		CH30839
Aroclor 1262	ND (5.02)		8082A		50	08/14/13 12:13		CH30839
Aroclor 1268	ND (5.02)		8082A		50	08/14/13 12:13		CH30839

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC2 T 0-0.5ft
Date Sampled: 08/06/13 11:26
Percent Solids: 26
Initial Volume: 15.1
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-09
Sample Matrix: Soil
Units: mg/kg dry
Analyst: SEP
Prepared: 8/9/13 19:05

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (1.28)		8270D		1	08/11/13 16:55	CWH0140	CH30921
1,2-Dichlorobenzene	ND (1.28)		8270D		1	08/11/13 16:55	CWH0140	CH30921
1,3-Dichlorobenzene	ND (1.28)		8270D		1	08/11/13 16:55	CWH0140	CH30921
1,4-Dichlorobenzene	ND (1.28)		8270D		1	08/11/13 16:55	CWH0140	CH30921
2-Methylnaphthalene	ND (1.28)		8270D		1	08/11/13 16:55	CWH0140	CH30921
2-Methylphenol	ND (1.28)		8270D		1	08/11/13 16:55	CWH0140	CH30921
Acenaphthene	ND (1.28)		8270D		1	08/11/13 16:55	CWH0140	CH30921
Acenaphthylene	ND (1.28)		8270D		1	08/11/13 16:55	CWH0140	CH30921
Anthracene	ND (1.28)		8270D		1	08/11/13 16:55	CWH0140	CH30921
Benzo(a)anthracene	ND (1.28)		8270D		1	08/11/13 16:55	CWH0140	CH30921
Benzo(a)pyrene	ND (0.643)		8270D		1	08/11/13 16:55	CWH0140	CH30921
Benzo(b)fluoranthene	ND (1.28)		8270D		1	08/11/13 16:55	CWH0140	CH30921
Benzo(g,h,i)perylene	ND (1.28)		8270D		1	08/11/13 16:55	CWH0140	CH30921
Benzo(k)fluoranthene	ND (1.28)		8270D		1	08/11/13 16:55	CWH0140	CH30921
bis(2-Ethylhexyl)phthalate	**1570** (128)		8270D		100	08/12/13 14:57	CWH0140	CH30921
Butylbenzylphthalate	ND (1.28)		8270D		1	08/11/13 16:55	CWH0140	CH30921
Carbazole	ND (1.28)		8270D		1	08/11/13 16:55	CWH0140	CH30921
Chrysene	ND (0.643)		8270D		1	08/11/13 16:55	CWH0140	CH30921
Dibenzo(a,h)Anthracene	ND (0.643)		8270D		1	08/11/13 16:55	CWH0140	CH30921
Dibenzofuran	ND (1.28)		8270D		1	08/11/13 16:55	CWH0140	CH30921
Diethylphthalate	ND (1.28)		8270D		1	08/11/13 16:55	CWH0140	CH30921
Dimethylphthalate	ND (1.28)		8270D		1	08/11/13 16:55	CWH0140	CH30921
Di-n-butylphthalate	ND (1.28)		8270D		1	08/11/13 16:55	CWH0140	CH30921
Di-n-octylphthalate	**234** (128)		8270D		100	08/12/13 14:57	CWH0140	CH30921
Fluoranthene	**1.62** (1.28)		8270D		1	08/11/13 16:55	CWH0140	CH30921
Fluorene	ND (1.28)		8270D		1	08/11/13 16:55	CWH0140	CH30921
Hexachlorobenzene	ND (1.28)		8270D		1	08/11/13 16:55	CWH0140	CH30921
Hexachlorocyclopentadiene	ND (6.43)		8270D		1	08/11/13 16:55	CWH0140	CH30921
Indeno(1,2,3-cd)Pyrene	ND (1.28)		8270D		1	08/11/13 16:55	CWH0140	CH30921
Naphthalene	ND (1.28)		8270D		1	08/11/13 16:55	CWH0140	CH30921
Phenanthrene	ND (1.28)		8270D		1	08/11/13 16:55	CWH0140	CH30921

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC2 T 0-0.5ft
Date Sampled: 08/06/13 11:26
Percent Solids: 26
Initial Volume: 15.1
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-09
Sample Matrix: Soil
Units: mg/kg dry
Analyst: SEP
Prepared: 8/9/13 19:05

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Phenol	ND (1.28)		8270D		1	08/11/13 16:55	CWH0140	CH30921
Pyrene	ND (1.28)		8270D		1	08/11/13 16:55	CWH0140	CH30921

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*59 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*55 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*57 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*65 %*		*30-130*
Surrogate: 2-Fluorophenol	*51 %*		*30-130*
Surrogate: Nitrobenzene-d5	*67 %*		*30-130*
Surrogate: Phenol-d6	*62 %*		*30-130*
Surrogate: p-Terphenyl-d14	*63 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC2 T 0-0.5ft
Date Sampled: 08/06/13 11:26
Percent Solids: 26
Initial Volume: 15.3
Final Volume: 0.5
Extraction Method: 3541

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-09
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/9/13 10:30

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.158)		8270D		5	08/11/13 14:40	CWH0139	CH30903
Acenaphthene	ND (0.158)		8270D		5	08/11/13 14:40	CWH0139	CH30903
Acenaphthylene	ND (0.158)		8270D		5	08/11/13 14:40	CWH0139	CH30903
Anthracene	ND (0.158)		8270D		5	08/11/13 14:40	CWH0139	CH30903
Benzo(a)anthracene	ND (0.158)		8270D		5	08/11/13 14:40	CWH0139	CH30903
Benzo(a)pyrene	**0.190** (0.158)		8270D		5	08/11/13 14:40	CWH0139	CH30903
Benzo(b)fluoranthene	**0.456** (0.158)		8270D		5	08/11/13 14:40	CWH0139	CH30903
Benzo(g,h,i)perylene	**0.310** (0.158)		8270D		5	08/11/13 14:40	CWH0139	CH30903
Benzo(k)fluoranthene	**0.177** (0.158)		8270D		5	08/11/13 14:40	CWH0139	CH30903
Chrysene	**0.272** (0.158)		8270D		5	08/11/13 14:40	CWH0139	CH30903
Dibenzo(a,h)Anthracene	ND (0.158)		8270D		5	08/11/13 14:40	CWH0139	CH30903
Fluoranthene	**0.317** (0.158)		8270D		5	08/11/13 14:40	CWH0139	CH30903
Fluorene	ND (0.158)		8270D		5	08/11/13 14:40	CWH0139	CH30903
Indeno(1,2,3-cd)Pyrene	**0.323** (0.158)		8270D		5	08/11/13 14:40	CWH0139	CH30903
Naphthalene	ND (0.158)		8270D		5	08/11/13 14:40	CWH0139	CH30903
Phenanthrene	ND (0.158)		8270D		5	08/11/13 14:40	CWH0139	CH30903
Pyrene	**0.367** (0.158)		8270D		5	08/11/13 14:40	CWH0139	CH30903

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*52 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*57 %*		*30-130*
Surrogate: Nitrobenzene-d5	*116 %*		*30-130*
Surrogate: p-Terphenyl-d14	*84 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC2 T 0-0.5ft
Date Sampled: 08/06/13 11:26
Percent Solids: 26

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-09
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**58500** (3430)		TOC-LK		1	SUB	08/14/13 17:02	mg/kg	CH32011

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC2 T 0-0.5ft
Date Sampled: 08/06/13 11:26
Percent Solids: 26
Initial Volume: 15.3
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-09
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 8/9/13 15:00

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	**2320** (475)		MADEP-EPH		5	SEP	08/11/13 14:23	CWH0134	CH30919
C19-C36 Aliphatics1	**573** (475)		MADEP-EPH		5	SEP	08/11/13 14:23	CWH0134	CH30919
C11-C22 Unadjusted Aromatics1	**8040** (950)		EPH8270		10	VSC	08/14/13 0:02	CWH0181	CH30919
C11-C22 Aromatics1,2	**8040** (950)		EPH8270			VSC	08/14/13 0:02		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*70 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*98 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*94 %*		*40-140*
Surrogate: O-Terphenyl	*401 %*	*SM*	*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC2 2-4ft
Date Sampled: 08/05/13 14:05
Percent Solids: 26

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-10
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (3.8)		6020A		50	SVD	08/12/13 17:01	5.02	100	CH30856
Arsenic	**13.0** (3.8)		6010B		1	JP	08/10/13 1:22	5.02	100	CH30856
Barium	**37.1** (3.8)		6010B		1	JP	08/10/13 1:22	5.02	100	CH30856
Beryllium	**0.28** (0.16)		6010B		1	JP	08/10/13 1:22	5.02	100	CH30856
Cadmium	**1.77** (0.77)		6010B		1	JP	08/10/13 1:22	5.02	100	CH30856
Chromium	**58.8** (1.5)		6010B		1	JP	08/10/13 1:22	5.02	100	CH30856
Lead	**177** (7.7)		6010B		1	JP	08/10/13 1:22	5.02	100	CH30856
Mercury	**0.748** (0.072)		7471B		1	JP	08/12/13 19:44	1.05	40	CH30931
Nickel	**17.7** (3.8)		6010B		1	JP	08/10/13 1:22	5.02	100	CH30856
Selenium	ND (3.84)		6020A		50	SVD	08/12/13 17:01	5.02	100	CH30856
Silver	**1.49** (0.77)		6010B		1	JP	08/10/13 1:22	5.02	100	CH30856
Thallium	ND (3.84)		6020A		50	SVD	08/12/13 17:01	5.02	100	CH30856
Vanadium	**128** (1.5)		6010B		1	JP	08/10/13 1:22	5.02	100	CH30856
Zinc	**231** (3.8)		6010B		1	JP	08/10/13 1:22	5.02	100	CH30856

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC2 2-4ft
Date Sampled: 08/05/13 14:05
Percent Solids: 26
Initial Volume: 19.7
Final Volume: 5
Extraction Method: 3540

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-10
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 8/9/13 16:45
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (4.87)		8082A		50	08/14/13 16:55		CH30839
Aroclor 1221	ND (4.87)		8082A		50	08/14/13 16:55		CH30839
Aroclor 1232	ND (4.87)		8082A		50	08/14/13 16:55		CH30839
Aroclor 1242	ND (4.87)		8082A		50	08/14/13 16:55		CH30839
Aroclor 1248	**43.5** (4.87)		8082A		50	08/14/13 16:55		CH30839
Aroclor 1254	**33.7** (4.87)		8082A		50	08/14/13 16:55		CH30839
Aroclor 1260	ND (4.87)		8082A		50	08/14/13 16:55		CH30839
Aroclor 1262	ND (4.87)		8082A		50	08/14/13 16:55		CH30839
Aroclor 1268	ND (4.87)		8082A		50	08/14/13 16:55		CH30839

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC2 2-4ft
Date Sampled: 08/05/13 14:05
Percent Solids: 26
Initial Volume: 15.1
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-10
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/9/13 19:05

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (12.7)		8270D		10	08/12/13 16:04	CWH0143	CH30921
1,2-Dichlorobenzene	ND (12.7)		8270D		10	08/12/13 16:04	CWH0143	CH30921
1,3-Dichlorobenzene	ND (12.7)		8270D		10	08/12/13 16:04	CWH0143	CH30921
1,4-Dichlorobenzene	ND (12.7)		8270D		10	08/12/13 16:04	CWH0143	CH30921
2-Methylnaphthalene	ND (12.7)		8270D		10	08/12/13 16:04	CWH0143	CH30921
2-Methylphenol	ND (12.7)		8270D		10	08/12/13 16:04	CWH0143	CH30921
Acenaphthene	ND (12.7)		8270D		10	08/12/13 16:04	CWH0143	CH30921
Acenaphthylene	ND (12.7)		8270D		10	08/12/13 16:04	CWH0143	CH30921
Anthracene	ND (12.7)		8270D		10	08/12/13 16:04	CWH0143	CH30921
Benzo(a)anthracene	ND (12.7)		8270D		10	08/12/13 16:04	CWH0143	CH30921
Benzo(a)pyrene	ND (6.37)		8270D		10	08/12/13 16:04	CWH0143	CH30921
Benzo(b)fluoranthene	ND (12.7)		8270D		10	08/12/13 16:04	CWH0143	CH30921
Benzo(g,h,i)perylene	ND (12.7)		8270D		10	08/12/13 16:04	CWH0143	CH30921
Benzo(k)fluoranthene	ND (12.7)		8270D		10	08/12/13 16:04	CWH0143	CH30921
bis(2-Ethylhexyl)phthalate	**6160** (1270)		8270D		1000	08/12/13 17:11	CWH0143	CH30921
Butylbenzylphthalate	**20.5** (12.7)		8270D		10	08/12/13 16:04	CWH0143	CH30921
Carbazole	ND (12.7)		8270D		10	08/12/13 16:04	CWH0143	CH30921
Chrysene	ND (6.37)		8270D		10	08/12/13 16:04	CWH0143	CH30921
Dibenzo(a,h)Anthracene	ND (6.37)		8270D		10	08/12/13 16:04	CWH0143	CH30921
Dibenzofuran	ND (12.7)		8270D		10	08/12/13 16:04	CWH0143	CH30921
Diethylphthalate	ND (12.7)		8270D		10	08/12/13 16:04	CWH0143	CH30921
Dimethylphthalate	ND (12.7)		8270D		10	08/12/13 16:04	CWH0143	CH30921
Di-n-butylphthalate	ND (12.7)		8270D		10	08/12/13 16:04	CWH0143	CH30921
Di-n-octylphthalate	**2730** (1270)		8270D		1000	08/12/13 17:11	CWH0143	CH30921
Fluoranthene	ND (12.7)		8270D		10	08/12/13 16:04	CWH0143	CH30921
Fluorene	ND (12.7)		8270D		10	08/12/13 16:04	CWH0143	CH30921
Hexachlorobenzene	ND (12.7)		8270D		10	08/12/13 16:04	CWH0143	CH30921
Hexachlorocyclopentadiene	ND (63.7)		8270D		10	08/12/13 16:04	CWH0143	CH30921
Indeno(1,2,3-cd)Pyrene	ND (12.7)		8270D		10	08/12/13 16:04	CWH0143	CH30921
Naphthalene	ND (12.7)		8270D		10	08/12/13 16:04	CWH0143	CH30921
Phenanthrene	ND (12.7)		8270D		10	08/12/13 16:04	CWH0143	CH30921

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC2 2-4ft
Date Sampled: 08/05/13 14:05
Percent Solids: 26
Initial Volume: 15.1
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-10
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/9/13 19:05

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Phenol	ND (12.7)		8270D		10	08/12/13 16:04	CWH0143	CH30921
Pyrene	ND (12.7)		8270D		10	08/12/13 16:04	CWH0143	CH30921

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*41 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*43 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*48 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*58 %*		*30-130*
Surrogate: 2-Fluorophenol	*46 %*		*30-130*
Surrogate: Nitrobenzene-d5	*69 %*		*30-130*
Surrogate: Phenol-d6	*50 %*		*30-130*
Surrogate: p-Terphenyl-d14	*60 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC2 2-4ft
Date Sampled: 08/05/13 14:05
Percent Solids: 26
Initial Volume: 15.4
Final Volume: 1
Extraction Method: 3541

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-10
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/9/13 10:30

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (1.25)		8270D		10	08/15/13 1:43	CWH0193	CH30903
Acenaphthene	ND (1.25)		8270D		10	08/15/13 1:43	CWH0193	CH30903
Acenaphthylene	ND (1.25)		8270D		10	08/15/13 1:43	CWH0193	CH30903
Anthracene	ND (1.25)		8270D		10	08/15/13 1:43	CWH0193	CH30903
Benzo(a)anthracene	ND (1.25)		8270D		10	08/15/13 1:43	CWH0193	CH30903
Benzo(a)pyrene	ND (1.25)		8270D		10	08/15/13 1:43	CWH0193	CH30903
Benzo(b)fluoranthene	ND (1.25)		8270D		10	08/15/13 1:43	CWH0193	CH30903
Benzo(g,h,i)perylene	ND (1.25)		8270D		10	08/15/13 1:43	CWH0193	CH30903
Benzo(k)fluoranthene	ND (1.25)		8270D		10	08/15/13 1:43	CWH0193	CH30903
Chrysene	ND (1.25)		8270D		10	08/15/13 1:43	CWH0193	CH30903
Dibenzo(a,h)Anthracene	ND (1.25)		8270D		10	08/15/13 1:43	CWH0193	CH30903
Fluoranthene	ND (1.25)		8270D		10	08/15/13 1:43	CWH0193	CH30903
Fluorene	ND (1.25)		8270D		10	08/15/13 1:43	CWH0193	CH30903
Indeno(1,2,3-cd)Pyrene	ND (1.25)		8270D		10	08/15/13 1:43	CWH0193	CH30903
Naphthalene	ND (1.25)		8270D		10	08/15/13 1:43	CWH0193	CH30903
Phenanthrene	ND (1.25)		8270D		10	08/15/13 1:43	CWH0193	CH30903
Pyrene	ND (1.25)		8270D		10	08/15/13 1:43	CWH0193	CH30903

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*126 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*110 %*		*30-130*
Surrogate: Nitrobenzene-d5	*370 %*	*SM*	*30-130*
Surrogate: p-Terphenyl-d14	*148 %*	*SM*	*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC2 2-4ft
Date Sampled: 08/05/13 14:05
Percent Solids: 26
Initial Volume: 15.3
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-10
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 8/12/13 16:50

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	**1830** (94.1)		MADEP-EPH		1	VSC	08/14/13 0:13	CWH0163	CH31208
C19-C36 Aliphatics1	**320** (94.1)		MADEP-EPH		1	VSC	08/14/13 0:13	CWH0163	CH31208
C11-C22 Unadjusted Aromatics1	**13000** (941)		EPH8270		10	VSC	08/14/13 15:11	CWH0181	CH31208
C11-C22 Aromatics1,2	**13000** (941)		EPH8270			VSC	08/14/13 15:11		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*70 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*76 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*76 %*		*40-140*
Surrogate: O-Terphenyl	*227 %*	*SM*	*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC3 T 0-0.5ft
Date Sampled: 08/06/13 11:36
Percent Solids: 53

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-11
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	**2.5** (1.8)		6020A		50	SVD	08/12/13 17:31	5.13	100	CH30856
Arsenic	**80.9** (9.2)		6010B		5	JP	08/10/13 18:51	5.13	100	CH30856
Barium	**81.7** (9.2)		6010B		5	JP	08/10/13 18:51	5.13	100	CH30856
Beryllium	ND (0.38)		6010B		5	JP	08/10/13 18:51	5.13	100	CH30856
Cadmium	ND (1.84)		6010B		5	JP	08/10/13 18:51	5.13	100	CH30856
Chromium	**45.2** (3.7)		6010B		5	JP	08/10/13 18:51	5.13	100	CH30856
Lead	**211** (18.3)		6010B		5	JP	08/10/13 18:51	5.13	100	CH30856
Mercury	**0.480** (0.165)		7471B		5	JP	08/12/13 19:58	1.13	40	CH30931
Nickel	**17.2** (9.2)		6010B		5	JP	08/10/13 18:51	5.13	100	CH30856
Selenium	**2.38** (1.84)		6020A		50	SVD	08/12/13 17:31	5.13	100	CH30856
Silver	**5.23** (1.84)		6010B		5	JP	08/10/13 18:51	5.13	100	CH30856
Thallium	ND (1.84)		6020A		50	SVD	08/12/13 17:31	5.13	100	CH30856
Vanadium	**68.6** (3.7)		6010B		5	JP	08/10/13 18:51	5.13	100	CH30856
Zinc	**596** (9.2)		6010B		5	JP	08/10/13 18:51	5.13	100	CH30856

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC3 T 0-0.5ft
Date Sampled: 08/06/13 11:36
Percent Solids: 53
Initial Volume: 19.5
Final Volume: 5
Extraction Method: 3540

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-11
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 8/9/13 16:45
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0482)		8082A		1	08/14/13 12:32		CH30839
Aroclor 1221	ND (0.0482)		8082A		1	08/14/13 12:32		CH30839
Aroclor 1232	ND (0.0482)		8082A		1	08/14/13 12:32		CH30839
Aroclor 1242	ND (0.0482)		8082A		1	08/14/13 12:32		CH30839
Aroclor 1248	**0.699** (0.0482)		8082A		1	08/14/13 12:32		CH30839
Aroclor 1254	**0.622** (0.0482)		8082A		1	08/14/13 12:32		CH30839
Aroclor 1260	**0.232** (0.0482)		8082A		1	08/14/13 12:32		CH30839
Aroclor 1262	ND (0.0482)		8082A		1	08/14/13 12:32		CH30839
Aroclor 1268	ND (0.0482)		8082A		1	08/14/13 12:32		CH30839

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*114 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*108 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*86 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*81 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC3 T 0-0.5ft
Date Sampled: 08/06/13 11:36
Percent Solids: 53
Initial Volume: 15.2
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-11
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/9/13 19:05

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.618)		8270D		1	08/12/13 14:54	CWH0147	CH30921
1,2-Dichlorobenzene	ND (0.618)		8270D		1	08/12/13 14:54	CWH0147	CH30921
1,3-Dichlorobenzene	ND (0.618)		8270D		1	08/12/13 14:54	CWH0147	CH30921
1,4-Dichlorobenzene	ND (0.618)		8270D		1	08/12/13 14:54	CWH0147	CH30921
2-Methylnaphthalene	ND (0.618)		8270D		1	08/12/13 14:54	CWH0147	CH30921
2-Methylphenol	ND (0.618)		8270D		1	08/12/13 14:54	CWH0147	CH30921
Acenaphthene	ND (0.618)		8270D		1	08/12/13 14:54	CWH0147	CH30921
Acenaphthylene	ND (0.618)		8270D		1	08/12/13 14:54	CWH0147	CH30921
Anthracene	ND (0.618)		8270D		1	08/12/13 14:54	CWH0147	CH30921
Benzo(a)anthracene	**1.14** (0.618)		8270D		1	08/12/13 14:54	CWH0147	CH30921
Benzo(a)pyrene	**1.22** (0.310)		8270D		1	08/12/13 14:54	CWH0147	CH30921
Benzo(b)fluoranthene	**1.66** (0.618)		8270D		1	08/12/13 14:54	CWH0147	CH30921
Benzo(g,h,i)perylene	ND (0.618)		8270D		1	08/12/13 14:54	CWH0147	CH30921
Benzo(k)fluoranthene	**0.791** (0.618)		8270D		1	08/12/13 14:54	CWH0147	CH30921
bis(2-Ethylhexyl)phthalate	**13.7** (0.618)		8270D		1	08/12/13 14:54	CWH0147	CH30921
Butylbenzylphthalate	ND (0.618)		8270D		1	08/12/13 14:54	CWH0147	CH30921
Carbazole	ND (0.618)		8270D		1	08/12/13 14:54	CWH0147	CH30921
Chrysene	**1.34** (0.310)		8270D		1	08/12/13 14:54	CWH0147	CH30921
Dibenzo(a,h)Anthracene	ND (0.310)		8270D		1	08/12/13 14:54	CWH0147	CH30921
Dibenzofuran	**0.693** (0.618)		8270D		1	08/12/13 14:54	CWH0147	CH30921
Diethylphthalate	ND (0.618)		8270D		1	08/12/13 14:54	CWH0147	CH30921
Dimethylphthalate	ND (0.618)		8270D		1	08/12/13 14:54	CWH0147	CH30921
Di-n-butylphthalate	ND (0.618)		8270D		1	08/12/13 14:54	CWH0147	CH30921
Di-n-octylphthalate	**1.06** (0.618)		8270D		1	08/12/13 14:54	CWH0147	CH30921
Fluoranthene	**2.61** (0.618)		8270D		1	08/12/13 14:54	CWH0147	CH30921
Fluorene	ND (0.618)		8270D		1	08/12/13 14:54	CWH0147	CH30921
Hexachlorobenzene	ND (0.618)		8270D		1	08/12/13 14:54	CWH0147	CH30921
Hexachlorocyclopentadiene	ND (3.10)		8270D		1	08/12/13 14:54	CWH0147	CH30921
Indeno(1,2,3-cd)Pyrene	ND (0.618)		8270D		1	08/12/13 14:54	CWH0147	CH30921
Naphthalene	**7.11** (0.618)		8270D		1	08/12/13 14:54	CWH0147	CH30921
Phenanthrene	**3.10** (0.618)		8270D		1	08/12/13 14:54	CWH0147	CH30921

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC3 T 0-0.5ft
Date Sampled: 08/06/13 11:36
Percent Solids: 53
Initial Volume: 15.2
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-11
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/9/13 19:05

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Phenol	ND (0.618)		8270D		1	08/12/13 14:54	CWH0147	CH30921
Pyrene	**2.01** (0.618)		8270D		1	08/12/13 14:54	CWH0147	CH30921

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*50 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*60 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*56 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*58 %*		*30-130*
Surrogate: 2-Fluorophenol	*52 %*		*30-130*
Surrogate: Nitrobenzene-d5	*58 %*		*30-130*
Surrogate: Phenol-d6	*60 %*		*30-130*
Surrogate: p-Terphenyl-d14	*63 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC3 T 0-0.5ft
Date Sampled: 08/06/13 11:36
Percent Solids: 53
Initial Volume: 15.4
Final Volume: 0.5
Extraction Method: 3541

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-11
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/9/13 10:30

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.076)		8270D		5	08/11/13 21:17	CWH0139	CH30903
Acenaphthene	ND (0.076)		8270D		5	08/11/13 21:17	CWH0139	CH30903
Acenaphthylene	**0.085** (0.076)		8270D		5	08/11/13 21:17	CWH0139	CH30903
Anthracene	**0.147** (0.076)		8270D		5	08/11/13 21:17	CWH0139	CH30903
Benzo(a)anthracene	**0.452** (0.076)		8270D		5	08/11/13 21:17	CWH0139	CH30903
Benzo(a)pyrene	**0.571** (0.076)		8270D		5	08/11/13 21:17	CWH0139	CH30903
Benzo(b)fluoranthene	**0.727** (0.076)		8270D		5	08/11/13 21:17	CWH0139	CH30903
Benzo(g,h,i)perylene	**0.360** (0.076)		8270D		5	08/11/13 21:17	CWH0139	CH30903
Benzo(k)fluoranthene	**0.287** (0.076)		8270D		5	08/11/13 21:17	CWH0139	CH30903
Chrysene	**0.513** (0.076)		8270D		5	08/11/13 21:17	CWH0139	CH30903
Dibenzo(a,h)Anthracene	**0.107** (0.076)		8270D		5	08/11/13 21:17	CWH0139	CH30903
Fluoranthene	**0.815** (0.076)		8270D		5	08/11/13 21:17	CWH0139	CH30903
Fluorene	ND (0.076)		8270D		5	08/11/13 21:17	CWH0139	CH30903
Indeno(1,2,3-cd)Pyrene	**0.415** (0.076)		8270D		5	08/11/13 21:17	CWH0139	CH30903
Naphthalene	**0.174** (0.076)		8270D		5	08/11/13 21:17	CWH0139	CH30903
Phenanthrene	**0.397** (0.076)		8270D		5	08/11/13 21:17	CWH0139	CH30903
Pyrene	**0.788** (0.076)		8270D		5	08/11/13 21:17	CWH0139	CH30903

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*38 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*54 %*		*30-130*
Surrogate: Nitrobenzene-d5	*46 %*		*30-130*
Surrogate: p-Terphenyl-d14	*82 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC3 T 0-0.5ft
Date Sampled: 08/06/13 11:36
Percent Solids: 53

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-11
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**24500** (1800)		TOC-LK		1	SUB	08/14/13 17:09	mg/kg	CH32011

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC3 T 0-0.5ft
Date Sampled: 08/06/13 11:36
Percent Solids: 53
Initial Volume: 15.6
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-11
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 8/9/13 15:00

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	**78.6** (45.2)		MADEP-EPH		1	ML	08/11/13 11:01	CWH0134	CH30919
C19-C36 Aliphatics1	**321** (45.2)		MADEP-EPH		1	ML	08/11/13 11:01	CWH0134	CH30919
C11-C22 Unadjusted Aromatics1	**360** (45.2)		EPH8270		1	VSC	08/12/13 22:39	CWH0145	CH30919
C11-C22 Aromatics1,2	**353** (45.2)		EPH8270			VSC	08/12/13 22:39		[CALC]

	%Recovery	*Qualifier*	*Limits*
Surrogate: 1-Chlorooctadecane	*77 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*115 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*111 %*		*40-140*
Surrogate: O-Terphenyl	*95 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC-3 0.5-2ft
Date Sampled: 08/05/13 14:15
Percent Solids: 64

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-12
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	**2.6** (1.5)		6020A		50	SVD	08/12/13 17:37	5.23	100	CH30856
Arsenic	**75.4** (7.4)		6010B		5	JP	08/10/13 18:56	5.23	100	CH30856
Barium	**73.6** (7.4)		6010B		5	JP	08/10/13 18:56	5.23	100	CH30856
Beryllium	ND (0.31)		6010B		5	JP	08/10/13 18:56	5.23	100	CH30856
Cadmium	**1.80** (1.49)		6010B		5	JP	08/10/13 18:56	5.23	100	CH30856
Chromium	**28.2** (3.0)		6010B		5	JP	08/10/13 18:56	5.23	100	CH30856
Lead	**163** (14.8)		6010B		5	JP	08/10/13 18:56	5.23	100	CH30856
Mercury	**0.274** (0.022)		7471B		1	JP	08/12/13 20:00	1.39	40	CH30931
Nickel	**13.8** (7.4)		6010B		5	JP	08/10/13 18:56	5.23	100	CH30856
Selenium	**2.19** (1.49)		6020A		50	SVD	08/12/13 17:37	5.23	100	CH30856
Silver	**5.58** (1.49)		6010B		5	JP	08/10/13 18:56	5.23	100	CH30856
Thallium	ND (1.49)		6020A		50	SVD	08/12/13 17:37	5.23	100	CH30856
Vanadium	**51.4** (3.0)		6010B		5	JP	08/10/13 18:56	5.23	100	CH30856
Zinc	**884** (7.4)		6010B		5	JP	08/10/13 18:56	5.23	100	CH30856

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC-3 0.5-2ft
Date Sampled: 08/05/13 14:15
Percent Solids: 64
Initial Volume: 19.5
Final Volume: 5
Extraction Method: 3540

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-12
Sample Matrix: Soil
Units: mg/kg dry
Analyst: ML
Prepared: 8/9/13 16:45
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0398)		8082A		1	08/15/13 10:41		CH30839
Aroclor 1221	ND (0.0398)		8082A		1	08/15/13 10:41		CH30839
Aroclor 1232	ND (0.0398)		8082A		1	08/15/13 10:41		CH30839
Aroclor 1242	ND (0.0398)		8082A		1	08/15/13 10:41		CH30839
Aroclor 1248	**0.629** (0.0398)		8082A		1	08/15/13 10:41		CH30839
Aroclor 1254	**0.791** (0.0398)		8082A		1	08/15/13 10:41		CH30839
Aroclor 1260	**P 0.237** (0.0398)		8082A		1	08/15/13 10:41		CH30839
Aroclor 1262	ND (0.0398)		8082A		1	08/15/13 10:41		CH30839
Aroclor 1268	ND (0.0398)		8082A		1	08/15/13 10:41		CH30839

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*98 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*93 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*76 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*70 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC-3 0.5-2ft
Date Sampled: 08/05/13 14:15
Percent Solids: 64
Initial Volume: 15.2
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-12
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/9/13 19:05

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.510)		8270D		1	08/12/13 13:47	CWH0147	CH30921
1,2-Dichlorobenzene	ND (0.510)		8270D		1	08/12/13 13:47	CWH0147	CH30921
1,3-Dichlorobenzene	ND (0.510)		8270D		1	08/12/13 13:47	CWH0147	CH30921
1,4-Dichlorobenzene	ND (0.510)		8270D		1	08/12/13 13:47	CWH0147	CH30921
2-Methylnaphthalene	ND (0.510)		8270D		1	08/12/13 13:47	CWH0147	CH30921
2-Methylphenol	ND (0.510)		8270D		1	08/12/13 13:47	CWH0147	CH30921
Acenaphthene	ND (0.510)		8270D		1	08/12/13 13:47	CWH0147	CH30921
Acenaphthylene	ND (0.510)		8270D		1	08/12/13 13:47	CWH0147	CH30921
Anthracene	ND (0.510)		8270D		1	08/12/13 13:47	CWH0147	CH30921
Benzo(a)anthracene	ND (0.510)		8270D		1	08/12/13 13:47	CWH0147	CH30921
Benzo(a)pyrene	**0.488** (0.256)		8270D		1	08/12/13 13:47	CWH0147	CH30921
Benzo(b)fluoranthene	**0.743** (0.510)		8270D		1	08/12/13 13:47	CWH0147	CH30921
Benzo(g,h,i)perylene	ND (0.510)		8270D		1	08/12/13 13:47	CWH0147	CH30921
Benzo(k)fluoranthene	ND (0.510)		8270D		1	08/12/13 13:47	CWH0147	CH30921
bis(2-Ethylhexyl)phthalate	**31.8** (5.10)		8270D		10	08/13/13 0:23	CWH0147	CH30921
Butylbenzylphthalate	ND (0.510)		8270D		1	08/12/13 13:47	CWH0147	CH30921
Carbazole	ND (0.510)		8270D		1	08/12/13 13:47	CWH0147	CH30921
Chrysene	**0.440** (0.256)		8270D		1	08/12/13 13:47	CWH0147	CH30921
Dibenzo(a,h)Anthracene	ND (0.256)		8270D		1	08/12/13 13:47	CWH0147	CH30921
Dibenzofuran	ND (0.510)		8270D		1	08/12/13 13:47	CWH0147	CH30921
Diethylphthalate	ND (0.510)		8270D		1	08/12/13 13:47	CWH0147	CH30921
Dimethylphthalate	ND (0.510)		8270D		1	08/12/13 13:47	CWH0147	CH30921
Di-n-butylphthalate	ND (0.510)		8270D		1	08/12/13 13:47	CWH0147	CH30921
Di-n-octylphthalate	**1.45** (0.510)		8270D		1	08/12/13 13:47	CWH0147	CH30921
Fluoranthene	**0.868** (0.510)		8270D		1	08/12/13 13:47	CWH0147	CH30921
Fluorene	ND (0.510)		8270D		1	08/12/13 13:47	CWH0147	CH30921
Hexachlorobenzene	ND (0.510)		8270D		1	08/12/13 13:47	CWH0147	CH30921
Hexachlorocyclopentadiene	ND (2.56)		8270D		1	08/12/13 13:47	CWH0147	CH30921
Indeno(1,2,3-cd)Pyrene	ND (0.510)		8270D		1	08/12/13 13:47	CWH0147	CH30921
Naphthalene	ND (0.510)		8270D		1	08/12/13 13:47	CWH0147	CH30921
Phenanthrene	ND (0.510)		8270D		1	08/12/13 13:47	CWH0147	CH30921

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC-3 0.5-2ft
Date Sampled: 08/05/13 14:15
Percent Solids: 64
Initial Volume: 15.2
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-12
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/9/13 19:05

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Phenol	ND (0.510)		8270D		1	08/12/13 13:47	CWH0147	CH30921
Pyrene	**0.884** (0.510)		8270D		1	08/12/13 13:47	CWH0147	CH30921

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*44 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*49 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*50 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*51 %*		*30-130*
Surrogate: 2-Fluorophenol	*47 %*		*30-130*
Surrogate: Nitrobenzene-d5	*48 %*		*30-130*
Surrogate: Phenol-d6	*54 %*		*30-130*
Surrogate: p-Terphenyl-d14	*66 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC-3 0.5-2ft
Date Sampled: 08/05/13 14:15
Percent Solids: 64
Initial Volume: 15.5
Final Volume: 0.5
Extraction Method: 3541

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-12
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/9/13 10:30

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.063)		8270D		5	08/13/13 7:54	CWH0159	CH30903
Acenaphthene	ND (0.063)		8270D		5	08/13/13 7:54	CWH0159	CH30903
Acenaphthylene	ND (0.063)		8270D		5	08/13/13 7:54	CWH0159	CH30903
Anthracene	**0.145** (0.063)		8270D		5	08/13/13 7:54	CWH0159	CH30903
Benzo(a)anthracene	**0.315** (0.063)		8270D		5	08/13/13 7:54	CWH0159	CH30903
Benzo(a)pyrene	**0.320** (0.063)		8270D		5	08/13/13 7:54	CWH0159	CH30903
Benzo(b)fluoranthene	**0.408** (0.063)		8270D		5	08/13/13 7:54	CWH0159	CH30903
Benzo(g,h,i)perylene	**0.210** (0.063)		8270D		5	08/13/13 7:54	CWH0159	CH30903
Benzo(k)fluoranthene	**0.115** (0.063)		8270D		5	08/13/13 7:54	CWH0159	CH30903
Chrysene	**0.313** (0.063)		8270D		5	08/13/13 7:54	CWH0159	CH30903
Dibenzo(a,h)Anthracene	ND (0.063)		8270D		5	08/13/13 7:54	CWH0159	CH30903
Fluoranthene	**0.633** (0.063)		8270D		5	08/13/13 7:54	CWH0159	CH30903
Fluorene	ND (0.063)		8270D		5	08/13/13 7:54	CWH0159	CH30903
Indeno(1,2,3-cd)Pyrene	**0.230** (0.063)		8270D		5	08/13/13 7:54	CWH0159	CH30903
Naphthalene	**0.070** (0.063)		8270D		5	08/13/13 7:54	CWH0159	CH30903
Phenanthrene	**0.438** (0.063)		8270D		5	08/13/13 7:54	CWH0159	CH30903
Pyrene	**0.541** (0.063)		8270D		5	08/13/13 7:54	CWH0159	CH30903

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*48 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*53 %*		*30-130*
Surrogate: Nitrobenzene-d5	*47 %*		*30-130*
Surrogate: p-Terphenyl-d14	*84 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC-3 0.5-2ft
Date Sampled: 08/05/13 14:15
Percent Solids: 64

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-12
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**18600** (1480)		TOC-LK		1	SUB	08/14/13 17:17	mg/kg	CH32011

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC-3 0.5-2ft
Date Sampled: 08/05/13 14:15
Percent Solids: 64
Initial Volume: 15.1
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-12
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 8/9/13 15:00

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	ND (38.5)		MADEP-EPH		1	ML	08/11/13 11:51	CWH0134	CH30919
C19-C36 Aliphatics1	**117** (38.5)		MADEP-EPH		1	ML	08/11/13 11:51	CWH0134	CH30919
C11-C22 Unadjusted Aromatics1	**147** (38.5)		EPH8270		1	VSC	08/12/13 21:05	CWH0145	CH30919
C11-C22 Aromatics1,2	**147** (38.5)		EPH8270			VSC	08/12/13 21:05		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*92 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*106 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*102 %*		*40-140*
Surrogate: O-Terphenyl	*86 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC-3 4-6ft
Date Sampled: 08/05/13 14:15
Percent Solids: 72

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-13
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.4)		6020A		50	SVD	08/12/13 17:55	5.12	100	CH30856
Arsenic	**31.1** (6.7)		6010B		5	JP	08/10/13 19:02	5.12	100	CH30856
Barium	**48.5** (6.7)		6010B		5	JP	08/10/13 19:02	5.12	100	CH30856
Beryllium	ND (0.28)		6010B		5	JP	08/10/13 19:02	5.12	100	CH30856
Cadmium	ND (1.35)		6010B		5	JP	08/10/13 19:02	5.12	100	CH30856
Chromium	**29.5** (2.7)		6010B		5	JP	08/10/13 19:02	5.12	100	CH30856
Lead	**117** (13.5)		6010B		5	JP	08/10/13 19:02	5.12	100	CH30856
Mercury	**0.159** (0.020)		7471B		1	JP	08/12/13 20:03	1.35	40	CH30931
Nickel	**11.5** (6.7)		6010B		5	JP	08/10/13 19:02	5.12	100	CH30856
Selenium	**2.18** (1.35)		6020A		50	SVD	08/12/13 17:55	5.12	100	CH30856
Silver	**3.75** (1.35)		6010B		5	JP	08/10/13 19:02	5.12	100	CH30856
Thallium	ND (1.35)		6020A		50	SVD	08/12/13 17:55	5.12	100	CH30856
Vanadium	**62.4** (2.7)		6010B		5	JP	08/10/13 19:02	5.12	100	CH30856
Zinc	**297** (6.7)		6010B		5	JP	08/10/13 19:02	5.12	100	CH30856

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC-3 4-6ft
Date Sampled: 08/05/13 14:15
Percent Solids: 72
Initial Volume: 19.4
Final Volume: 5
Extraction Method: 3540

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-13
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 8/9/13 16:45
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (1.78)		8082A		50	08/13/13 18:23		CH30839
Aroclor 1221	ND (1.78)		8082A		50	08/13/13 18:23		CH30839
Aroclor 1232	ND (1.78)		8082A		50	08/13/13 18:23		CH30839
Aroclor 1242	ND (1.78)		8082A		50	08/13/13 18:23		CH30839
Aroclor 1248	**9.44** (1.78)		8082A		50	08/13/13 18:23		CH30839
Aroclor 1254	**15.4** (1.78)		8082A		50	08/13/13 18:23		CH30839
Aroclor 1260	ND (1.78)		8082A		50	08/13/13 18:23		CH30839
Aroclor 1262	ND (1.78)		8082A		50	08/13/13 18:23		CH30839
Aroclor 1268	ND (1.78)		8082A		50	08/13/13 18:23		CH30839

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC-3 4-6ft
Date Sampled: 08/05/13 14:15
Percent Solids: 72
Initial Volume: 15.2
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-13
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/9/13 19:05

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (45.4)		8270D		100	08/12/13 18:18	CWH0143	CH30921
1,2-Dichlorobenzene	ND (45.4)		8270D		100	08/12/13 18:18	CWH0143	CH30921
1,3-Dichlorobenzene	ND (45.4)		8270D		100	08/12/13 18:18	CWH0143	CH30921
1,4-Dichlorobenzene	ND (45.4)		8270D		100	08/12/13 18:18	CWH0143	CH30921
2-Methylnaphthalene	ND (45.4)		8270D		100	08/12/13 18:18	CWH0143	CH30921
2-Methylphenol	ND (45.4)		8270D		100	08/12/13 18:18	CWH0143	CH30921
Acenaphthene	ND (45.4)		8270D		100	08/12/13 18:18	CWH0143	CH30921
Acenaphthylene	ND (45.4)		8270D		100	08/12/13 18:18	CWH0143	CH30921
Anthracene	ND (45.4)		8270D		100	08/12/13 18:18	CWH0143	CH30921
Benzo(a)anthracene	ND (45.4)		8270D		100	08/12/13 18:18	CWH0143	CH30921
Benzo(a)pyrene	ND (22.7)		8270D		100	08/12/13 18:18	CWH0143	CH30921
Benzo(b)fluoranthene	ND (45.4)		8270D		100	08/12/13 18:18	CWH0143	CH30921
Benzo(g,h,i)perylene	ND (45.4)		8270D		100	08/12/13 18:18	CWH0143	CH30921
Benzo(k)fluoranthene	ND (45.4)		8270D		100	08/12/13 18:18	CWH0143	CH30921
bis(2-Ethylhexyl)phthalate	**7320** (454)		8270D		1000	08/12/13 18:52	CWH0143	CH30921
Butylbenzylphthalate	ND (45.4)		8270D		100	08/12/13 18:18	CWH0143	CH30921
Carbazole	ND (45.4)		8270D		100	08/12/13 18:18	CWH0143	CH30921
Chrysene	ND (22.7)		8270D		100	08/12/13 18:18	CWH0143	CH30921
Dibenzo(a,h)Anthracene	ND (22.7)		8270D		100	08/12/13 18:18	CWH0143	CH30921
Dibenzofuran	ND (45.4)		8270D		100	08/12/13 18:18	CWH0143	CH30921
Diethylphthalate	ND (45.4)		8270D		100	08/12/13 18:18	CWH0143	CH30921
Dimethylphthalate	ND (45.4)		8270D		100	08/12/13 18:18	CWH0143	CH30921
Di-n-butylphthalate	ND (45.4)		8270D		100	08/12/13 18:18	CWH0143	CH30921
Di-n-octylphthalate	**1420** (454)		8270D		1000	08/12/13 18:52	CWH0143	CH30921
Fluoranthene	ND (45.4)		8270D		100	08/12/13 18:18	CWH0143	CH30921
Fluorene	ND (45.4)		8270D		100	08/12/13 18:18	CWH0143	CH30921
Hexachlorobenzene	ND (45.4)		8270D		100	08/12/13 18:18	CWH0143	CH30921
Hexachlorocyclopentadiene	ND (227)		8270D		100	08/12/13 18:18	CWH0143	CH30921
Indeno(1,2,3-cd)Pyrene	ND (45.4)		8270D		100	08/12/13 18:18	CWH0143	CH30921
Naphthalene	ND (45.4)		8270D		100	08/12/13 18:18	CWH0143	CH30921
Phenanthrene	ND (45.4)		8270D		100	08/12/13 18:18	CWH0143	CH30921

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC-3 4-6ft
Date Sampled: 08/05/13 14:15
Percent Solids: 72
Initial Volume: 15.2
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-13
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/9/13 19:05

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Phenol	ND (45.4)		8270D		100	08/12/13 18:18	CWH0143	CH30921
Pyrene	ND (45.4)		8270D		100	08/12/13 18:18	CWH0143	CH30921

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	%	SD	30-130
Surrogate: 2,4,6-Tribromophenol	%	SD	30-130
Surrogate: 2-Chlorophenol-d4	%	SD	30-130
Surrogate: 2-Fluorobiphenyl	%	SD	30-130
Surrogate: 2-Fluorophenol	%	SD	30-130
Surrogate: Nitrobenzene-d5	%	SD	30-130
Surrogate: Phenol-d6	%	SD	30-130
Surrogate: p-Terphenyl-d14	%	SD	30-130

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC-3 4-6ft
Date Sampled: 08/05/13 14:15
Percent Solids: 72
Initial Volume: 15.1
Final Volume: 1
Extraction Method: 3541

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-13
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/9/13 10:30

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.114)		8270D		5	08/14/13 11:39	CWH0174	CH30903
Acenaphthene	ND (0.114)		8270D		5	08/14/13 11:39	CWH0174	CH30903
Acenaphthylene	ND (0.114)		8270D		5	08/14/13 11:39	CWH0174	CH30903
Anthracene	ND (0.114)		8270D		5	08/14/13 11:39	CWH0174	CH30903
Benzo(a)anthracene	**0.119** (0.114)		8270D		5	08/14/13 11:39	CWH0174	CH30903
Benzo(a)pyrene	ND (0.114)		8270D		5	08/14/13 11:39	CWH0174	CH30903
Benzo(b)fluoranthene	**0.197** (0.114)		8270D		5	08/14/13 11:39	CWH0174	CH30903
Benzo(g,h,i)perylene	ND (0.114)		8270D		5	08/14/13 11:39	CWH0174	CH30903
Benzo(k)fluoranthene	ND (0.114)		8270D		5	08/14/13 11:39	CWH0174	CH30903
Chrysene	**0.201** (0.114)		8270D		5	08/14/13 11:39	CWH0174	CH30903
Dibenzo(a,h)Anthracene	ND (0.114)		8270D		5	08/14/13 11:39	CWH0174	CH30903
Fluoranthene	**0.512** (0.114)		8270D		5	08/14/13 11:39	CWH0174	CH30903
Fluorene	ND (0.114)		8270D		5	08/14/13 11:39	CWH0174	CH30903
Indeno(1,2,3-cd)Pyrene	ND (0.114)		8270D		5	08/14/13 11:39	CWH0174	CH30903
Naphthalene	**0.599** (0.114)		8270D		5	08/14/13 11:39	CWH0174	CH30903
Phenanthrene	**0.384** (0.114)		8270D		5	08/14/13 11:39	CWH0174	CH30903
Pyrene	**0.416** (0.114)		8270D		5	08/14/13 11:39	CWH0174	CH30903

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*84 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*94 %*		*30-130*
Surrogate: Nitrobenzene-d5	*119 %*		*30-130*
Surrogate: p-Terphenyl-d14	*123 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC-3 4-6ft
Date Sampled: 08/05/13 14:15
Percent Solids: 72
Initial Volume: 15
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-13
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 8/12/13 17:04

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	**975** (34.5)		MADEP-EPH		1	VSC	08/14/13 1:04	CWH0163	CH31228
C19-C36 Aliphatics1	**111** (34.5)		MADEP-EPH		1	VSC	08/14/13 1:04	CWH0163	CH31228
C11-C22 Unadjusted Aromatics1	**6430** (345)		EPH8270		10	VSC	08/14/13 15:58	CWH0181	CH31228
C11-C22 Aromatics1,2	**6430** (345)		EPH8270			VSC	08/14/13 15:58		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*77 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*80 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*84 %*		*40-140*
Surrogate: O-Terphenyl	*243 %*	*SM*	*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC4 T 0-0.5ft
Date Sampled: 08/06/13 11:42
Percent Solids: 37

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-14
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (2.5)		6020A		50	SVD	08/12/13 18:01	5.43	100	CH30856
Arsenic	**57.3** (12.3)		6010B		5	JP	08/10/13 19:07	5.43	100	CH30856
Barium	**97.6** (12.3)		6010B		5	JP	08/10/13 19:07	5.43	100	CH30856
Beryllium	**0.79** (0.52)		6010B		5	JP	08/10/13 19:07	5.43	100	CH30856
Cadmium	ND (2.48)		6010B		5	JP	08/10/13 19:07	5.43	100	CH30856
Chromium	**106** (4.9)		6010B		5	JP	08/10/13 19:07	5.43	100	CH30856
Lead	**336** (24.7)		6010B		5	JP	08/10/13 19:07	5.43	100	CH30856
Mercury	**0.803** (0.209)		7471B		5	JP	08/12/13 20:11	1.27	40	CH30931
Nickel	**34.9** (12.3)		6010B		5	JP	08/10/13 19:07	5.43	100	CH30856
Selenium	**3.08** (2.48)		6020A		50	SVD	08/12/13 18:01	5.43	100	CH30856
Silver	**4.40** (2.48)		6010B		5	JP	08/10/13 19:07	5.43	100	CH30856
Thallium	ND (2.48)		6020A		50	SVD	08/12/13 18:01	5.43	100	CH30856
Vanadium	**109** (4.9)		6010B		5	JP	08/10/13 19:07	5.43	100	CH30856
Zinc	**648** (12.3)		6010B		5	JP	08/10/13 19:07	5.43	100	CH30856

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC4 T 0-0.5ft
Date Sampled: 08/06/13 11:42
Percent Solids: 37
Initial Volume: 19.6
Final Volume: 5
Extraction Method: 3540

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-14
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 8/9/13 16:45
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0684)		8082A		1	08/14/13 14:07		CH30839
Aroclor 1221	ND (0.0684)		8082A		1	08/14/13 14:07		CH30839
Aroclor 1232	ND (0.0684)		8082A		1	08/14/13 14:07		CH30839
Aroclor 1242	ND (0.0684)		8082A		1	08/14/13 14:07		CH30839
Aroclor 1248	**1.11** (0.0684)		8082A		1	08/14/13 14:07		CH30839
Aroclor 1254	**1.25** (0.0684)		8082A		1	08/14/13 14:07		CH30839
Aroclor 1260	**0.533** (0.0684)		8082A		1	08/14/13 14:07		CH30839
Aroclor 1262	ND (0.0684)		8082A		1	08/14/13 14:07		CH30839
Aroclor 1268	ND (0.0684)		8082A		1	08/14/13 14:07		CH30839

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*90 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*124 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*77 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*57 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC4 T 0-0.5ft
Date Sampled: 08/06/13 11:42
Percent Solids: 37
Initial Volume: 15.1
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-14
Sample Matrix: Soil
Units: mg/kg dry
Analyst: SEP
Prepared: 8/9/13 19:05

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (4.43)		8270D		5	08/11/13 21:23	CWH0140	CH30921
1,2-Dichlorobenzene	ND (4.43)		8270D		5	08/11/13 21:23	CWH0140	CH30921
1,3-Dichlorobenzene	ND (4.43)		8270D		5	08/11/13 21:23	CWH0140	CH30921
1,4-Dichlorobenzene	ND (4.43)		8270D		5	08/11/13 21:23	CWH0140	CH30921
2-Methylnaphthalene	ND (4.43)		8270D		5	08/11/13 21:23	CWH0140	CH30921
2-Methylphenol	ND (4.43)		8270D		5	08/11/13 21:23	CWH0140	CH30921
Acenaphthene	ND (4.43)		8270D		5	08/11/13 21:23	CWH0140	CH30921
Acenaphthylene	ND (4.43)		8270D		5	08/11/13 21:23	CWH0140	CH30921
Anthracene	ND (4.43)		8270D		5	08/11/13 21:23	CWH0140	CH30921
Benzo(a)anthracene	ND (4.43)		8270D		5	08/11/13 21:23	CWH0140	CH30921
Benzo(a)pyrene	ND (2.22)		8270D		5	08/11/13 21:23	CWH0140	CH30921
Benzo(b)fluoranthene	ND (4.43)		8270D		5	08/11/13 21:23	CWH0140	CH30921
Benzo(g,h,i)perylene	ND (4.43)		8270D		5	08/11/13 21:23	CWH0140	CH30921
Benzo(k)fluoranthene	ND (4.43)		8270D		5	08/11/13 21:23	CWH0140	CH30921
bis(2-Ethylhexyl)phthalate	**534** (44.3)		8270D		50	08/12/13 13:49	CWH0140	CH30921
Butylbenzylphthalate	ND (4.43)		8270D		5	08/11/13 21:23	CWH0140	CH30921
Carbazole	ND (4.43)		8270D		5	08/11/13 21:23	CWH0140	CH30921
Chrysene	ND (2.22)		8270D		5	08/11/13 21:23	CWH0140	CH30921
Dibenzo(a,h)Anthracene	ND (2.22)		8270D		5	08/11/13 21:23	CWH0140	CH30921
Dibenzofuran	ND (4.43)		8270D		5	08/11/13 21:23	CWH0140	CH30921
Diethylphthalate	ND (4.43)		8270D		5	08/11/13 21:23	CWH0140	CH30921
Dimethylphthalate	ND (4.43)		8270D		5	08/11/13 21:23	CWH0140	CH30921
Di-n-butylphthalate	ND (4.43)		8270D		5	08/11/13 21:23	CWH0140	CH30921
Di-n-octylphthalate	**5.15** (4.43)		8270D		5	08/11/13 21:23	CWH0140	CH30921
Fluoranthene	ND (4.43)		8270D		5	08/11/13 21:23	CWH0140	CH30921
Fluorene	ND (4.43)		8270D		5	08/11/13 21:23	CWH0140	CH30921
Hexachlorobenzene	ND (4.43)		8270D		5	08/11/13 21:23	CWH0140	CH30921
Hexachlorocyclopentadiene	ND (22.2)		8270D		5	08/11/13 21:23	CWH0140	CH30921
Indeno(1,2,3-cd)Pyrene	ND (4.43)		8270D		5	08/11/13 21:23	CWH0140	CH30921
Naphthalene	ND (4.43)		8270D		5	08/11/13 21:23	CWH0140	CH30921
Phenanthrene	ND (4.43)		8270D		5	08/11/13 21:23	CWH0140	CH30921

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC4 T 0-0.5ft
Date Sampled: 08/06/13 11:42
Percent Solids: 37
Initial Volume: 15.1
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-14
Sample Matrix: Soil
Units: mg/kg dry
Analyst: SEP
Prepared: 8/9/13 19:05

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Phenol	ND (4.43)		8270D		5	08/11/13 21:23	CWH0140	CH30921
Pyrene	ND (4.43)		8270D		5	08/11/13 21:23	CWH0140	CH30921

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*55 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*35 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*58 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*60 %*		*30-130*
Surrogate: 2-Fluorophenol	*61 %*		*30-130*
Surrogate: Nitrobenzene-d5	*55 %*		*30-130*
Surrogate: Phenol-d6	*59 %*		*30-130*
Surrogate: p-Terphenyl-d14	*75 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC4 T 0-0.5ft
Date Sampled: 08/06/13 11:42
Percent Solids: 37
Initial Volume: 15.7
Final Volume: 0.5
Extraction Method: 3541

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-14
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/9/13 10:30

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.107)		8270D		5	08/11/13 15:29	CWH0139	CH30903
Acenaphthene	ND (0.107)		8270D		5	08/11/13 15:29	CWH0139	CH30903
Acenaphthylene	ND (0.107)		8270D		5	08/11/13 15:29	CWH0139	CH30903
Anthracene	**0.119** (0.107)		8270D		5	08/11/13 15:29	CWH0139	CH30903
Benzo(a)anthracene	**0.282** (0.107)		8270D		5	08/11/13 15:29	CWH0139	CH30903
Benzo(a)pyrene	**0.346** (0.107)		8270D		5	08/11/13 15:29	CWH0139	CH30903
Benzo(b)fluoranthene	**0.444** (0.107)		8270D		5	08/11/13 15:29	CWH0139	CH30903
Benzo(g,h,i)perylene	**0.290** (0.107)		8270D		5	08/11/13 15:29	CWH0139	CH30903
Benzo(k)fluoranthene	**0.171** (0.107)		8270D		5	08/11/13 15:29	CWH0139	CH30903
Chrysene	**0.350** (0.107)		8270D		5	08/11/13 15:29	CWH0139	CH30903
Dibenzo(a,h)Anthracene	**0.196** (0.107)		8270D		5	08/11/13 15:29	CWH0139	CH30903
Fluoranthene	**0.538** (0.107)		8270D		5	08/11/13 15:29	CWH0139	CH30903
Fluorene	ND (0.107)		8270D		5	08/11/13 15:29	CWH0139	CH30903
Indeno(1,2,3-cd)Pyrene	**0.346** (0.107)		8270D		5	08/11/13 15:29	CWH0139	CH30903
Naphthalene	**0.145** (0.107)		8270D		5	08/11/13 15:29	CWH0139	CH30903
Phenanthrene	**0.341** (0.107)		8270D		5	08/11/13 15:29	CWH0139	CH30903
Pyrene	**0.525** (0.107)		8270D		5	08/11/13 15:29	CWH0139	CH30903

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*45 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*54 %*		*30-130*
Surrogate: Nitrobenzene-d5	*50 %*		*30-130*
Surrogate: p-Terphenyl-d14	*82 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC4 T 0-0.5ft
Date Sampled: 08/06/13 11:42
Percent Solids: 37

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-14
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**58700** (2500)		TOC-LK		1	SUB	08/14/13 17:24	mg/kg	CH32011

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC4 T 0-0.5ft
Date Sampled: 08/06/13 11:42
Percent Solids: 37
Initial Volume: 15.5
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-14
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 8/9/13 15:00

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	**81.6** (64.8)		MADEP-EPH		1	SEP	08/11/13 13:32	CWH0134	CH30919
C19-C36 Aliphatics1	**721** (64.8)		MADEP-EPH		1	SEP	08/11/13 13:32	CWH0134	CH30919
C11-C22 Unadjusted Aromatics1	**446** (64.8)		EPH8270		1	VSC	08/12/13 21:52	CWH0145	CH30919
C11-C22 Aromatics1,2	**433** (64.8)		EPH8270			VSC	08/12/13 21:52		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*75 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*112 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*108 %*		*40-140*
Surrogate: O-Terphenyl	*88 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC4 0.5-2ft
Date Sampled: 08/05/13 14:25
Percent Solids: 44

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-15
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	**3.2** (2.2)		6020A		50	SVD	08/12/13 18:07	5.27	100	CH30856
Arsenic	**70.8** (10.8)		6010B		5	JP	08/10/13 19:13	5.27	100	CH30856
Barium	**84.2** (10.8)		6010B		5	JP	08/10/13 19:13	5.27	100	CH30856
Beryllium	**0.54** (0.45)		6010B		5	JP	08/10/13 19:13	5.27	100	CH30856
Cadmium	**2.60** (2.16)		6010B		5	JP	08/10/13 19:13	5.27	100	CH30856
Chromium	**84.7** (4.3)		6010B		5	JP	08/10/13 19:13	5.27	100	CH30856
Lead	**337** (21.5)		6010B		5	JP	08/10/13 19:13	5.27	100	CH30856
Mercury	**1.08** (0.168)		7471B		5	JP	08/12/13 20:14	1.34	40	CH30931
Nickel	**41.5** (10.8)		6010B		5	JP	08/10/13 19:13	5.27	100	CH30856
Selenium	**3.79** (2.16)		6020A		50	SVD	08/12/13 18:07	5.27	100	CH30856
Silver	**5.02** (2.16)		6010B		5	JP	08/10/13 19:13	5.27	100	CH30856
Thallium	ND (2.16)		6020A		50	SVD	08/12/13 18:07	5.27	100	CH30856
Vanadium	**180** (4.3)		6010B		5	JP	08/10/13 19:13	5.27	100	CH30856
Zinc	**611** (10.8)		6010B		5	JP	08/10/13 19:13	5.27	100	CH30856

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC4 0.5-2ft
Date Sampled: 08/05/13 14:25
Percent Solids: 44
Initial Volume: 19.6
Final Volume: 5
Extraction Method: 3540

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-15
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 8/9/13 17:00
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0579)		8082A		1	08/13/13 19:57		CH30937
Aroclor 1221	ND (0.0579)		8082A		1	08/13/13 19:57		CH30937
Aroclor 1232	ND (0.0579)		8082A		1	08/13/13 19:57		CH30937
Aroclor 1242	ND (0.0579)		8082A		1	08/13/13 19:57		CH30937
Aroclor 1248	**7.75** (0.579)		8082A		10	08/14/13 18:11		CH30937
Aroclor 1254	**10.1** (0.579)		8082A		10	08/14/13 18:11		CH30937
Aroclor 1260	ND (0.0579)		8082A		1	08/13/13 19:57		CH30937
Aroclor 1262	ND (0.0579)		8082A		1	08/13/13 19:57		CH30937
Aroclor 1268	ND (0.0579)		8082A		1	08/13/13 19:57		CH30937

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*152 %*	*S+*	*30-150*
Surrogate: Decachlorobiphenyl [2C]	*86 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*85 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*60 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC4 0.5-2ft
Date Sampled: 08/05/13 14:25
Percent Solids: 44
Initial Volume: 15.3
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-15
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/9/13 19:05

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.741)		8270D		1	08/12/13 12:40	CWH0147	CH30921
1,2-Dichlorobenzene	ND (0.741)		8270D		1	08/12/13 12:40	CWH0147	CH30921
1,3-Dichlorobenzene	ND (0.741)		8270D		1	08/12/13 12:40	CWH0147	CH30921
1,4-Dichlorobenzene	ND (0.741)		8270D		1	08/12/13 12:40	CWH0147	CH30921
2-Methylnaphthalene	ND (0.741)		8270D		1	08/12/13 12:40	CWH0147	CH30921
2-Methylphenol	ND (0.741)		8270D		1	08/12/13 12:40	CWH0147	CH30921
Acenaphthene	ND (0.741)		8270D		1	08/12/13 12:40	CWH0147	CH30921
Acenaphthylene	ND (0.741)		8270D		1	08/12/13 12:40	CWH0147	CH30921
Anthracene	ND (0.741)		8270D		1	08/12/13 12:40	CWH0147	CH30921
Benzo(a)anthracene	**0.799** (0.741)		8270D		1	08/12/13 12:40	CWH0147	CH30921
Benzo(a)pyrene	**1.46** (0.371)		8270D		1	08/12/13 12:40	CWH0147	CH30921
Benzo(b)fluoranthene	**2.38** (0.741)		8270D		1	08/12/13 12:40	CWH0147	CH30921
Benzo(g,h,i)perylene	ND (0.741)		8270D		1	08/12/13 12:40	CWH0147	CH30921
Benzo(k)fluoranthene	**1.43** (0.741)		8270D		1	08/12/13 12:40	CWH0147	CH30921
bis(2-Ethylhexyl)phthalate	**6190** (741)		8270D		1000	08/12/13 22:43	CWH0147	CH30921
Butylbenzylphthalate	**2.03** (0.741)		8270D		1	08/12/13 12:40	CWH0147	CH30921
Carbazole	ND (0.741)		8270D		1	08/12/13 12:40	CWH0147	CH30921
Chrysene	**1.79** (0.371)		8270D		1	08/12/13 12:40	CWH0147	CH30921
Dibenzo(a,h)Anthracene	ND (0.371)		8270D		1	08/12/13 12:40	CWH0147	CH30921
Dibenzofuran	ND (0.741)		8270D		1	08/12/13 12:40	CWH0147	CH30921
Diethylphthalate	ND (0.741)		8270D		1	08/12/13 12:40	CWH0147	CH30921
Dimethylphthalate	ND (0.741)		8270D		1	08/12/13 12:40	CWH0147	CH30921
Di-n-butylphthalate	ND (0.741)		8270D		1	08/12/13 12:40	CWH0147	CH30921
Di-n-octylphthalate	**156** (74.1)		8270D		100	08/12/13 22:10	CWH0147	CH30921
Fluoranthene	**2.56** (0.741)		8270D		1	08/12/13 12:40	CWH0147	CH30921
Fluorene	ND (0.741)		8270D		1	08/12/13 12:40	CWH0147	CH30921
Hexachlorobenzene	ND (0.741)		8270D		1	08/12/13 12:40	CWH0147	CH30921
Hexachlorocyclopentadiene	ND (3.71)		8270D		1	08/12/13 12:40	CWH0147	CH30921
Indeno(1,2,3-cd)Pyrene	ND (0.741)		8270D		1	08/12/13 12:40	CWH0147	CH30921
Naphthalene	**2.55** (0.741)		8270D		1	08/12/13 12:40	CWH0147	CH30921
Phenanthrene	**1.24** (0.741)		8270D		1	08/12/13 12:40	CWH0147	CH30921

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC4 0.5-2ft
Date Sampled: 08/05/13 14:25
Percent Solids: 44
Initial Volume: 15.3
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-15
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/9/13 19:05

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Phenol	ND (0.741)		8270D		1	08/12/13 12:40	CWH0147	CH30921
Pyrene	**2.19** (0.741)		8270D		1	08/12/13 12:40	CWH0147	CH30921

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*42 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*63 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*47 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*58 %*		*30-130*
Surrogate: 2-Fluorophenol	*43 %*		*30-130*
Surrogate: Nitrobenzene-d5	*51 %*		*30-130*
Surrogate: Phenol-d6	*54 %*		*30-130*
Surrogate: p-Terphenyl-d14	*60 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC4 0.5-2ft
Date Sampled: 08/05/13 14:25
Percent Solids: 44
Initial Volume: 15.31
Final Volume: 0.5
Extraction Method: 3541

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-15
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/10/13 9:00

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	**0.104** (0.093)		8270D		5	08/13/13 3:43	CWH0159	CH31001
Acenaphthene	**0.126** (0.093)		8270D		5	08/13/13 3:43	CWH0159	CH31001
Acenaphthylene	**0.152** (0.093)		8270D		5	08/13/13 3:43	CWH0159	CH31001
Anthracene	**0.296** (0.093)		8270D		5	08/13/13 3:43	CWH0159	CH31001
Benzo(a)anthracene	**0.204** (0.093)		8270D		5	08/13/13 3:43	CWH0159	CH31001
Benzo(a)pyrene	**0.619** (0.093)		8270D		5	08/13/13 3:43	CWH0159	CH31001
Benzo(b)fluoranthene	**0.974** (0.093)		8270D		5	08/13/13 3:43	CWH0159	CH31001
Benzo(g,h,i)perylene	**0.541** (0.093)		8270D		5	08/13/13 3:43	CWH0159	CH31001
Benzo(k)fluoranthene	**0.341** (0.093)		8270D		5	08/13/13 3:43	CWH0159	CH31001
Chrysene	**0.611** (0.093)		8270D		5	08/13/13 3:43	CWH0159	CH31001
Dibenzo(a,h)Anthracene	**0.156** (0.093)		8270D		5	08/13/13 3:43	CWH0159	CH31001
Fluoranthene	**0.908** (0.093)		8270D		5	08/13/13 3:43	CWH0159	CH31001
Fluorene	**0.185** (0.093)		8270D		5	08/13/13 3:43	CWH0159	CH31001
Indeno(1,2,3-cd)Pyrene	**0.578** (0.093)		8270D		5	08/13/13 3:43	CWH0159	CH31001
Naphthalene	**0.600** (0.093)		8270D		5	08/13/13 3:43	CWH0159	CH31001
Phenanthrene	**0.833** (0.093)		8270D		5	08/13/13 3:43	CWH0159	CH31001
Pyrene	**0.915** (0.093)		8270D		5	08/13/13 3:43	CWH0159	CH31001

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*44 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*54 %*		*30-130*
Surrogate: Nitrobenzene-d5	*59 %*		*30-130*
Surrogate: p-Terphenyl-d14	*90 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC4 0.5-2ft
Date Sampled: 08/05/13 14:25
Percent Solids: 44
Initial Volume: 14.9
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-15
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 8/12/13 10:00

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	**263** (57.1)		MADEP-EPH		1	VSC	08/13/13 1:26	CWH0163	CH31208
C19-C36 Aliphatics1	**798** (57.1)		MADEP-EPH		1	VSC	08/13/13 1:26	CWH0163	CH31208
C11-C22 Unadjusted Aromatics1	**1850** (285)		EPH8270		5	VSC	08/14/13 0:49	CWH0181	CH31208
C11-C22 Aromatics1,2	**1850** (285)		EPH8270			VSC	08/14/13 0:49		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*82 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*90 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*86 %*		*40-140*
Surrogate: O-Terphenyl	*162 %*	*SM*	*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC4 2-4ft
Date Sampled: 08/05/13 14:25
Percent Solids: 41

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-16
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	**2.5** (2.4)		6020A		50	SVD	08/12/13 18:13	5.06	100	CH30856
Arsenic	**32.1** (12.1)		6010B		5	JP	08/10/13 19:18	5.06	100	CH30856
Barium	**62.5** (12.1)		6010B		5	JP	08/10/13 19:18	5.06	100	CH30856
Beryllium	ND (0.51)		6010B		5	JP	08/10/13 19:18	5.06	100	CH30856
Cadmium	ND (2.43)		6010B		5	JP	08/10/13 19:18	5.06	100	CH30856
Chromium	**33.7** (4.8)		6010B		5	JP	08/10/13 19:18	5.06	100	CH30856
Lead	**135** (24.2)		6010B		5	JP	08/10/13 19:18	5.06	100	CH30856
Mercury	**0.533** (0.206)		7471B		5	JP	08/12/13 20:17	1.18	40	CH30931
Nickel	**17.0** (12.1)		6010B		5	JP	08/10/13 19:18	5.06	100	CH30856
Selenium	ND (2.43)		6020A		50	SVD	08/12/13 18:13	5.06	100	CH30856
Silver	**2.75** (2.43)		6010B		5	JP	08/10/13 19:18	5.06	100	CH30856
Thallium	ND (2.43)		6020A		50	SVD	08/12/13 18:13	5.06	100	CH30856
Vanadium	**112** (4.8)		6010B		5	JP	08/10/13 19:18	5.06	100	CH30856
Zinc	**321** (12.1)		6010B		5	JP	08/10/13 19:18	5.06	100	CH30856

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC4 2-4ft
Date Sampled: 08/05/13 14:25
Percent Solids: 41
Initial Volume: 20.3
Final Volume: 5
Extraction Method: 3540

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-16
Sample Matrix: Soil
Units: mg/kg dry
Analyst: ML
Prepared: 8/9/13 17:00
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (2.42)		8082A		40	08/15/13 12:46		CH30937
Aroclor 1221	ND (2.42)		8082A		40	08/15/13 12:46		CH30937
Aroclor 1232	ND (2.42)		8082A		40	08/15/13 12:46		CH30937
Aroclor 1242	ND (2.42)		8082A		40	08/15/13 12:46		CH30937
Aroclor 1248	**14.3** (2.42)		8082A		40	08/15/13 12:46		CH30937
Aroclor 1254	**22.7** (2.42)		8082A		40	08/15/13 12:46		CH30937
Aroclor 1260	ND (2.42)		8082A		40	08/15/13 12:46		CH30937
Aroclor 1262	ND (2.42)		8082A		40	08/15/13 12:46		CH30937
Aroclor 1268	ND (2.42)		8082A		40	08/15/13 12:46		CH30937

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC4 2-4ft
Date Sampled: 08/05/13 14:25
Percent Solids: 41
Initial Volume: 15.1
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-16
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/9/13 19:05

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (8.11)		8270D		10	08/12/13 19:26	CWH0143	CH30921
1,2-Dichlorobenzene	ND (8.11)		8270D		10	08/12/13 19:26	CWH0143	CH30921
1,3-Dichlorobenzene	ND (8.11)		8270D		10	08/12/13 19:26	CWH0143	CH30921
1,4-Dichlorobenzene	ND (8.11)		8270D		10	08/12/13 19:26	CWH0143	CH30921
2-Methylnaphthalene	ND (8.11)		8270D		10	08/12/13 19:26	CWH0143	CH30921
2-Methylphenol	ND (8.11)		8270D		10	08/12/13 19:26	CWH0143	CH30921
Acenaphthene	ND (8.11)		8270D		10	08/12/13 19:26	CWH0143	CH30921
Acenaphthylene	ND (8.11)		8270D		10	08/12/13 19:26	CWH0143	CH30921
Anthracene	ND (8.11)		8270D		10	08/12/13 19:26	CWH0143	CH30921
Benzo(a)anthracene	ND (8.11)		8270D		10	08/12/13 19:26	CWH0143	CH30921
Benzo(a)pyrene	ND (4.07)		8270D		10	08/12/13 19:26	CWH0143	CH30921
Benzo(b)fluoranthene	ND (8.11)		8270D		10	08/12/13 19:26	CWH0143	CH30921
Benzo(g,h,i)perylene	ND (8.11)		8270D		10	08/12/13 19:26	CWH0143	CH30921
Benzo(k)fluoranthene	ND (8.11)		8270D		10	08/12/13 19:26	CWH0143	CH30921
bis(2-Ethylhexyl)phthalate	**4280** (811)		8270D		1000	08/12/13 20:33	CWH0143	CH30921
Butylbenzylphthalate	**118** (8.11)		8270D		10	08/12/13 19:26	CWH0143	CH30921
Carbazole	ND (8.11)		8270D		10	08/12/13 19:26	CWH0143	CH30921
Chrysene	ND (4.07)		8270D		10	08/12/13 19:26	CWH0143	CH30921
Dibenzo(a,h)Anthracene	ND (4.07)		8270D		10	08/12/13 19:26	CWH0143	CH30921
Dibenzofuran	ND (8.11)		8270D		10	08/12/13 19:26	CWH0143	CH30921
Diethylphthalate	ND (8.11)		8270D		10	08/12/13 19:26	CWH0143	CH30921
Dimethylphthalate	ND (8.11)		8270D		10	08/12/13 19:26	CWH0143	CH30921
Di-n-butylphthalate	ND (8.11)		8270D		10	08/12/13 19:26	CWH0143	CH30921
Di-n-octylphthalate	**1080** (811)		8270D		1000	08/12/13 20:33	CWH0143	CH30921
Fluoranthene	ND (8.11)		8270D		10	08/12/13 19:26	CWH0143	CH30921
Fluorene	ND (8.11)		8270D		10	08/12/13 19:26	CWH0143	CH30921
Hexachlorobenzene	ND (8.11)		8270D		10	08/12/13 19:26	CWH0143	CH30921
Hexachlorocyclopentadiene	ND (40.7)		8270D		10	08/12/13 19:26	CWH0143	CH30921
Indeno(1,2,3-cd)Pyrene	ND (8.11)		8270D		10	08/12/13 19:26	CWH0143	CH30921
Naphthalene	**713** (81.1)		8270D		100	08/12/13 19:59	CWH0143	CH30921
Phenanthrene	ND (8.11)		8270D		10	08/12/13 19:26	CWH0143	CH30921

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC4 2-4ft
Date Sampled: 08/05/13 14:25
Percent Solids: 41
Initial Volume: 15.1
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-16
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/9/13 19:05

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Phenol	ND (8.11)		8270D		10	08/12/13 19:26	CWH0143	CH30921
Pyrene	ND (8.11)		8270D		10	08/12/13 19:26	CWH0143	CH30921

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*45 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*61 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*48 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*68 %*		*30-130*
Surrogate: 2-Fluorophenol	*46 %*		*30-130*
Surrogate: Nitrobenzene-d5	*116 %*		*30-130*
Surrogate: Phenol-d6	*51 %*		*30-130*
Surrogate: p-Terphenyl-d14	*102 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC4 2-4ft
Date Sampled: 08/05/13 14:25
Percent Solids: 41
Initial Volume: 15.8
Final Volume: 0.5
Extraction Method: 3541

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-16
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/10/13 9:00

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	**0.543** (0.485)		8270D		25	08/15/13 0:53	CWH0193	CH31001
Acenaphthene	ND (0.485)		8270D		25	08/15/13 0:53	CWH0193	CH31001
Acenaphthylene	ND (0.485)		8270D		25	08/15/13 0:53	CWH0193	CH31001
Anthracene	ND (0.485)		8270D		25	08/15/13 0:53	CWH0193	CH31001
Benzo(a)anthracene	**1.03** (0.485)		8270D		25	08/15/13 0:53	CWH0193	CH31001
Benzo(a)pyrene	ND (0.485)		8270D		25	08/15/13 0:53	CWH0193	CH31001
Benzo(b)fluoranthene	**1.22** (0.485)		8270D		25	08/15/13 0:53	CWH0193	CH31001
Benzo(g,h,i)perylene	ND (0.485)		8270D		25	08/15/13 0:53	CWH0193	CH31001
Benzo(k)fluoranthene	**1.38** (0.485)		8270D		25	08/15/13 0:53	CWH0193	CH31001
Chrysene	**2.06** (0.485)		8270D		25	08/15/13 0:53	CWH0193	CH31001
Dibenzo(a,h)Anthracene	ND (0.485)		8270D		25	08/15/13 0:53	CWH0193	CH31001
Fluoranthene	**1.94** (0.485)		8270D		25	08/15/13 0:53	CWH0193	CH31001
Fluorene	ND (0.485)		8270D		25	08/15/13 0:53	CWH0193	CH31001
Indeno(1,2,3-cd)Pyrene	ND (0.485)		8270D		25	08/15/13 0:53	CWH0193	CH31001
Naphthalene	**26.4** (0.485)		8270D		25	08/15/13 0:53	CWH0193	CH31001
Phenanthrene	**0.989** (0.485)		8270D		25	08/15/13 0:53	CWH0193	CH31001
Pyrene	**0.834** (0.485)		8270D		25	08/15/13 0:53	CWH0193	CH31001

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*95 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*40 %*		*30-130*
Surrogate: Nitrobenzene-d5	*118 %*		*30-130*
Surrogate: p-Terphenyl-d14	*53 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC4 2-4ft
Date Sampled: 08/05/13 14:25
Percent Solids: 41
Initial Volume: 14.9
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-16
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 8/12/13 10:00

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	**1510** (61.7)		MADEP-EPH		1	VSC	08/13/13 2:17	CWH0163	CH31208
C19-C36 Aliphatics1	**284** (61.7)		MADEP-EPH		1	VSC	08/13/13 2:17	CWH0163	CH31208
C11-C22 Unadjusted Aromatics1	**2070** (617)		EPH8270		10	VSC	08/14/13 1:36	CWH0181	CH31208
C11-C22 Aromatics1,2	**2000** (617)		EPH8270			VSC	08/14/13 1:36		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*80 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*52 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*49 %*		*40-140*
Surrogate: O-Terphenyl	*246 %*	*SM*	*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC4 4-6ft
Date Sampled: 08/05/13 14:25
Percent Solids: 24

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-17
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (4.0)		6020A		50	SVD	08/12/13 18:19	5.26	100	CH30856
Arsenic	**10.4** (4.0)		6010B		1	JP	08/10/13 2:31	5.26	100	CH30856
Barium	**55.4** (4.0)		6010B		1	JP	08/10/13 2:31	5.26	100	CH30856
Beryllium	**0.25** (0.17)		6010B		1	JP	08/10/13 2:31	5.26	100	CH30856
Cadmium	**1.48** (0.80)		6010B		1	JP	08/10/13 2:31	5.26	100	CH30856
Chromium	**60.3** (1.6)		6010B		1	JP	08/10/13 2:31	5.26	100	CH30856
Lead	**180** (7.9)		6010B		1	JP	08/10/13 2:31	5.26	100	CH30856
Mercury	**0.695** (0.074)		7471B		1	JP	08/12/13 20:19	1.12	40	CH30931
Nickel	**17.8** (4.0)		6010B		1	JP	08/10/13 2:31	5.26	100	CH30856
Selenium	ND (3.98)		6020A		50	SVD	08/12/13 18:19	5.26	100	CH30856
Silver	**1.41** (0.80)		6010B		1	JP	08/10/13 2:31	5.26	100	CH30856
Thallium	ND (3.98)		6020A		50	SVD	08/12/13 18:19	5.26	100	CH30856
Vanadium	**159** (1.6)		6010B		1	JP	08/10/13 2:31	5.26	100	CH30856
Zinc	ND (4.0)		6010B		1	SVD	08/11/13 20:36	5.26	100	CH30856

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC4 4-6ft
Date Sampled: 08/05/13 14:25
Percent Solids: 24
Initial Volume: 20
Final Volume: 5
Extraction Method: 3540

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-17
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 8/9/13 17:00
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (2.08)		8082A		20	08/14/13 18:49		CH30937
Aroclor 1221	ND (2.08)		8082A		20	08/14/13 18:49		CH30937
Aroclor 1232	ND (2.08)		8082A		20	08/14/13 18:49		CH30937
Aroclor 1242	ND (2.08)		8082A		20	08/14/13 18:49		CH30937
Aroclor 1248	**20.9** (2.08)		8082A		20	08/14/13 18:49		CH30937
Aroclor 1254	**29.5** (2.08)		8082A		20	08/14/13 18:49		CH30937
Aroclor 1260	ND (2.08)		8082A		20	08/14/13 18:49		CH30937
Aroclor 1262	ND (2.08)		8082A		20	08/14/13 18:49		CH30937
Aroclor 1268	ND (2.08)		8082A		20	08/14/13 18:49		CH30937

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC4 4-6ft
Date Sampled: 08/05/13 14:25
Percent Solids: 24
Initial Volume: 15.8
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-17
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/9/13 19:05

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (13.2)		8270D		10	08/12/13 21:06	CWH0143	CH30921
1,2-Dichlorobenzene	ND (13.2)		8270D		10	08/12/13 21:06	CWH0143	CH30921
1,3-Dichlorobenzene	ND (13.2)		8270D		10	08/12/13 21:06	CWH0143	CH30921
1,4-Dichlorobenzene	ND (13.2)		8270D		10	08/12/13 21:06	CWH0143	CH30921
2-Methylnaphthalene	ND (13.2)		8270D		10	08/12/13 21:06	CWH0143	CH30921
2-Methylphenol	ND (13.2)		8270D		10	08/12/13 21:06	CWH0143	CH30921
Acenaphthene	ND (13.2)		8270D		10	08/12/13 21:06	CWH0143	CH30921
Acenaphthylene	ND (13.2)		8270D		10	08/12/13 21:06	CWH0143	CH30921
Anthracene	ND (13.2)		8270D		10	08/12/13 21:06	CWH0143	CH30921
Benzo(a)anthracene	ND (13.2)		8270D		10	08/12/13 21:06	CWH0143	CH30921
Benzo(a)pyrene	ND (6.60)		8270D		10	08/12/13 21:06	CWH0143	CH30921
Benzo(b)fluoranthene	ND (13.2)		8270D		10	08/12/13 21:06	CWH0143	CH30921
Benzo(g,h,i)perylene	ND (13.2)		8270D		10	08/12/13 21:06	CWH0143	CH30921
Benzo(k)fluoranthene	ND (13.2)		8270D		10	08/12/13 21:06	CWH0143	CH30921
bis(2-Ethylhexyl)phthalate	**15400** (1320)		8270D		1000	08/12/13 22:14	CWH0143	CH30921
Butylbenzylphthalate	**14.3** (13.2)		8270D		10	08/12/13 21:06	CWH0143	CH30921
Carbazole	ND (13.2)		8270D		10	08/12/13 21:06	CWH0143	CH30921
Chrysene	ND (6.60)		8270D		10	08/12/13 21:06	CWH0143	CH30921
Dibenzo(a,h)Anthracene	ND (6.60)		8270D		10	08/12/13 21:06	CWH0143	CH30921
Dibenzofuran	ND (13.2)		8270D		10	08/12/13 21:06	CWH0143	CH30921
Diethylphthalate	ND (13.2)		8270D		10	08/12/13 21:06	CWH0143	CH30921
Dimethylphthalate	ND (13.2)		8270D		10	08/12/13 21:06	CWH0143	CH30921
Di-n-butylphthalate	ND (13.2)		8270D		10	08/12/13 21:06	CWH0143	CH30921
Di-n-octylphthalate	**4370** (1320)		8270D		1000	08/12/13 22:14	CWH0143	CH30921
Fluoranthene	ND (13.2)		8270D		10	08/12/13 21:06	CWH0143	CH30921
Fluorene	ND (13.2)		8270D		10	08/12/13 21:06	CWH0143	CH30921
Hexachlorobenzene	ND (13.2)		8270D		10	08/12/13 21:06	CWH0143	CH30921
Hexachlorocyclopentadiene	ND (66.0)		8270D		10	08/12/13 21:06	CWH0143	CH30921
Indeno(1,2,3-cd)Pyrene	ND (13.2)		8270D		10	08/12/13 21:06	CWH0143	CH30921
Naphthalene	ND (13.2)		8270D		10	08/12/13 21:06	CWH0143	CH30921
Phenanthrene	ND (13.2)		8270D		10	08/12/13 21:06	CWH0143	CH30921

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC4 4-6ft
Date Sampled: 08/05/13 14:25
Percent Solids: 24
Initial Volume: 15.8
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-17
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/9/13 19:05

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Phenol	ND (13.2)		8270D		10	08/12/13 21:06	CWH0143	CH30921
Pyrene	ND (13.2)		8270D		10	08/12/13 21:06	CWH0143	CH30921

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*54 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*72 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*54 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*83 %*		*30-130*
Surrogate: 2-Fluorophenol	*47 %*		*30-130*
Surrogate: Nitrobenzene-d5	*86 %*		*30-130*
Surrogate: Phenol-d6	*63 %*		*30-130*
Surrogate: p-Terphenyl-d14	*107 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC4 4-6ft
Date Sampled: 08/05/13 14:25
Percent Solids: 24
Initial Volume: 15.4
Final Volume: 0.5
Extraction Method: 3541

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-17
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/10/13 9:00

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	**0.372** (0.169)		8270D		5	08/13/13 5:23	CWH0159	CH31001
Acenaphthene	ND (0.169)		8270D		5	08/13/13 5:23	CWH0159	CH31001
Acenaphthylene	ND (0.169)		8270D		5	08/13/13 5:23	CWH0159	CH31001
Anthracene	ND (0.169)		8270D		5	08/13/13 5:23	CWH0159	CH31001
Benzo(a)anthracene	ND (0.169)		8270D		5	08/13/13 5:23	CWH0159	CH31001
Benzo(a)pyrene	ND (0.169)		8270D		5	08/13/13 5:23	CWH0159	CH31001
Benzo(b)fluoranthene	**0.169** (0.169)		8270D		5	08/13/13 5:23	CWH0159	CH31001
Benzo(g,h,i)perylene	ND (0.169)		8270D		5	08/13/13 5:23	CWH0159	CH31001
Benzo(k)fluoranthene	ND (0.169)		8270D		5	08/13/13 5:23	CWH0159	CH31001
Chrysene	**0.203** (0.169)		8270D		5	08/13/13 5:23	CWH0159	CH31001
Dibenzo(a,h)Anthracene	ND (0.169)		8270D		5	08/13/13 5:23	CWH0159	CH31001
Fluoranthene	**0.298** (0.169)		8270D		5	08/13/13 5:23	CWH0159	CH31001
Fluorene	**0.169** (0.169)		8270D		5	08/13/13 5:23	CWH0159	CH31001
Indeno(1,2,3-cd)Pyrene	ND (0.169)		8270D		5	08/13/13 5:23	CWH0159	CH31001
Naphthalene	**4.37** (0.169)		8270D		5	08/13/13 5:23	CWH0159	CH31001
Phenanthrene	**0.379** (0.169)		8270D		5	08/13/13 5:23	CWH0159	CH31001
Pyrene	**0.264** (0.169)		8270D		5	08/13/13 5:23	CWH0159	CH31001

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*55 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*59 %*		*30-130*
Surrogate: Nitrobenzene-d5	*130 %*		*30-130*
Surrogate: p-Terphenyl-d14	*79 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC4 4-6ft
Date Sampled: 08/05/13 14:25
Percent Solids: 24
Initial Volume: 15
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-17
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 8/12/13 10:00

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	**3090** (521)		MADEP-EPH		5	VSC	08/13/13 19:09	CWH0163	CH31208
C19-C36 Aliphatics1	ND (521)		MADEP-EPH		5	VSC	08/13/13 19:09	CWH0163	CH31208
C11-C22 Unadjusted Aromatics1	ND (521)		EPH8270		5	VSC	08/14/13 2:23	CWH0181	CH31208
C11-C22 Aromatics1,2	ND (521)		EPH8270			VSC	08/14/13 2:23		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*83 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*74 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*71 %*		*40-140*
Surrogate: O-Terphenyl	*173 %*	*SM*	*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC5 0-0.5ft
Date Sampled: 08/05/13 14:50
Percent Solids: 16

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-18
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (6.3)		6020A		50	SVD	08/12/13 18:25	5.14	100	CH30856
Arsenic	**19.6** (6.2)		6010B		1	JP	08/10/13 2:45	5.14	100	CH30856
Barium	**84.9** (6.2)		6010B		1	JP	08/10/13 2:45	5.14	100	CH30856
Beryllium	**1.06** (0.26)		6010B		1	JP	08/10/13 2:45	5.14	100	CH30856
Cadmium	**4.51** (1.25)		6010B		1	JP	08/10/13 2:45	5.14	100	CH30856
Chromium	**92.5** (2.5)		6010B		1	JP	08/10/13 2:45	5.14	100	CH30856
Lead	**326** (12.5)		6010B		1	JP	08/10/13 2:45	5.14	100	CH30856
Mercury	**1.05** (0.104)		7471B		1	JP	08/12/13 20:22	1.22	40	CH30931
Nickel	**36.1** (6.2)		6010B		1	JP	08/10/13 2:45	5.14	100	CH30856
Selenium	ND (6.27)		6020A		50	SVD	08/12/13 18:25	5.14	100	CH30856
Silver	**1.92** (1.25)		6010B		1	JP	08/10/13 2:45	5.14	100	CH30856
Thallium	ND (6.27)		6020A		50	SVD	08/12/13 18:25	5.14	100	CH30856
Vanadium	**77.1** (2.5)		6010B		1	JP	08/10/13 2:45	5.14	100	CH30856
Zinc	**672** (6.2)		6010B		1	JP	08/10/13 19:29	5.14	100	CH30856

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC5 0-0.5ft
Date Sampled: 08/05/13 14:50
Percent Solids: 16
Initial Volume: 19.3
Final Volume: 5
Extraction Method: 3540

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-18
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 8/9/13 17:00
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.166)		8082A		1	08/13/13 20:54		CH31434
Aroclor 1221	ND (0.166)		8082A		1	08/13/13 20:54		CH31434
Aroclor 1232	ND (0.166)		8082A		1	08/13/13 20:54		CH31434
Aroclor 1242	ND (0.166)		8082A		1	08/13/13 20:54		CH31434
Aroclor 1248	ND (0.166)		8082A		1	08/13/13 20:54		CH31434
Aroclor 1254	**0.915** (0.166)		8082A		1	08/13/13 20:54		CH31434
Aroclor 1260	**1.01** (0.166)		8082A		1	08/13/13 20:54		CH31434
Aroclor 1262	ND (0.166)		8082A		1	08/13/13 20:54		CH31434
Aroclor 1268	ND (0.166)		8082A		1	08/13/13 20:54		CH31434

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*94 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*84 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*69 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*63 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC5 0-0.5ft
Date Sampled: 08/05/13 14:50
Percent Solids: 16
Initial Volume: 20.2
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-18
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/9/13 19:05

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (1.59)		8270D		1	08/12/13 14:21	CWH0147	CH30921
1,2-Dichlorobenzene	ND (1.59)		8270D		1	08/12/13 14:21	CWH0147	CH30921
1,3-Dichlorobenzene	ND (1.59)		8270D		1	08/12/13 14:21	CWH0147	CH30921
1,4-Dichlorobenzene	ND (1.59)		8270D		1	08/12/13 14:21	CWH0147	CH30921
2-Methylnaphthalene	ND (1.59)		8270D		1	08/12/13 14:21	CWH0147	CH30921
2-Methylphenol	ND (1.59)		8270D		1	08/12/13 14:21	CWH0147	CH30921
Acenaphthene	ND (1.59)		8270D		1	08/12/13 14:21	CWH0147	CH30921
Acenaphthylene	ND (1.59)		8270D		1	08/12/13 14:21	CWH0147	CH30921
Anthracene	ND (1.59)		8270D		1	08/12/13 14:21	CWH0147	CH30921
Benzo(a)anthracene	**1.64** (1.59)		8270D		1	08/12/13 14:21	CWH0147	CH30921
Benzo(a)pyrene	**1.80** (0.796)		8270D		1	08/12/13 14:21	CWH0147	CH30921
Benzo(b)fluoranthene	**2.60** (1.59)		8270D		1	08/12/13 14:21	CWH0147	CH30921
Benzo(g,h,i)perylene	ND (1.59)		8270D		1	08/12/13 14:21	CWH0147	CH30921
Benzo(k)fluoranthene	ND (1.59)		8270D		1	08/12/13 14:21	CWH0147	CH30921
bis(2-Ethylhexyl)phthalate	**85.2** (7.93)		8270D		5	08/11/13 19:43	CWH0147	CH30921
Butylbenzylphthalate	ND (1.59)		8270D		1	08/12/13 14:21	CWH0147	CH30921
Carbazole	ND (1.59)		8270D		1	08/12/13 14:21	CWH0147	CH30921
Chrysene	**1.76** (0.796)		8270D		1	08/12/13 14:21	CWH0147	CH30921
Dibenzo(a,h)Anthracene	ND (0.796)		8270D		1	08/12/13 14:21	CWH0147	CH30921
Dibenzofuran	ND (1.59)		8270D		1	08/12/13 14:21	CWH0147	CH30921
Diethylphthalate	ND (1.59)		8270D		1	08/12/13 14:21	CWH0147	CH30921
Dimethylphthalate	ND (1.59)		8270D		1	08/12/13 14:21	CWH0147	CH30921
Di-n-butylphthalate	ND (1.59)		8270D		1	08/12/13 14:21	CWH0147	CH30921
Di-n-octylphthalate	ND (1.59)		8270D		1	08/12/13 14:21	CWH0147	CH30921
Fluoranthene	**3.59** (1.59)		8270D		1	08/12/13 14:21	CWH0147	CH30921
Fluorene	ND (1.59)		8270D		1	08/12/13 14:21	CWH0147	CH30921
Hexachlorobenzene	ND (1.59)		8270D		1	08/12/13 14:21	CWH0147	CH30921
Hexachlorocyclopentadiene	ND (7.96)		8270D		1	08/12/13 14:21	CWH0147	CH30921
Indeno(1,2,3-cd)Pyrene	ND (1.59)		8270D		1	08/12/13 14:21	CWH0147	CH30921
Naphthalene	**1.85** (1.59)		8270D		1	08/12/13 14:21	CWH0147	CH30921
Phenanthrene	ND (1.59)		8270D		1	08/12/13 14:21	CWH0147	CH30921

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC5 0-0.5ft
Date Sampled: 08/05/13 14:50
Percent Solids: 16
Initial Volume: 20.2
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-18
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/9/13 19:05

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Phenol	ND (1.59)		8270D		1	08/12/13 14:21	CWH0147	CH30921
Pyrene	**3.00** (1.59)		8270D		1	08/12/13 14:21	CWH0147	CH30921

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*55 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*48 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*59 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*60 %*		*30-130*
Surrogate: 2-Fluorophenol	*57 %*		*30-130*
Surrogate: Nitrobenzene-d5	*70 %*		*30-130*
Surrogate: Phenol-d6	*63 %*		*30-130*
Surrogate: p-Terphenyl-d14	*65 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC5 0-0.5ft
Date Sampled: 08/05/13 14:50
Percent Solids: 16
Initial Volume: 15.3
Final Volume: 0.5
Extraction Method: 3541

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-18
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/10/13 9:00

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.524)		8270D		5	08/11/13 16:18	CWH0139	CH31001
Acenaphthene	ND (0.524)		8270D		5	08/11/13 16:18	CWH0139	CH31001
Acenaphthylene	ND (0.524)		8270D		5	08/11/13 16:18	CWH0139	CH31001
Anthracene	ND (0.524)		8270D		5	08/11/13 16:18	CWH0139	CH31001
Benzo(a)anthracene	**0.535** (0.524)		8270D		5	08/11/13 16:18	CWH0139	CH31001
Benzo(a)pyrene	**0.660** (0.524)		8270D		5	08/11/13 16:18	CWH0139	CH31001
Benzo(b)fluoranthene	**0.933** (0.524)		8270D		5	08/11/13 16:18	CWH0139	CH31001
Benzo(g,h,i)perylene	**0.619** (0.524)		8270D		5	08/11/13 16:18	CWH0139	CH31001
Benzo(k)fluoranthene	ND (0.524)		8270D		5	08/11/13 16:18	CWH0139	CH31001
Chrysene	**0.629** (0.524)		8270D		5	08/11/13 16:18	CWH0139	CH31001
Dibenzo(a,h)Anthracene	ND (0.524)		8270D		5	08/11/13 16:18	CWH0139	CH31001
Fluoranthene	**1.01** (0.524)		8270D		5	08/11/13 16:18	CWH0139	CH31001
Fluorene	ND (0.524)		8270D		5	08/11/13 16:18	CWH0139	CH31001
Indeno(1,2,3-cd)Pyrene	**0.650** (0.524)		8270D		5	08/11/13 16:18	CWH0139	CH31001
Naphthalene	**0.608** (0.524)		8270D		5	08/11/13 16:18	CWH0139	CH31001
Phenanthrene	ND (0.524)		8270D		5	08/11/13 16:18	CWH0139	CH31001
Pyrene	**1.04** (0.524)		8270D		5	08/11/13 16:18	CWH0139	CH31001

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*50 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*54 %*		*30-130*
Surrogate: Nitrobenzene-d5	*52 %*		*30-130*
Surrogate: p-Terphenyl-d14	*86 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC5 0-0.5ft
Date Sampled: 08/05/13 14:50
Percent Solids: 16

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-18
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**150000** (6990)		TOC-LK		1	SUB	08/14/13 17:32	mg/kg	CH32011

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC5 0-0.5ft
Date Sampled: 08/05/13 14:50
Percent Solids: 16
Initial Volume: 15
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-18
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 8/12/13 10:00

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	ND (160)		MADEP-EPH		1	VSC	08/13/13 3:58	CWH0163	CH31208
C19-C36 Aliphatics1	**1130** (160)		MADEP-EPH		1	VSC	08/13/13 3:58	CWH0163	CH31208
C11-C22 Unadjusted Aromatics1	**583** (160)		EPH8270		1	VSC	08/14/13 3:10	CWH0181	CH31208
C11-C22 Aromatics1,2	**583** (160)		EPH8270			VSC	08/14/13 3:10		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*82 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*93 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*84 %*		*40-140*
Surrogate: O-Terphenyl	*83 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC5 2-4ft
Date Sampled: 08/05/13 14:50
Percent Solids: 27

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-19
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (3.4)		6020A		50	SVD	08/12/13 18:31	5.44	100	CH30856
Arsenic	**27.0** (3.4)		6010B		1	JP	08/10/13 2:50	5.44	100	CH30856
Barium	**86.9** (3.4)		6010B		1	JP	08/10/13 2:50	5.44	100	CH30856
Beryllium	**0.91** (0.14)		6010B		1	JP	08/10/13 2:50	5.44	100	CH30856
Cadmium	**5.91** (0.68)		6010B		1	JP	08/10/13 2:50	5.44	100	CH30856
Chromium	**128** (1.3)		6010B		1	JP	08/10/13 2:50	5.44	100	CH30856
Lead	**391** (6.7)		6010B		1	JP	08/10/13 2:50	5.44	100	CH30856
Mercury	**0.914** (0.355)		7471B		5	JP	08/12/13 20:24	1.02	40	CH30931
Nickel	**48.2** (3.4)		6010B		1	JP	08/10/13 2:50	5.44	100	CH30856
Selenium	ND (3.38)		6020A		50	SVD	08/12/13 18:31	5.44	100	CH30856
Silver	**1.77** (0.68)		6010B		1	JP	08/10/13 2:50	5.44	100	CH30856
Thallium	ND (3.38)		6020A		50	SVD	08/12/13 18:31	5.44	100	CH30856
Vanadium	**94.2** (1.3)		6010B		1	JP	08/10/13 2:50	5.44	100	CH30856
Zinc	**1200** (3.4)		6010B		1	JP	08/10/13 19:35	5.44	100	CH30856

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC5 2-4ft
Date Sampled: 08/05/13 14:50
Percent Solids: 27
Initial Volume: 19.4
Final Volume: 5
Extraction Method: 3540

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-19
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 8/9/13 17:00
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0944)		8082A		1	08/14/13 14:27		CH30937
Aroclor 1221	ND (0.0944)		8082A		1	08/14/13 14:27		CH30937
Aroclor 1232	ND (0.0944)		8082A		1	08/14/13 14:27		CH30937
Aroclor 1242	ND (0.0944)		8082A		1	08/14/13 14:27		CH30937
Aroclor 1248	**1.12** (0.0944)		8082A		1	08/14/13 14:27		CH30937
Aroclor 1254	**1.21** (0.0944)		8082A		1	08/14/13 14:27		CH30937
Aroclor 1260	**0.924** (0.0944)		8082A		1	08/14/13 14:27		CH30937
Aroclor 1262	ND (0.0944)		8082A		1	08/14/13 14:27		CH30937
Aroclor 1268	ND (0.0944)		8082A		1	08/14/13 14:27		CH30937

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*84 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*70 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*56 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*50 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC5 2-4ft
Date Sampled: 08/05/13 14:50
Percent Solids: 27
Initial Volume: 20.2
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-19
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/9/13 19:05

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.905)		8270D		1	08/12/13 13:14	CWH0147	CH30921
1,2-Dichlorobenzene	ND (0.905)		8270D		1	08/12/13 13:14	CWH0147	CH30921
1,3-Dichlorobenzene	ND (0.905)		8270D		1	08/12/13 13:14	CWH0147	CH30921
1,4-Dichlorobenzene	ND (0.905)		8270D		1	08/12/13 13:14	CWH0147	CH30921
2-Methylnaphthalene	ND (0.905)		8270D		1	08/12/13 13:14	CWH0147	CH30921
2-Methylphenol	ND (0.905)		8270D		1	08/12/13 13:14	CWH0147	CH30921
Acenaphthene	ND (0.905)		8270D		1	08/12/13 13:14	CWH0147	CH30921
Acenaphthylene	ND (0.905)		8270D		1	08/12/13 13:14	CWH0147	CH30921
Anthracene	ND (0.905)		8270D		1	08/12/13 13:14	CWH0147	CH30921
Benzo(a)anthracene	**1.19** (0.905)		8270D		1	08/12/13 13:14	CWH0147	CH30921
Benzo(a)pyrene	**1.04** (0.454)		8270D		1	08/12/13 13:14	CWH0147	CH30921
Benzo(b)fluoranthene	**1.30** (0.905)		8270D		1	08/12/13 13:14	CWH0147	CH30921
Benzo(g,h,i)perylene	ND (0.905)		8270D		1	08/12/13 13:14	CWH0147	CH30921
Benzo(k)fluoranthene	ND (0.905)		8270D		1	08/12/13 13:14	CWH0147	CH30921
bis(2-Ethylhexyl)phthalate	**408** (90.5)		8270D		100	08/12/13 23:50	CWH0147	CH30921
Butylbenzylphthalate	ND (0.905)		8270D		1	08/12/13 13:14	CWH0147	CH30921
Carbazole	ND (0.905)		8270D		1	08/12/13 13:14	CWH0147	CH30921
Chrysene	**1.48** (0.454)		8270D		1	08/12/13 13:14	CWH0147	CH30921
Dibenzo(a,h)Anthracene	ND (0.454)		8270D		1	08/12/13 13:14	CWH0147	CH30921
Dibenzofuran	ND (0.905)		8270D		1	08/12/13 13:14	CWH0147	CH30921
Diethylphthalate	ND (0.905)		8270D		1	08/12/13 13:14	CWH0147	CH30921
Dimethylphthalate	ND (0.905)		8270D		1	08/12/13 13:14	CWH0147	CH30921
Di-n-butylphthalate	ND (0.905)		8270D		1	08/12/13 13:14	CWH0147	CH30921
Di-n-octylphthalate	**5.02** (0.905)		8270D		1	08/12/13 13:14	CWH0147	CH30921
Fluoranthene	**2.63** (0.905)		8270D		1	08/12/13 13:14	CWH0147	CH30921
Fluorene	ND (0.905)		8270D		1	08/12/13 13:14	CWH0147	CH30921
Hexachlorobenzene	ND (0.905)		8270D		1	08/12/13 13:14	CWH0147	CH30921
Hexachlorocyclopentadiene	ND (4.54)		8270D		1	08/12/13 13:14	CWH0147	CH30921
Indeno(1,2,3-cd)Pyrene	ND (0.905)		8270D		1	08/12/13 13:14	CWH0147	CH30921
Naphthalene	**1.22** (0.905)		8270D		1	08/12/13 13:14	CWH0147	CH30921
Phenanthrene	ND (0.905)		8270D		1	08/12/13 13:14	CWH0147	CH30921

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC5 2-4ft
Date Sampled: 08/05/13 14:50
Percent Solids: 27
Initial Volume: 20.2
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-19
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/9/13 19:05

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Phenol	ND (0.905)		8270D		1	08/12/13 13:14	CWH0147	CH30921
Pyrene	**2.52** (0.905)		8270D		1	08/12/13 13:14	CWH0147	CH30921

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*54 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*55 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*61 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*62 %*		*30-130*
Surrogate: 2-Fluorophenol	*56 %*		*30-130*
Surrogate: Nitrobenzene-d5	*69 %*		*30-130*
Surrogate: Phenol-d6	*65 %*		*30-130*
Surrogate: p-Terphenyl-d14	*81 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC5 2-4ft
Date Sampled: 08/05/13 14:50
Percent Solids: 27
Initial Volume: 15.4
Final Volume: 0.5
Extraction Method: 3541

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-19
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/10/13 9:00

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.149)		8270D		5	08/13/13 2:54	CWH0159	CH31001
Acenaphthene	ND (0.149)		8270D		5	08/13/13 2:54	CWH0159	CH31001
Acenaphthylene	ND (0.149)		8270D		5	08/13/13 2:54	CWH0159	CH31001
Anthracene	**0.196** (0.149)		8270D		5	08/13/13 2:54	CWH0159	CH31001
Benzo(a)anthracene	**0.250** (0.149)		8270D		5	08/13/13 2:54	CWH0159	CH31001
Benzo(a)pyrene	**0.256** (0.149)		8270D		5	08/13/13 2:54	CWH0159	CH31001
Benzo(b)fluoranthene	**0.309** (0.149)		8270D		5	08/13/13 2:54	CWH0159	CH31001
Benzo(g,h,i)perylene	**0.238** (0.149)		8270D		5	08/13/13 2:54	CWH0159	CH31001
Benzo(k)fluoranthene	ND (0.149)		8270D		5	08/13/13 2:54	CWH0159	CH31001
Chrysene	**0.303** (0.149)		8270D		5	08/13/13 2:54	CWH0159	CH31001
Dibenzo(a,h)Anthracene	ND (0.149)		8270D		5	08/13/13 2:54	CWH0159	CH31001
Fluoranthene	**0.487** (0.149)		8270D		5	08/13/13 2:54	CWH0159	CH31001
Fluorene	ND (0.149)		8270D		5	08/13/13 2:54	CWH0159	CH31001
Indeno(1,2,3-cd)Pyrene	**0.202** (0.149)		8270D		5	08/13/13 2:54	CWH0159	CH31001
Naphthalene	**0.262** (0.149)		8270D		5	08/13/13 2:54	CWH0159	CH31001
Phenanthrene	**0.220** (0.149)		8270D		5	08/13/13 2:54	CWH0159	CH31001
Pyrene	**0.612** (0.149)		8270D		5	08/13/13 2:54	CWH0159	CH31001

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*50 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*54 %*		*30-130*
Surrogate: Nitrobenzene-d5	*58 %*		*30-130*
Surrogate: p-Terphenyl-d14	*80 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC5 2-4ft
Date Sampled: 08/05/13 14:50
Percent Solids: 27
Initial Volume: 15.7
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-19
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 8/12/13 10:00

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	**286** (87.5)		MADEP-EPH		1	VSC	08/13/13 4:49	CWH0163	CH31208
C19-C36 Aliphatics1	**1110** (87.5)		MADEP-EPH		1	VSC	08/13/13 4:49	CWH0163	CH31208
C11-C22 Unadjusted Aromatics1	**875** (87.5)		EPH8270		1	VSC	08/14/13 3:57	CWH0181	CH31208
C11-C22 Aromatics1,2	**875** (87.5)		EPH8270			VSC	08/14/13 3:57		[CALC]

	%Recovery	*Qualifier*	*Limits*
Surrogate: 1-Chlorooctadecane	*87 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*95 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*82 %*		*40-140*
Surrogate: O-Terphenyl	*92 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC6 0-0.5ft
Date Sampled: 08/05/13 15:05
Percent Solids: 17

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-20
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (5.7)		6020A		50	SVD	08/12/13 18:37	5.12	100	CH30856
Arsenic	**18.2** (5.6)		6010B		1	JP	08/10/13 2:56	5.12	100	CH30856
Barium	**91.1** (5.6)		6010B		1	JP	08/10/13 2:56	5.12	100	CH30856
Beryllium	**1.05** (0.24)		6010B		1	JP	08/10/13 2:56	5.12	100	CH30856
Cadmium	**4.21** (1.14)		6010B		1	JP	08/10/13 2:56	5.12	100	CH30856
Chromium	**96.2** (2.3)		6010B		1	JP	08/10/13 2:56	5.12	100	CH30856
Lead	**312** (11.3)		6010B		1	JP	08/10/13 2:56	5.12	100	CH30856
Mercury	**0.911** (0.104)		7471B		1	JP	08/12/13 20:27	1.1	40	CH30931
Nickel	**32.7** (5.6)		6010B		1	JP	08/10/13 2:56	5.12	100	CH30856
Selenium	ND (5.68)		6020A		50	SVD	08/12/13 18:37	5.12	100	CH30856
Silver	**1.73** (1.14)		6010B		1	JP	08/10/13 2:56	5.12	100	CH30856
Thallium	ND (5.68)		6020A		50	SVD	08/12/13 18:37	5.12	100	CH30856
Vanadium	**65.6** (2.3)		6010B		1	JP	08/10/13 2:56	5.12	100	CH30856
Zinc	**726** (5.6)		6010B		1	JP	08/10/13 19:41	5.12	100	CH30856

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC6 0-0.5ft
Date Sampled: 08/05/13 15:05
Percent Solids: 17
Initial Volume: 19.7
Final Volume: 5
Extraction Method: 3540

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-20
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 8/9/13 17:00
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.147)		8082A		1	08/14/13 14:46		CH30937
Aroclor 1221	ND (0.147)		8082A		1	08/14/13 14:46		CH30937
Aroclor 1232	ND (0.147)		8082A		1	08/14/13 14:46		CH30937
Aroclor 1242	ND (0.147)		8082A		1	08/14/13 14:46		CH30937
Aroclor 1248	**0.386** (0.147)		8082A		1	08/14/13 14:46		CH30937
Aroclor 1254	**0.767** (0.147)		8082A		1	08/14/13 14:46		CH30937
Aroclor 1260	**0.749** (0.147)		8082A		1	08/14/13 14:46		CH30937
Aroclor 1262	ND (0.147)		8082A		1	08/14/13 14:46		CH30937
Aroclor 1268	ND (0.147)		8082A		1	08/14/13 14:46		CH30937

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*98 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*78 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*74 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*62 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC6 0-0.5ft
Date Sampled: 08/05/13 15:05
Percent Solids: 17
Initial Volume: 20.6
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-20
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/9/13 19:05

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (1.40)		8270D		1	08/12/13 12:07	CWH0147	CH30921
1,2-Dichlorobenzene	ND (1.40)		8270D		1	08/12/13 12:07	CWH0147	CH30921
1,3-Dichlorobenzene	ND (1.40)		8270D		1	08/12/13 12:07	CWH0147	CH30921
1,4-Dichlorobenzene	ND (1.40)		8270D		1	08/12/13 12:07	CWH0147	CH30921
2-Methylnaphthalene	ND (1.40)		8270D		1	08/12/13 12:07	CWH0147	CH30921
2-Methylphenol	ND (1.40)		8270D		1	08/12/13 12:07	CWH0147	CH30921
Acenaphthene	ND (1.40)		8270D		1	08/12/13 12:07	CWH0147	CH30921
Acenaphthylene	ND (1.40)		8270D		1	08/12/13 12:07	CWH0147	CH30921
Anthracene	ND (1.40)		8270D		1	08/12/13 12:07	CWH0147	CH30921
Benzo(a)anthracene	ND (1.40)		8270D		1	08/12/13 12:07	CWH0147	CH30921
Benzo(a)pyrene	**1.49** (0.704)		8270D		1	08/12/13 12:07	CWH0147	CH30921
Benzo(b)fluoranthene	**2.35** (1.40)		8270D		1	08/12/13 12:07	CWH0147	CH30921
Benzo(g,h,i)perylene	ND (1.40)		8270D		1	08/12/13 12:07	CWH0147	CH30921
Benzo(k)fluoranthene	ND (1.40)		8270D		1	08/12/13 12:07	CWH0147	CH30921
bis(2-Ethylhexyl)phthalate	**27.1** (1.40)		8270D		1	08/12/13 12:07	CWH0147	CH30921
Butylbenzylphthalate	ND (1.40)		8270D		1	08/12/13 12:07	CWH0147	CH30921
Carbazole	ND (1.40)		8270D		1	08/12/13 12:07	CWH0147	CH30921
Chrysene	**1.65** (0.704)		8270D		1	08/12/13 12:07	CWH0147	CH30921
Dibenzo(a,h)Anthracene	ND (0.704)		8270D		1	08/12/13 12:07	CWH0147	CH30921
Dibenzofuran	ND (1.40)		8270D		1	08/12/13 12:07	CWH0147	CH30921
Diethylphthalate	ND (1.40)		8270D		1	08/12/13 12:07	CWH0147	CH30921
Dimethylphthalate	ND (1.40)		8270D		1	08/12/13 12:07	CWH0147	CH30921
Di-n-butylphthalate	ND (1.40)		8270D		1	08/12/13 12:07	CWH0147	CH30921
Di-n-octylphthalate	ND (1.40)		8270D		1	08/12/13 12:07	CWH0147	CH30921
Fluoranthene	**3.55** (1.40)		8270D		1	08/12/13 12:07	CWH0147	CH30921
Fluorene	ND (1.40)		8270D		1	08/12/13 12:07	CWH0147	CH30921
Hexachlorobenzene	ND (1.40)		8270D		1	08/12/13 12:07	CWH0147	CH30921
Hexachlorocyclopentadiene	ND (7.04)		8270D		1	08/12/13 12:07	CWH0147	CH30921
Indeno(1,2,3-cd)Pyrene	ND (1.40)		8270D		1	08/12/13 12:07	CWH0147	CH30921
Naphthalene	ND (1.40)		8270D		1	08/12/13 12:07	CWH0147	CH30921
Phenanthrene	ND (1.40)		8270D		1	08/12/13 12:07	CWH0147	CH30921

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC6 0-0.5ft
Date Sampled: 08/05/13 15:05
Percent Solids: 17
Initial Volume: 20.6
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-20
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/9/13 19:05

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Phenol	ND (1.40)		8270D		1	08/12/13 12:07	CWH0147	CH30921
Pyrene	**2.90** (1.40)		8270D		1	08/12/13 12:07	CWH0147	CH30921

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*55 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*53 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*62 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*64 %*		*30-130*
Surrogate: 2-Fluorophenol	*58 %*		*30-130*
Surrogate: Nitrobenzene-d5	*68 %*		*30-130*
Surrogate: Phenol-d6	*64 %*		*30-130*
Surrogate: p-Terphenyl-d14	*75 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC6 0-0.5ft
Date Sampled: 08/05/13 15:05
Percent Solids: 17
Initial Volume: 15.2
Final Volume: 0.5
Extraction Method: 3541

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-20
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/10/13 9:00

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.238)		8270D		5	08/13/13 6:13	CWH0159	CH31001
Acenaphthene	ND (0.238)		8270D		5	08/13/13 6:13	CWH0159	CH31001
Acenaphthylene	ND (0.238)		8270D		5	08/13/13 6:13	CWH0159	CH31001
Anthracene	ND (0.238)		8270D		5	08/13/13 6:13	CWH0159	CH31001
Benzo(a)anthracene	**0.647** (0.238)		8270D		5	08/13/13 6:13	CWH0159	CH31001
Benzo(a)pyrene	**0.923** (0.238)		8270D		5	08/13/13 6:13	CWH0159	CH31001
Benzo(b)fluoranthene	**1.45** (0.238)		8270D		5	08/13/13 6:13	CWH0159	CH31001
Benzo(g,h,i)perylene	**0.904** (0.238)		8270D		5	08/13/13 6:13	CWH0159	CH31001
Benzo(k)fluoranthene	**0.400** (0.238)		8270D		5	08/13/13 6:13	CWH0159	CH31001
Chrysene	**0.933** (0.238)		8270D		5	08/13/13 6:13	CWH0159	CH31001
Dibenzo(a,h)Anthracene	**0.657** (0.238)		8270D		5	08/13/13 6:13	CWH0159	CH31001
Fluoranthene	**1.52** (0.238)		8270D		5	08/13/13 6:13	CWH0159	CH31001
Fluorene	ND (0.238)		8270D		5	08/13/13 6:13	CWH0159	CH31001
Indeno(1,2,3-cd)Pyrene	**0.923** (0.238)		8270D		5	08/13/13 6:13	CWH0159	CH31001
Naphthalene	ND (0.238)		8270D		5	08/13/13 6:13	CWH0159	CH31001
Phenanthrene	**0.390** (0.238)		8270D		5	08/13/13 6:13	CWH0159	CH31001
Pyrene	**1.32** (0.238)		8270D		5	08/13/13 6:13	CWH0159	CH31001

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*45 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*48 %*		*30-130*
Surrogate: Nitrobenzene-d5	*52 %*		*30-130*
Surrogate: p-Terphenyl-d14	*79 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC6 0-0.5ft
Date Sampled: 08/05/13 15:05
Percent Solids: 17

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-20
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**155000** (6320)		TOC-LK		1	SUB	08/14/13 17:39	mg/kg	CH32011

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC6 0-0.5ft
Date Sampled: 08/05/13 15:05
Percent Solids: 17
Initial Volume: 14.8
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1308109
ESS Laboratory Sample ID: 1308109-20
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 8/12/13 10:00

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	ND (147)		MADEP-EPH		1	VSC	08/13/13 5:39	CWH0163	CH31208
C19-C36 Aliphatics1	**950** (147)		MADEP-EPH		1	VSC	08/13/13 5:39	CWH0163	CH31208
C11-C22 Unadjusted Aromatics1	**503** (147)		EPH8270		1	VSC	08/14/13 4:43	CWH0181	CH31208
C11-C22 Aromatics1,2	**498** (147)		EPH8270			VSC	08/14/13 4:43		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*86 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*90 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*81 %*		*40-140*
Surrogate: O-Terphenyl	*91 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308109

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Total Metals Solid										
Batch CH30856 - 3050B										
Blank										
Antimony	ND	2.5	mg/kg wet							
Arsenic	ND	2.5	mg/kg wet							
Barium	ND	2.5	mg/kg wet							
Beryllium	ND	0.10	mg/kg wet							
Cadmium	ND	0.50	mg/kg wet							
Chromium	ND	1.0	mg/kg wet							
Lead	ND	5.0	mg/kg wet							
Nickel	ND	2.5	mg/kg wet							
Selenium	ND	2.51	mg/kg wet							
Silver	ND	0.50	mg/kg wet							
Thallium	ND	2.51	mg/kg wet							
Vanadium	ND	1.0	mg/kg wet							
Zinc	ND	2.5	mg/kg wet							
LCS										
Antimony	107	9.9	mg/kg wet	106.0		101	80-120			
Arsenic	151	9.8	mg/kg wet	182.0		83	80-120			
Barium	126	9.8	mg/kg wet	143.0		88	80-120			
Beryllium	84.6	0.41	mg/kg wet	98.30		86	80-120			
Cadmium	51.7	1.97	mg/kg wet	60.40		86	80-120			
Chromium	113	3.9	mg/kg wet	125.0		90	80-120			
Lead	116	19.6	mg/kg wet	136.0		86	80-120			
Nickel	113	9.8	mg/kg wet	128.0		88	80-120			
Selenium	90.5	9.85	mg/kg wet	85.90		105	80-120			
Silver	55.9	1.97	mg/kg wet	61.30		91	80-120			
Thallium	154	9.85	mg/kg wet	144.0		107	80-120			
Vanadium	96.5	3.9	mg/kg wet	104.0		93	80-120			
Zinc	171	9.8	mg/kg wet	204.0		84	80-120			
LCS Dup										
Antimony	189	9.5	mg/kg wet	106.0		178	80-120	56	20	B++
Arsenic	154	9.4	mg/kg wet	182.0		85	80-120	2	20	
Barium	131	9.4	mg/kg wet	143.0		92	80-120	4	20	
Beryllium	85.7	0.40	mg/kg wet	98.30		87	80-120	1	20	
Cadmium	54.1	1.90	mg/kg wet	60.40		90	80-120	4	20	
Chromium	116	3.8	mg/kg wet	125.0		93	80-120	3	20	
Lead	120	18.9	mg/kg wet	136.0		88	80-120	3	20	
Nickel	116	9.4	mg/kg wet	128.0		91	80-120	2	20	
Selenium	135	9.48	mg/kg wet	85.90		157	80-120	39	20	B++
Silver	56.8	1.90	mg/kg wet	61.30		93	80-120	2	20	
Thallium	255	9.48	mg/kg wet	144.0		177	80-120	50	20	B++
Vanadium	99.1	3.8	mg/kg wet	104.0		95	80-120	3	20	
Zinc	174	9.4	mg/kg wet	204.0		85	80-120	2	20	
Batch CH30931 - 7471A										
Blank										

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308109

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Total Metals Solid										
Batch CH30931 - 7471A										
Mercury	ND	0.033	mg/kg wet							
LCS										
Mercury	11.0	0.811	mg/kg wet	9.250		119	80-120			
LCS Dup										
Mercury	10.8	0.773	mg/kg wet	9.250		117	80-120	2	20	
8082A Polychlorinated Biphenyls (PCB)										
Batch CH30839 - 3540										
Blank										
Aroclor 1016	ND	0.0250	mg/kg wet							
Aroclor 1016 (1)	ND	0.0250	mg/kg wet							
Aroclor 1016 (1) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1016 (2)	ND	0.0250	mg/kg wet							
Aroclor 1016 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1016 (3)	ND	0.0250	mg/kg wet							
Aroclor 1016 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1016 (4)	ND	0.0250	mg/kg wet							
Aroclor 1016 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1016 (5)	ND	0.0250	mg/kg wet							
Aroclor 1016 (5) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1221	ND	0.0250	mg/kg wet							
Aroclor 1221 (1)	ND	0.0250	mg/kg wet							
Aroclor 1221 (1) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1221 (2)	ND	0.0250	mg/kg wet							
Aroclor 1221 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1221 (3)	ND	0.0250	mg/kg wet							
Aroclor 1221 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1221 (4)	ND	0.0250	mg/kg wet							
Aroclor 1221 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1221 (5)	ND	0.0250	mg/kg wet							
Aroclor 1221 (5) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1232	ND	0.0250	mg/kg wet							
Aroclor 1232 (1)	ND	0.0250	mg/kg wet							
Aroclor 1232 (1) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1232 (2)	ND	0.0250	mg/kg wet							
Aroclor 1232 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1232 (3)	ND	0.0250	mg/kg wet							
Aroclor 1232 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1232 (4)	ND	0.0250	mg/kg wet							
Aroclor 1232 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1232 (5)	ND	0.0250	mg/kg wet							
Aroclor 1232 (5) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1242	ND	0.0250	mg/kg wet							
Aroclor 1242 (1)	ND	0.0250	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308109

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch CH30839 - 3540										
Aroclor 1242 (1) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1242 (2)	ND	0.0250	mg/kg wet							
Aroclor 1242 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1242 (3)	ND	0.0250	mg/kg wet							
Aroclor 1242 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1242 (4)	ND	0.0250	mg/kg wet							
Aroclor 1242 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1242 (5)	ND	0.0250	mg/kg wet							
Aroclor 1242 (5) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1248	ND	0.0250	mg/kg wet							
Aroclor 1248 (1)	ND	0.0250	mg/kg wet							
Aroclor 1248 (1) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1248 (2)	ND	0.0250	mg/kg wet							
Aroclor 1248 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1248 (3)	ND	0.0250	mg/kg wet							
Aroclor 1248 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1248 (4)	ND	0.0250	mg/kg wet							
Aroclor 1248 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1248 (5)	ND	0.0250	mg/kg wet							
Aroclor 1248 (5) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1254	ND	0.0250	mg/kg wet							
Aroclor 1254 (1)	ND	0.0250	mg/kg wet							
Aroclor 1254 (1) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1254 (2)	ND	0.0250	mg/kg wet							
Aroclor 1254 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1254 (3)	ND	0.0250	mg/kg wet							
Aroclor 1254 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1254 (4)	ND	0.0250	mg/kg wet							
Aroclor 1254 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1254 (5)	ND	0.0250	mg/kg wet							
Aroclor 1254 (5) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1260	ND	0.0250	mg/kg wet							
Aroclor 1260 (1)	ND	0.0250	mg/kg wet							
Aroclor 1260 (1) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1260 (2)	ND	0.0250	mg/kg wet							
Aroclor 1260 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1260 (3)	ND	0.0250	mg/kg wet							
Aroclor 1260 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1260 (4)	ND	0.0250	mg/kg wet							
Aroclor 1260 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1260 (5)	ND	0.0250	mg/kg wet							
Aroclor 1260 (5) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1262	ND	0.0250	mg/kg wet							
Aroclor 1262 (1)	ND	0.0250	mg/kg wet							
Aroclor 1262 (1) [2C]	ND	0.0250	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch CH30839 - 3540										
Aroclor 1262 (2)	ND	0.0250	mg/kg wet							
Aroclor 1262 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1262 (3)	ND	0.0250	mg/kg wet							
Aroclor 1262 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1262 (4)	ND	0.0250	mg/kg wet							
Aroclor 1262 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1262 (5)	ND	0.0250	mg/kg wet							
Aroclor 1262 (5) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1268	ND	0.0250	mg/kg wet							
Aroclor 1268 (1)	ND	0.0250	mg/kg wet							
Aroclor 1268 (1) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1268 (2)	ND	0.0250	mg/kg wet							
Aroclor 1268 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1268 (3)	ND	0.0250	mg/kg wet							
Aroclor 1268 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1268 (4)	ND	0.0250	mg/kg wet							
Aroclor 1268 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1268 (5)	ND	0.0250	mg/kg wet							
Aroclor 1268 (5) [2C]	ND	0.0250	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0132*		mg/kg wet	*0.01250*		*106*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0101*		mg/kg wet	*0.01250*		*81*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0106*		mg/kg wet	*0.01250*		*85*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.00948*		mg/kg wet	*0.01250*		*76*	*30-150*			
LCS										
Aroclor 1016	0.228	0.0250	mg/kg wet	0.2500		91	40-140			
Aroclor 1260	0.248	0.0250	mg/kg wet	0.2500		99	40-140			
Surrogate: Decachlorobiphenyl	*0.0129*		mg/kg wet	*0.01250*		*103*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.00990*		mg/kg wet	*0.01250*		*79*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.00997*		mg/kg wet	*0.01250*		*80*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.00859*		mg/kg wet	*0.01250*		*69*	*30-150*			
LCS Dup										
Aroclor 1016	0.255	0.0250	mg/kg wet	0.2500		102	40-140	11	30	
Aroclor 1260	0.253	0.0250	mg/kg wet	0.2500		101	40-140	2	30	
Surrogate: Decachlorobiphenyl	*0.0131*		mg/kg wet	*0.01250*		*105*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0101*		mg/kg wet	*0.01250*		*81*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0108*		mg/kg wet	*0.01250*		*86*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.00949*		mg/kg wet	*0.01250*		*76*	*30-150*			
Batch CH30937 - 3540										
Blank										
Aroclor 1016	ND	0.0250	mg/kg wet							
Aroclor 1016 (1)	ND	0.0250	mg/kg wet							
Aroclor 1016 (1) [2C]	ND	0.0250	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308109

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch CH30937 - 3540										
Aroclor 1016 (2)	ND	0.0250	mg/kg wet							
Aroclor 1016 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1016 (3)	ND	0.0250	mg/kg wet							
Aroclor 1016 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1016 (4)	ND	0.0250	mg/kg wet							
Aroclor 1016 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1016 (5)	ND	0.0250	mg/kg wet							
Aroclor 1016 (5) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1221	ND	0.0250	mg/kg wet							
Aroclor 1221 (1)	ND	0.0250	mg/kg wet							
Aroclor 1221 (1) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1221 (2)	ND	0.0250	mg/kg wet							
Aroclor 1221 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1221 (3)	ND	0.0250	mg/kg wet							
Aroclor 1221 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1221 (4)	ND	0.0250	mg/kg wet							
Aroclor 1221 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1221 (5)	ND	0.0250	mg/kg wet							
Aroclor 1221 (5) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1232	ND	0.0250	mg/kg wet							
Aroclor 1232 (1)	ND	0.0250	mg/kg wet							
Aroclor 1232 (1) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1232 (2)	ND	0.0250	mg/kg wet							
Aroclor 1232 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1232 (3)	ND	0.0250	mg/kg wet							
Aroclor 1232 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1232 (4)	ND	0.0250	mg/kg wet							
Aroclor 1232 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1232 (5)	ND	0.0250	mg/kg wet							
Aroclor 1232 (5) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1242	ND	0.0250	mg/kg wet							
Aroclor 1242 (1)	ND	0.0250	mg/kg wet							
Aroclor 1242 (1) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1242 (2)	ND	0.0250	mg/kg wet							
Aroclor 1242 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1242 (3)	ND	0.0250	mg/kg wet							
Aroclor 1242 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1242 (4)	ND	0.0250	mg/kg wet							
Aroclor 1242 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1242 (5)	ND	0.0250	mg/kg wet							
Aroclor 1242 (5) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1248	ND	0.0250	mg/kg wet							
Aroclor 1248 (1)	ND	0.0250	mg/kg wet							
Aroclor 1248 (1) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1248 (2)	ND	0.0250	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308109

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch CH30937 - 3540										
Aroclor 1248 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1248 (3)	ND	0.0250	mg/kg wet							
Aroclor 1248 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1248 (4)	ND	0.0250	mg/kg wet							
Aroclor 1248 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1248 (5)	ND	0.0250	mg/kg wet							
Aroclor 1248 (5) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1254	ND	0.0250	mg/kg wet							
Aroclor 1254 (1)	ND	0.0250	mg/kg wet							
Aroclor 1254 (1) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1254 (2)	ND	0.0250	mg/kg wet							
Aroclor 1254 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1254 (3)	ND	0.0250	mg/kg wet							
Aroclor 1254 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1254 (4)	ND	0.0250	mg/kg wet							
Aroclor 1254 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1254 (5)	ND	0.0250	mg/kg wet							
Aroclor 1254 (5) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1260	ND	0.0250	mg/kg wet							
Aroclor 1260 (1)	ND	0.0250	mg/kg wet							
Aroclor 1260 (1) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1260 (2)	ND	0.0250	mg/kg wet							
Aroclor 1260 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1260 (3)	ND	0.0250	mg/kg wet							
Aroclor 1260 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1260 (4)	ND	0.0250	mg/kg wet							
Aroclor 1260 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1260 (5)	ND	0.0250	mg/kg wet							
Aroclor 1260 (5) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1262	ND	0.0250	mg/kg wet							
Aroclor 1262 (1)	ND	0.0250	mg/kg wet							
Aroclor 1262 (1) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1262 (2)	ND	0.0250	mg/kg wet							
Aroclor 1262 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1262 (3)	ND	0.0250	mg/kg wet							
Aroclor 1262 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1262 (4)	ND	0.0250	mg/kg wet							
Aroclor 1262 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1262 (5)	ND	0.0250	mg/kg wet							
Aroclor 1262 (5) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1268	ND	0.0250	mg/kg wet							
Aroclor 1268 (1)	ND	0.0250	mg/kg wet							
Aroclor 1268 (1) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1268 (2)	ND	0.0250	mg/kg wet							
Aroclor 1268 (2) [2C]	ND	0.0250	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308109

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch CH30937 - 3540										
Aroclor 1268 (3)	ND	0.0250	mg/kg wet							
Aroclor 1268 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1268 (4)	ND	0.0250	mg/kg wet							
Aroclor 1268 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1268 (5)	ND	0.0250	mg/kg wet							
Aroclor 1268 (5) [2C]	ND	0.0250	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0127*		mg/kg wet	*0.01250*		*101*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0108*		mg/kg wet	*0.01250*		*87*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0119*		mg/kg wet	*0.01250*		*95*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0100*		mg/kg wet	*0.01250*		*80*	*30-150*			
LCS										
Aroclor 1016	0.279	0.0250	mg/kg wet	0.2500		111	40-140			
Aroclor 1260	0.291	0.0250	mg/kg wet	0.2500		117	40-140			
Surrogate: Decachlorobiphenyl	*0.0142*		mg/kg wet	*0.01250*		*114*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0116*		mg/kg wet	*0.01250*		*93*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0145*		mg/kg wet	*0.01250*		*116*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0116*		mg/kg wet	*0.01250*		*93*	*30-150*			
LCS Dup										
Aroclor 1016	0.267	0.0250	mg/kg wet	0.2500		107	40-140	4	30	
Aroclor 1260	0.281	0.0250	mg/kg wet	0.2500		112	40-140	4	30	
Surrogate: Decachlorobiphenyl	*0.0134*		mg/kg wet	*0.01250*		*107*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0110*		mg/kg wet	*0.01250*		*88*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0131*		mg/kg wet	*0.01250*		*105*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0106*		mg/kg wet	*0.01250*		*84*	*30-150*			
Batch CH31434 - 3540										
Blank										
Aroclor 1016	ND	0.0250	mg/kg wet							
Aroclor 1016 (1)	ND	0.0250	mg/kg wet							
Aroclor 1016 (1) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1016 (2)	ND	0.0250	mg/kg wet							
Aroclor 1016 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1016 (3)	ND	0.0250	mg/kg wet							
Aroclor 1016 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1016 (4)	ND	0.0250	mg/kg wet							
Aroclor 1016 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1016 (5)	ND	0.0250	mg/kg wet							
Aroclor 1016 (5) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1221	ND	0.0250	mg/kg wet							
Aroclor 1221 (1)	ND	0.0250	mg/kg wet							
Aroclor 1221 (1) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1221 (2)	ND	0.0250	mg/kg wet							
Aroclor 1221 (2) [2C]	ND	0.0250	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308109

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch CH31434 - 3540										
Aroclor 1221 (3)	ND	0.0250	mg/kg wet							
Aroclor 1221 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1221 (4)	ND	0.0250	mg/kg wet							
Aroclor 1221 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1221 (5)	ND	0.0250	mg/kg wet							
Aroclor 1221 (5) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1232	ND	0.0250	mg/kg wet							
Aroclor 1232 (1)	ND	0.0250	mg/kg wet							
Aroclor 1232 (1) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1232 (2)	ND	0.0250	mg/kg wet							
Aroclor 1232 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1232 (3)	ND	0.0250	mg/kg wet							
Aroclor 1232 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1232 (4)	ND	0.0250	mg/kg wet							
Aroclor 1232 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1232 (5)	ND	0.0250	mg/kg wet							
Aroclor 1232 (5) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1242	ND	0.0250	mg/kg wet							
Aroclor 1242 (1)	ND	0.0250	mg/kg wet							
Aroclor 1242 (1) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1242 (2)	ND	0.0250	mg/kg wet							
Aroclor 1242 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1242 (3)	ND	0.0250	mg/kg wet							
Aroclor 1242 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1242 (4)	ND	0.0250	mg/kg wet							
Aroclor 1242 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1242 (5)	ND	0.0250	mg/kg wet							
Aroclor 1242 (5) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1248	ND	0.0250	mg/kg wet							
Aroclor 1248 (1)	ND	0.0250	mg/kg wet							
Aroclor 1248 (1) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1248 (2)	ND	0.0250	mg/kg wet							
Aroclor 1248 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1248 (3)	ND	0.0250	mg/kg wet							
Aroclor 1248 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1248 (4)	ND	0.0250	mg/kg wet							
Aroclor 1248 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1248 (5)	ND	0.0250	mg/kg wet							
Aroclor 1248 (5) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1254	ND	0.0250	mg/kg wet							
Aroclor 1254 (1)	ND	0.0250	mg/kg wet							
Aroclor 1254 (1) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1254 (2)	ND	0.0250	mg/kg wet							
Aroclor 1254 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1254 (3)	ND	0.0250	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch CH31434 - 3540										
Aroclor 1254 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1254 (4)	ND	0.0250	mg/kg wet							
Aroclor 1254 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1254 (5)	ND	0.0250	mg/kg wet							
Aroclor 1254 (5) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1260	ND	0.0250	mg/kg wet							
Aroclor 1260 (1)	ND	0.0250	mg/kg wet							
Aroclor 1260 (1) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1260 (2)	ND	0.0250	mg/kg wet							
Aroclor 1260 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1260 (3)	ND	0.0250	mg/kg wet							
Aroclor 1260 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1260 (4)	ND	0.0250	mg/kg wet							
Aroclor 1260 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1260 (5)	ND	0.0250	mg/kg wet							
Aroclor 1260 (5) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1262	ND	0.0250	mg/kg wet							
Aroclor 1262 (1)	ND	0.0250	mg/kg wet							
Aroclor 1262 (1) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1262 (2)	ND	0.0250	mg/kg wet							
Aroclor 1262 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1262 (3)	ND	0.0250	mg/kg wet							
Aroclor 1262 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1262 (4)	ND	0.0250	mg/kg wet							
Aroclor 1262 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1262 (5)	ND	0.0250	mg/kg wet							
Aroclor 1262 (5) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1268	ND	0.0250	mg/kg wet							
Aroclor 1268 (1)	ND	0.0250	mg/kg wet							
Aroclor 1268 (1) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1268 (2)	ND	0.0250	mg/kg wet							
Aroclor 1268 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1268 (3)	ND	0.0250	mg/kg wet							
Aroclor 1268 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1268 (4)	ND	0.0250	mg/kg wet							
Aroclor 1268 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1268 (5)	ND	0.0250	mg/kg wet							
Aroclor 1268 (5) [2C]	ND	0.0250	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0162*		mg/kg wet	*0.01250*		*129*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0131*		mg/kg wet	*0.01250*		*105*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0111*		mg/kg wet	*0.01250*		*89*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0106*		mg/kg wet	*0.01250*		*85*	*30-150*			
LCS										
Aroclor 1016	0.294	0.0250	mg/kg wet	0.2500		118	40-140			

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Client Name: GZA GeoEnvironmental, Inc.
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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch CH31434 - 3540										
Aroclor 1260	0.318	0.0250	mg/kg wet	0.2500		127	40-140			
Surrogate: Decachlorobiphenyl	*0.0181*		mg/kg wet	*0.01250*		*145*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0147*		mg/kg wet	*0.01250*		*117*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0139*		mg/kg wet	*0.01250*		*111*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0129*		mg/kg wet	*0.01250*		*103*	*30-150*			
LCS Dup										
Aroclor 1016	0.291	0.0250	mg/kg wet	0.2500		116	40-140	1	30	
Aroclor 1260	0.306	0.0250	mg/kg wet	0.2500		122	40-140	4	30	
Surrogate: Decachlorobiphenyl	*0.0171*		mg/kg wet	*0.01250*		*137*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0137*		mg/kg wet	*0.01250*		*110*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0128*		mg/kg wet	*0.01250*		*103*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0117*		mg/kg wet	*0.01250*		*93*	*30-150*			
8270D Semi-Volatile Organic Compounds										
Batch CH30921 - 3546										
Blank										
1,2,4-Trichlorobenzene	ND	0.333	mg/kg wet							
1,2-Dichlorobenzene	ND	0.333	mg/kg wet							
1,3-Dichlorobenzene	ND	0.333	mg/kg wet							
1,4-Dichlorobenzene	ND	0.333	mg/kg wet							
2-Methylnaphthalene	ND	0.333	mg/kg wet							
2-Methylphenol	ND	0.333	mg/kg wet							
Acenaphthene	ND	0.333	mg/kg wet							
Acenaphthylene	ND	0.333	mg/kg wet							
Anthracene	ND	0.333	mg/kg wet							
Benzo(a)anthracene	ND	0.333	mg/kg wet							
Benzo(a)pyrene	ND	0.167	mg/kg wet							
Benzo(b)fluoranthene	ND	0.333	mg/kg wet							
Benzo(g,h,i)perylene	ND	0.333	mg/kg wet							
Benzo(k)fluoranthene	ND	0.333	mg/kg wet							
bis(2-Ethylhexyl)phthalate	ND	0.333	mg/kg wet							
Butylbenzylphthalate	ND	0.333	mg/kg wet							
Carbazole	ND	0.333	mg/kg wet							
Chrysene	ND	0.167	mg/kg wet							
Dibenzo(a,h)Anthracene	ND	0.167	mg/kg wet							
Dibenzofuran	ND	0.333	mg/kg wet							
Diethylphthalate	ND	0.333	mg/kg wet							
Dimethylphthalate	ND	0.333	mg/kg wet							
Di-n-butylphthalate	ND	0.333	mg/kg wet							
Di-n-octylphthalate	ND	0.333	mg/kg wet							
Fluoranthene	ND	0.333	mg/kg wet							
Fluorene	ND	0.333	mg/kg wet							
Hexachlorobenzene	ND	0.333	mg/kg wet							

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Client Name: GZA GeoEnvironmental, Inc.
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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch CH30921 - 3546										
Hexachlorocyclopentadiene	ND	1.67	mg/kg wet							
Indeno(1,2,3-cd)Pyrene	ND	0.333	mg/kg wet							
Naphthalene	ND	0.333	mg/kg wet							
Phenanthrene	ND	0.333	mg/kg wet							
Phenol	ND	0.333	mg/kg wet							
Pyrene	ND	0.333	mg/kg wet							
Surrogate: 1,2-Dichlorobenzene-d4	*2.83*		mg/kg wet	*3.333*		*85*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*4.52*		mg/kg wet	*5.000*		*90*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*4.20*		mg/kg wet	*5.000*		*84*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*2.96*		mg/kg wet	*3.333*		*89*	*30-130*			
Surrogate: 2-Fluorophenol	*2.87*		mg/kg wet	*5.000*		*57*	*30-130*			
Surrogate: Nitrobenzene-d5	*2.96*		mg/kg wet	*3.333*		*89*	*30-130*			
Surrogate: Phenol-d6	*4.36*		mg/kg wet	*5.000*		*87*	*30-130*			
Surrogate: p-Terphenyl-d14	*2.87*		mg/kg wet	*3.333*		*86*	*30-130*			
LCS										
1,2,4-Trichlorobenzene	2.55	0.333	mg/kg wet	3.333		77	40-140			
1,2-Dichlorobenzene	2.62	0.333	mg/kg wet	3.333		79	40-140			
1,3-Dichlorobenzene	2.55	0.333	mg/kg wet	3.333		77	40-140			
1,4-Dichlorobenzene	2.47	0.333	mg/kg wet	3.333		74	40-140			
2-Methylnaphthalene	2.76	0.333	mg/kg wet	3.333		83	40-140			
2-Methylphenol	2.97	0.333	mg/kg wet	3.333		89	30-130			
Acenaphthene	2.61	0.333	mg/kg wet	3.333		78	40-140			
Acenaphthylene	2.65	0.333	mg/kg wet	3.333		79	40-140			
Anthracene	2.94	0.333	mg/kg wet	3.333		88	40-140			
Benzo(a)anthracene	3.10	0.333	mg/kg wet	3.333		93	40-140			
Benzo(a)pyrene	3.01	0.167	mg/kg wet	3.333		90	40-140			
Benzo(b)fluoranthene	3.06	0.333	mg/kg wet	3.333		92	40-140			
Benzo(g,h,i)perylene	3.36	0.333	mg/kg wet	3.333		101	40-140			
Benzo(k)fluoranthene	3.31	0.333	mg/kg wet	3.333		99	40-140			
bis(2-Ethylhexyl)phthalate	3.29	0.333	mg/kg wet	3.333		99	40-140			
Butylbenzylphthalate	3.34	0.333	mg/kg wet	3.333		100	40-140			
Carbazole	2.80	0.333	mg/kg wet	3.333		84	40-140			
Chrysene	3.02	0.167	mg/kg wet	3.333		91	40-140			
Dibenzo(a,h)Anthracene	3.36	0.167	mg/kg wet	3.333		101	40-140			
Dibenzofuran	2.77	0.333	mg/kg wet	3.333		83	40-140			
Diethylphthalate	2.61	0.333	mg/kg wet	3.333		78	40-140			
Dimethylphthalate	2.96	0.333	mg/kg wet	3.333		89	40-140			
Di-n-butylphthalate	2.78	0.333	mg/kg wet	3.333		84	40-140			
Di-n-octylphthalate	3.58	0.333	mg/kg wet	3.333		107	40-140			
Fluoranthene	2.57	0.333	mg/kg wet	3.333		77	40-140			
Fluorene	2.85	0.333	mg/kg wet	3.333		85	40-140			
Hexachlorobenzene	2.81	0.333	mg/kg wet	3.333		84	40-140			
Hexachlorocyclopentadiene	1.86	1.67	mg/kg wet	3.333		56	40-140			
Indeno(1,2,3-cd)Pyrene	3.28	0.333	mg/kg wet	3.333		98	40-140			
Naphthalene	2.63	0.333	mg/kg wet	3.333		79	40-140			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch CH30921 - 3546										
Phenanthrene	2.93	0.333	mg/kg wet	3.333		88	40-140			
Phenol	2.58	0.333	mg/kg wet	3.333		77	30-130			
Pyrene	3.33	0.333	mg/kg wet	3.333		100	40-140			
Surrogate: 1,2-Dichlorobenzene-d4	*2.72*		mg/kg wet	*3.333*		*82*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*4.75*		mg/kg wet	*5.000*		*95*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*4.17*		mg/kg wet	*5.000*		*83*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*2.83*		mg/kg wet	*3.333*		*85*	*30-130*			
Surrogate: 2-Fluorophenol	*2.78*		mg/kg wet	*5.000*		*56*	*30-130*			
Surrogate: Nitrobenzene-d5	*2.73*		mg/kg wet	*3.333*		*82*	*30-130*			
Surrogate: Phenol-d6	*4.26*		mg/kg wet	*5.000*		*85*	*30-130*			
Surrogate: p-Terphenyl-d14	*3.32*		mg/kg wet	*3.333*		*100*	*30-130*			
LCS Dup										
1,2,4-Trichlorobenzene	2.76	0.333	mg/kg wet	3.333		83	40-140	8	30	
1,2-Dichlorobenzene	2.74	0.333	mg/kg wet	3.333		82	40-140	4	30	
1,3-Dichlorobenzene	2.58	0.333	mg/kg wet	3.333		77	40-140	1	30	
1,4-Dichlorobenzene	2.62	0.333	mg/kg wet	3.333		79	40-140	6	30	
2-Methylnaphthalene	2.90	0.333	mg/kg wet	3.333		87	40-140	5	30	
2-Methylphenol	3.12	0.333	mg/kg wet	3.333		94	30-130	5	30	
Acenaphthene	3.04	0.333	mg/kg wet	3.333		91	40-140	15	30	
Acenaphthylene	2.67	0.333	mg/kg wet	3.333		80	40-140	0.9	30	
Anthracene	3.16	0.333	mg/kg wet	3.333		95	40-140	7	30	
Benzo(a)anthracene	3.17	0.333	mg/kg wet	3.333		95	40-140	2	30	
Benzo(a)pyrene	3.14	0.167	mg/kg wet	3.333		94	40-140	4	30	
Benzo(b)fluoranthene	3.48	0.333	mg/kg wet	3.333		104	40-140	13	30	
Benzo(g,h,i)perylene	3.64	0.333	mg/kg wet	3.333		109	40-140	8	30	
Benzo(k)fluoranthene	3.15	0.333	mg/kg wet	3.333		95	40-140	5	30	
bis(2-Ethylhexyl)phthalate	3.64	0.333	mg/kg wet	3.333		109	40-140	10	30	
Butylbenzylphthalate	3.58	0.333	mg/kg wet	3.333		107	40-140	7	30	
Carbazole	3.10	0.333	mg/kg wet	3.333		93	40-140	10	30	
Chrysene	3.56	0.167	mg/kg wet	3.333		107	40-140	16	30	
Dibenzo(a,h)Anthracene	3.60	0.167	mg/kg wet	3.333		108	40-140	7	30	
Dibenzofuran	2.85	0.333	mg/kg wet	3.333		85	40-140	3	30	
Diethylphthalate	2.66	0.333	mg/kg wet	3.333		80	40-140	2	30	
Dimethylphthalate	2.76	0.333	mg/kg wet	3.333		83	40-140	7	30	
Di-n-butylphthalate	2.96	0.333	mg/kg wet	3.333		89	40-140	6	30	
Di-n-octylphthalate	3.68	0.333	mg/kg wet	3.333		110	40-140	3	30	
Fluoranthene	2.80	0.333	mg/kg wet	3.333		84	40-140	9	30	
Fluorene	2.99	0.333	mg/kg wet	3.333		90	40-140	5	30	
Hexachlorobenzene	3.04	0.333	mg/kg wet	3.333		91	40-140	8	30	
Hexachlorocyclopentadiene	2.06	1.67	mg/kg wet	3.333		62	40-140	10	30	
Indeno(1,2,3-cd)Pyrene	3.61	0.333	mg/kg wet	3.333		108	40-140	9	30	
Naphthalene	2.77	0.333	mg/kg wet	3.333		83	40-140	5	30	
Phenanthrene	3.14	0.333	mg/kg wet	3.333		94	40-140	7	30	
Phenol	2.62	0.333	mg/kg wet	3.333		79	30-130	2	30	
Pyrene	3.69	0.333	mg/kg wet	3.333		111	40-140	10	30	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch CH30921 - 3546										
Surrogate: 1,2-Dichlorobenzene-d4	*2.69*		mg/kg wet	*3.333*		*81*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*4.96*		mg/kg wet	*5.000*		*99*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*4.21*		mg/kg wet	*5.000*		*84*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*2.96*		mg/kg wet	*3.333*		*89*	*30-130*			
Surrogate: 2-Fluorophenol	*2.70*		mg/kg wet	*5.000*		*54*	*30-130*			
Surrogate: Nitrobenzene-d5	*2.80*		mg/kg wet	*3.333*		*84*	*30-130*			
Surrogate: Phenol-d6	*4.29*		mg/kg wet	*5.000*		*86*	*30-130*			
Surrogate: p-Terphenyl-d14	*3.56*		mg/kg wet	*3.333*		*107*	*30-130*			
8270D(SIM) Polynuclear Aromatic Hydrocarbons										
Batch CH30903 - 3541										
Blank										
2-Methylnaphthalene	ND	0.012	mg/kg wet							
Acenaphthene	ND	0.012	mg/kg wet							
Acenaphthylene	ND	0.012	mg/kg wet							
Anthracene	ND	0.012	mg/kg wet							
Benzo(a)anthracene	ND	0.012	mg/kg wet							
Benzo(a)pyrene	ND	0.012	mg/kg wet							
Benzo(b)fluoranthene	ND	0.012	mg/kg wet							
Benzo(g,h,i)perylene	ND	0.012	mg/kg wet							
Benzo(k)fluoranthene	ND	0.012	mg/kg wet							
Chrysene	ND	0.012	mg/kg wet							
Dibenzo(a,h)Anthracene	ND	0.012	mg/kg wet							
Fluoranthene	ND	0.012	mg/kg wet							
Fluorene	ND	0.012	mg/kg wet							
Indeno(1,2,3-cd)Pyrene	ND	0.012	mg/kg wet							
Naphthalene	ND	0.012	mg/kg wet							
Phenanthrene	ND	0.012	mg/kg wet							
Pyrene	ND	0.012	mg/kg wet							
Surrogate: 1,2-Dichlorobenzene-d4	*0.150*		mg/kg wet	*0.2500*		*60*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*0.148*		mg/kg wet	*0.2500*		*59*	*30-130*			
Surrogate: Nitrobenzene-d5	*0.163*		mg/kg wet	*0.2500*		*65*	*30-130*			
Surrogate: p-Terphenyl-d14	*0.214*		mg/kg wet	*0.2500*		*86*	*30-130*			
LCS										
2-Methylnaphthalene	0.154	0.012	mg/kg wet	0.2000		77	40-140			
Acenaphthene	0.146	0.012	mg/kg wet	0.2000		73	40-140			
Acenaphthylene	0.132	0.012	mg/kg wet	0.2000		66	40-140			
Anthracene	0.160	0.012	mg/kg wet	0.2000		80	40-140			
Benzo(a)anthracene	0.162	0.012	mg/kg wet	0.2000		81	40-140			
Benzo(a)pyrene	0.147	0.012	mg/kg wet	0.2000		74	40-140			
Benzo(b)fluoranthene	0.152	0.012	mg/kg wet	0.2000		76	40-140			
Benzo(g,h,i)perylene	0.136	0.012	mg/kg wet	0.2000		68	40-140			
Benzo(k)fluoranthene	0.160	0.012	mg/kg wet	0.2000		80	40-140			
Chrysene	0.154	0.012	mg/kg wet	0.2000		77	40-140			

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Client Name: GZA GeoEnvironmental, Inc.
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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D(SIM) Polynuclear Aromatic Hydrocarbons										
Batch CH30903 - 3541										
Dibenzo(a,h)Anthracene	0.170	0.012	mg/kg wet	0.2000		85	40-140			
Fluoranthene	0.149	0.012	mg/kg wet	0.2000		74	40-140			
Fluorene	0.149	0.012	mg/kg wet	0.2000		74	40-140			
Indeno(1,2,3-cd)Pyrene	0.150	0.012	mg/kg wet	0.2000		75	40-140			
Naphthalene	0.132	0.012	mg/kg wet	0.2000		66	40-140			
Phenanthrene	0.158	0.012	mg/kg wet	0.2000		79	40-140			
Pyrene	0.158	0.012	mg/kg wet	0.2000		79	40-140			
Surrogate: 1,2-Dichlorobenzene-d4	*0.154*		mg/kg wet	*0.2500*		*62*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*0.168*		mg/kg wet	*0.2500*		*67*	*30-130*			
Surrogate: Nitrobenzene-d5	*0.168*		mg/kg wet	*0.2500*		*67*	*30-130*			
Surrogate: p-Terphenyl-d14	*0.240*		mg/kg wet	*0.2500*		*96*	*30-130*			
LCS Dup										
2-Methylnaphthalene	0.180	0.012	mg/kg wet	0.2000		90	40-140	16	30	
Acenaphthene	0.164	0.012	mg/kg wet	0.2000		82	40-140	12	30	
Acenaphthylene	0.158	0.012	mg/kg wet	0.2000		79	40-140	18	30	
Anthracene	0.171	0.012	mg/kg wet	0.2000		86	40-140	7	30	
Benzo(a)anthracene	0.169	0.012	mg/kg wet	0.2000		84	40-140	4	30	
Benzo(a)pyrene	0.157	0.012	mg/kg wet	0.2000		78	40-140	6	30	
Benzo(b)fluoranthene	0.160	0.012	mg/kg wet	0.2000		80	40-140	5	30	
Benzo(g,h,i)perylene	0.143	0.012	mg/kg wet	0.2000		71	40-140	5	30	
Benzo(k)fluoranthene	0.169	0.012	mg/kg wet	0.2000		84	40-140	5	30	
Chrysene	0.167	0.012	mg/kg wet	0.2000		84	40-140	8	30	
Dibenzo(a,h)Anthracene	0.178	0.012	mg/kg wet	0.2000		89	40-140	4	30	
Fluoranthene	0.156	0.012	mg/kg wet	0.2000		78	40-140	4	30	
Fluorene	0.168	0.012	mg/kg wet	0.2000		84	40-140	12	30	
Indeno(1,2,3-cd)Pyrene	0.157	0.012	mg/kg wet	0.2000		78	40-140	5	30	
Naphthalene	0.162	0.012	mg/kg wet	0.2000		81	40-140	21	30	
Phenanthrene	0.169	0.012	mg/kg wet	0.2000		84	40-140	7	30	
Pyrene	0.166	0.012	mg/kg wet	0.2000		83	40-140	5	30	
Surrogate: 1,2-Dichlorobenzene-d4	*0.190*		mg/kg wet	*0.2500*		*76*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*0.186*		mg/kg wet	*0.2500*		*74*	*30-130*			
Surrogate: Nitrobenzene-d5	*0.206*		mg/kg wet	*0.2500*		*83*	*30-130*			
Surrogate: p-Terphenyl-d14	*0.248*		mg/kg wet	*0.2500*		*99*	*30-130*			
Batch CH31001 - 3541										
Blank										
2-Methylnaphthalene	ND	0.008	mg/kg wet							
Acenaphthene	ND	0.008	mg/kg wet							
Acenaphthylene	ND	0.008	mg/kg wet							
Anthracene	ND	0.008	mg/kg wet							
Benzo(a)anthracene	ND	0.008	mg/kg wet							
Benzo(a)pyrene	ND	0.008	mg/kg wet							
Benzo(b)fluoranthene	ND	0.008	mg/kg wet							
Benzo(g,h,i)perylene	ND	0.008	mg/kg wet							
Benzo(k)fluoranthene	ND	0.008	mg/kg wet							
Chrysene	ND	0.008	mg/kg wet							

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Client Name: GZA GeoEnvironmental, Inc.
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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D(SIM) Polynuclear Aromatic Hydrocarbons										
Batch CH31001 - 3541										
Dibenzo(a,h)Anthracene	ND	0.008	mg/kg wet							
Fluoranthene	ND	0.008	mg/kg wet							
Fluorene	ND	0.008	mg/kg wet							
Indeno(1,2,3-cd)Pyrene	ND	0.008	mg/kg wet							
Naphthalene	ND	0.008	mg/kg wet							
Phenanthrene	ND	0.008	mg/kg wet							
Pyrene	ND	0.008	mg/kg wet							
Surrogate: 1,2-Dichlorobenzene-d4	*0.202*		mg/kg wet	*0.3333*		*61*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*0.193*		mg/kg wet	*0.3333*		*58*	*30-130*			
Surrogate: Nitrobenzene-d5	*0.217*		mg/kg wet	*0.3333*		*65*	*30-130*			
Surrogate: p-Terphenyl-d14	*0.268*		mg/kg wet	*0.3333*		*80*	*30-130*			
LCS Dup										
2-Methylnaphthalene	0.210	0.017	mg/kg wet	0.2667		79	40-140	200	30	
Acenaphthene	0.193	0.017	mg/kg wet	0.2667		72	40-140	200	30	
Acenaphthylene	0.174	0.017	mg/kg wet	0.2667		65	40-140	200	30	
Anthracene	0.204	0.017	mg/kg wet	0.2667		77	40-140	200	30	
Benzo(a)anthracene	0.209	0.017	mg/kg wet	0.2667		78	40-140	200	30	
Benzo(a)pyrene	0.188	0.017	mg/kg wet	0.2667		70	40-140	200	30	
Benzo(b)fluoranthene	0.193	0.017	mg/kg wet	0.2667		72	40-140	200	30	
Benzo(g,h,i)perylene	0.167	0.017	mg/kg wet	0.2667		63	40-140	200	30	
Benzo(k)fluoranthene	0.199	0.017	mg/kg wet	0.2667		75	40-140	200	30	
Chrysene	0.204	0.017	mg/kg wet	0.2667		77	40-140	200	30	
Dibenzo(a,h)Anthracene	0.210	0.017	mg/kg wet	0.2667		79	40-140	200	30	
Fluoranthene	0.187	0.017	mg/kg wet	0.2667		70	40-140	200	30	
Fluorene	0.199	0.017	mg/kg wet	0.2667		75	40-140	200	30	
Indeno(1,2,3-cd)Pyrene	0.183	0.017	mg/kg wet	0.2667		69	40-140	200	30	
Naphthalene	0.190	0.017	mg/kg wet	0.2667		71	40-140	200	30	
Phenanthrene	0.201	0.017	mg/kg wet	0.2667		75	40-140	200	30	
Pyrene	0.206	0.017	mg/kg wet	0.2667		77	40-140	200	30	
Surrogate: 1,2-Dichlorobenzene-d4	*0.233*		mg/kg wet	*0.3333*		*70*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*0.223*		mg/kg wet	*0.3333*		*67*	*30-130*			
Surrogate: Nitrobenzene-d5	*0.238*		mg/kg wet	*0.3333*		*71*	*30-130*			
Surrogate: p-Terphenyl-d14	*0.320*		mg/kg wet	*0.3333*		*96*	*30-130*			
MADEP-EPH Extractable Petroleum Hydrocarbons										
Batch CH30919 - 3546										
Blank										
C19-C36 Aliphatics1	ND	15.0	mg/kg wet							
C9-C18 Aliphatics1	ND	15.0	mg/kg wet							
Decane (C10)	ND	0.5	mg/kg wet							
Docosane (C22)	ND	0.5	mg/kg wet							
Dodecane (C12)	ND	0.5	mg/kg wet							
Eicosane (C20)	ND	0.5	mg/kg wet							
Hexacosane (C26)	ND	0.5	mg/kg wet							
Hexadecane (C16)	ND	0.5	mg/kg wet							

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
MADEP-EPH Extractable Petroleum Hydrocarbons										
Batch CH30919 - 3546										
Hexatriacontane (C36)	ND	0.5	mg/kg wet							
Nonadecane (C19)	ND	0.5	mg/kg wet							
Nonane (C9)	ND	0.5	mg/kg wet							
Octacosane (C28)	ND	0.5	mg/kg wet							
Octadecane (C18)	ND	0.5	mg/kg wet							
Tetracosane (C24)	ND	0.5	mg/kg wet							
Tetradecane (C14)	ND	0.5	mg/kg wet							
Triacontane (C30)	ND	0.5	mg/kg wet							
Surrogate: 1-Chlorooctadecane	*1.83*		mg/kg wet	*2.000*		*92*	*40-140*			
Blank										
2-Methylnaphthalene	ND	0.20	mg/kg wet							
Acenaphthene	ND	0.40	mg/kg wet							
Acenaphthylene	ND	0.20	mg/kg wet							
Anthracene	ND	0.40	mg/kg wet							
Benzo(a)anthracene	ND	0.40	mg/kg wet							
Benzo(a)pyrene	ND	0.40	mg/kg wet							
Benzo(b)fluoranthene	ND	0.40	mg/kg wet							
Benzo(g,h,i)perylene	ND	0.40	mg/kg wet							
Benzo(k)fluoranthene	ND	0.40	mg/kg wet							
C11-C22 Unadjusted Aromatics1	ND	15.0	mg/kg wet							
Chrysene	ND	0.40	mg/kg wet							
Dibenzo(a,h)Anthracene	ND	0.20	mg/kg wet							
Fluoranthene	ND	0.40	mg/kg wet							
Fluorene	ND	0.40	mg/kg wet							
Indeno(1,2,3-cd)Pyrene	ND	0.40	mg/kg wet							
Naphthalene	ND	0.40	mg/kg wet							
Phenanthrene	ND	0.40	mg/kg wet							
Pyrene	ND	0.40	mg/kg wet							
Surrogate: 2-Bromonaphthalene	*2.08*		mg/kg wet	*2.000*		*104*	*40-140*			
Surrogate: 2-Fluorobiphenyl	*2.11*		mg/kg wet	*2.000*		*106*	*40-140*			
Surrogate: O-Terphenyl	*1.71*		mg/kg wet	*2.000*		*86*	*40-140*			
LCS										
C19-C36 Aliphatics1	16.4	15.0	mg/kg wet	16.00		103	40-140			
C9-C18 Aliphatics1	10.1	15.0	mg/kg wet	12.00		84	40-140			
Decane (C10)	1.1	0.5	mg/kg wet	2.000		54	40-140			
Docosane (C22)	1.7	0.5	mg/kg wet	2.000		87	40-140			
Dodecane (C12)	1.2	0.5	mg/kg wet	2.000		60	40-140			
Eicosane (C20)	1.7	0.5	mg/kg wet	2.000		85	40-140			
Hexacosane (C26)	1.7	0.5	mg/kg wet	2.000		85	40-140			
Hexadecane (C16)	1.6	0.5	mg/kg wet	2.000		79	40-140			
Hexatriacontane (C36)	1.6	0.5	mg/kg wet	2.000		82	40-140			
Nonadecane (C19)	1.7	0.5	mg/kg wet	2.000		83	40-140			
Nonane (C9)	0.8	0.5	mg/kg wet	2.000		40	30-140			
Octacosane (C28)	1.7	0.5	mg/kg wet	2.000		85	40-140			

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
MADEP-EPH Extractable Petroleum Hydrocarbons										
Batch CH30919 - 3546										
Octadecane (C18)	1.7	0.5	mg/kg wet	2.000		83	40-140			
Tetracosane (C24)	1.7	0.5	mg/kg wet	2.000		85	40-140			
Tetradecane (C14)	1.4	0.5	mg/kg wet	2.000		70	40-140			
Triacontane (C30)	1.7	0.5	mg/kg wet	2.000		84	40-140			
Surrogate: 1-Chlorooctadecane	*1.78*		mg/kg wet	*2.000*		*89*	*40-140*			
LCS										
2-Methylnaphthalene	1.43	0.20	mg/kg wet	2.000		71	40-140			
Acenaphthene	1.41	0.40	mg/kg wet	2.000		70	40-140			
Acenaphthylene	1.44	0.20	mg/kg wet	2.000		72	40-140			
Anthracene	1.50	0.40	mg/kg wet	2.000		75	40-140			
Benzo(a)anthracene	1.49	0.40	mg/kg wet	2.000		75	40-140			
Benzo(a)pyrene	1.79	0.40	mg/kg wet	2.000		90	40-140			
Benzo(b)fluoranthene	1.51	0.40	mg/kg wet	2.000		75	40-140			
Benzo(g,h,i)perylene	1.51	0.40	mg/kg wet	2.000		75	40-140			
Benzo(k)fluoranthene	1.69	0.40	mg/kg wet	2.000		85	40-140			
C11-C22 Unadjusted Aromatics1	29.2	15.0	mg/kg wet	34.00		86	40-140			
Chrysene	1.59	0.40	mg/kg wet	2.000		79	40-140			
Dibenzo(a,h)Anthracene	1.58	0.20	mg/kg wet	2.000		79	40-140			
Fluoranthene	1.58	0.40	mg/kg wet	2.000		79	40-140			
Fluorene	1.53	0.40	mg/kg wet	2.000		76	40-140			
Indeno(1,2,3-cd)Pyrene	1.46	0.40	mg/kg wet	2.000		73	40-140			
Naphthalene	1.28	0.40	mg/kg wet	2.000		64	40-140			
Phenanthrene	1.51	0.40	mg/kg wet	2.000		76	40-140			
Pyrene	1.54	0.40	mg/kg wet	2.000		77	40-140			
Surrogate: 2-Bromonaphthalene	*1.96*		mg/kg wet	*2.000*		*98*	*40-140*			
Surrogate: 2-Fluorobiphenyl	*2.14*		mg/kg wet	*2.000*		*107*	*40-140*			
Surrogate: O-Terphenyl	*1.86*		mg/kg wet	*2.000*		*93*	*40-140*			
LCS										
2-Methylnaphthalene Breakthrough	0.0		%				0-5			
Naphthalene Breakthrough	0.0		%				0-5			
LCS Dup										
C19-C36 Aliphatics1	18.9	15.0	mg/kg wet	16.00		118	40-140	14	25	
C9-C18 Aliphatics1	11.7	15.0	mg/kg wet	12.00		98	40-140	15	25	
Decane (C10)	1.2	0.5	mg/kg wet	2.000		62	40-140	13	25	
Docosane (C22)	1.9	0.5	mg/kg wet	2.000		96	40-140	10	25	
Dodecane (C12)	1.4	0.5	mg/kg wet	2.000		69	40-140	13	25	
Eicosane (C20)	1.9	0.5	mg/kg wet	2.000		94	40-140	10	25	
Hexacosane (C26)	1.9	0.5	mg/kg wet	2.000		94	40-140	10	25	
Hexadecane (C16)	1.7	0.5	mg/kg wet	2.000		87	40-140	10	25	
Hexatriacontane (C36)	1.8	0.5	mg/kg wet	2.000		91	40-140	11	25	
Nonadecane (C19)	1.8	0.5	mg/kg wet	2.000		92	40-140	10	25	
Nonane (C9)	0.9	0.5	mg/kg wet	2.000		46	30-140	14	25	
Octacosane (C28)	1.9	0.5	mg/kg wet	2.000		94	40-140	10	25	

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
MADEP-EPH Extractable Petroleum Hydrocarbons										
Batch CH30919 - 3546										
Octadecane (C18)	1.8	0.5	mg/kg wet	2.000		91	40-140	10	25	
Tetracosane (C24)	1.9	0.5	mg/kg wet	2.000		94	40-140	10	25	
Tetradecane (C14)	1.6	0.5	mg/kg wet	2.000		79	40-140	12	25	
Triacontane (C30)	1.9	0.5	mg/kg wet	2.000		93	40-140	10	25	
Surrogate: 1-Chlorooctadecane	*1.82*		mg/kg wet	*2.000*		*91*	*40-140*			
LCS Dup										
2-Methylnaphthalene	1.43	0.20	mg/kg wet	2.000		71	40-140	0.3	20	
Acenaphthene	1.45	0.40	mg/kg wet	2.000		72	40-140	3	20	
Acenaphthylene	1.44	0.20	mg/kg wet	2.000		72	40-140	0.4	20	
Anthracene	1.54	0.40	mg/kg wet	2.000		77	40-140	3	20	
Benzo(a)anthracene	1.56	0.40	mg/kg wet	2.000		78	40-140	4	20	
Benzo(a)pyrene	1.84	0.40	mg/kg wet	2.000		92	40-140	3	20	
Benzo(b)fluoranthene	1.62	0.40	mg/kg wet	2.000		81	40-140	7	20	
Benzo(g,h,i)perylene	1.56	0.40	mg/kg wet	2.000		78	40-140	4	20	
Benzo(k)fluoranthene	1.77	0.40	mg/kg wet	2.000		88	40-140	4	20	
C11-C22 Unadjusted Aromatics1	31.3	15.0	mg/kg wet	34.00		92	40-140	7	25	
Chrysene	1.66	0.40	mg/kg wet	2.000		83	40-140	4	20	
Dibenzo(a,h)Anthracene	1.64	0.20	mg/kg wet	2.000		82	40-140	4	20	
Fluoranthene	1.62	0.40	mg/kg wet	2.000		81	40-140	3	20	
Fluorene	1.57	0.40	mg/kg wet	2.000		79	40-140	3	20	
Indeno(1,2,3-cd)Pyrene	1.50	0.40	mg/kg wet	2.000		75	40-140	3	20	
Naphthalene	1.33	0.40	mg/kg wet	2.000		67	40-140	4	20	
Phenanthrene	1.56	0.40	mg/kg wet	2.000		78	40-140	3	20	
Pyrene	1.63	0.40	mg/kg wet	2.000		82	40-140	6	20	
Surrogate: 2-Bromonaphthalene	*1.95*		mg/kg wet	*2.000*		*97*	*40-140*			
Surrogate: 2-Fluorobiphenyl	*2.12*		mg/kg wet	*2.000*		*106*	*40-140*			
Surrogate: O-Terphenyl	*1.84*		mg/kg wet	*2.000*		*92*	*40-140*			
LCS Dup										
2-Methylnaphthalene Breakthrough	0.0		%				0-5		200	
Naphthalene Breakthrough	0.0		%				0-5		200	
Batch CH31208 - 3546										
Blank										
C19-C36 Aliphatics1	ND	15.0	mg/kg wet							
C9-C18 Aliphatics1	ND	15.0	mg/kg wet							
Decane (C10)	ND	0.5	mg/kg wet							
Docosane (C22)	ND	0.5	mg/kg wet							
Dodecane (C12)	ND	0.5	mg/kg wet							
Eicosane (C20)	ND	0.5	mg/kg wet							
Hexacosane (C26)	ND	0.5	mg/kg wet							
Hexadecane (C16)	ND	0.5	mg/kg wet							
Hexatriacontane (C36)	ND	0.5	mg/kg wet							
Nonadecane (C19)	ND	0.5	mg/kg wet							
Nonane (C9)	ND	0.5	mg/kg wet							

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
MADEP-EPH Extractable Petroleum Hydrocarbons										
Batch CH31208 - 3546										
Octacosane (C28)	ND	0.5	mg/kg wet							
Octadecane (C18)	ND	0.5	mg/kg wet							
Tetracosane (C24)	ND	0.5	mg/kg wet							
Tetradecane (C14)	ND	0.5	mg/kg wet							
Triacontane (C30)	ND	0.5	mg/kg wet							
Surrogate: 1-Chlorooctadecane	*1.52*		mg/kg wet	*2.000*		*76*	*40-140*			
Blank										
2-Methylnaphthalene	ND	0.20	mg/kg wet							
Acenaphthene	ND	0.40	mg/kg wet							
Acenaphthylene	ND	0.20	mg/kg wet							
Anthracene	ND	0.40	mg/kg wet							
Benzo(a)anthracene	ND	0.40	mg/kg wet							
Benzo(a)pyrene	ND	0.40	mg/kg wet							
Benzo(b)fluoranthene	ND	0.40	mg/kg wet							
Benzo(g,h,i)perylene	ND	0.40	mg/kg wet							
Benzo(k)fluoranthene	ND	0.40	mg/kg wet							
C11-C22 Unadjusted Aromatics1	ND	15.0	mg/kg wet							
Chrysene	ND	0.40	mg/kg wet							
Dibenzo(a,h)Anthracene	ND	0.20	mg/kg wet							
Fluoranthene	ND	0.40	mg/kg wet							
Fluorene	ND	0.40	mg/kg wet							
Indeno(1,2,3-cd)Pyrene	ND	0.40	mg/kg wet							
Naphthalene	ND	0.40	mg/kg wet							
Phenanthrene	ND	0.40	mg/kg wet							
Pyrene	ND	0.40	mg/kg wet							
Surrogate: 2-Bromonaphthalene	*1.72*		mg/kg wet	*2.000*		*86*	*40-140*			
Surrogate: 2-Fluorobiphenyl	*1.63*		mg/kg wet	*2.000*		*82*	*40-140*			
Surrogate: O-Terphenyl	*1.46*		mg/kg wet	*2.000*		*73*	*40-140*			
LCS										
C19-C36 Aliphatics1	18.7	15.0	mg/kg wet	16.00		117	40-140			
C9-C18 Aliphatics1	9.7	15.0	mg/kg wet	12.00		81	40-140			
Decane (C10)	0.9	0.5	mg/kg wet	2.000		44	40-140			
Docosane (C22)	1.8	0.5	mg/kg wet	2.000		90	40-140			
Dodecane (C12)	1.1	0.5	mg/kg wet	2.000		53	40-140			
Eicosane (C20)	1.7	0.5	mg/kg wet	2.000		86	40-140			
Hexacosane (C26)	1.8	0.5	mg/kg wet	2.000		89	40-140			
Hexadecane (C16)	1.6	0.5	mg/kg wet	2.000		78	40-140			
Hexatriacontane (C36)	1.7	0.5	mg/kg wet	2.000		87	40-140			
Nonadecane (C19)	1.7	0.5	mg/kg wet	2.000		85	40-140			
Nonane (C9)	0.6	0.5	mg/kg wet	2.000		32	30-140			
Octacosane (C28)	1.8	0.5	mg/kg wet	2.000		89	40-140			
Octadecane (C18)	1.7	0.5	mg/kg wet	2.000		84	40-140			
Tetracosane (C24)	1.8	0.5	mg/kg wet	2.000		89	40-140			
Tetradecane (C14)	1.3	0.5	mg/kg wet	2.000		67	40-140			

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
MADEP-EPH Extractable Petroleum Hydrocarbons										
Batch CH31208 - 3546										
Triacontane (C30)	1.8	0.5	mg/kg wet	2.000		88	40-140			
Surrogate: 1-Chlorooctadecane	*1.74*		mg/kg wet	*2.000*		*87*	*40-140*			
LCS										
2-Methylnaphthalene	0.93	0.20	mg/kg wet	2.000		47	40-140			
Acenaphthene	1.16	0.40	mg/kg wet	2.000		58	40-140			
Acenaphthylene	0.99	0.20	mg/kg wet	2.000		50	40-140			
Anthracene	1.13	0.40	mg/kg wet	2.000		57	40-140			
Benzo(a)anthracene	1.22	0.40	mg/kg wet	2.000		61	40-140			
Benzo(a)pyrene	1.38	0.40	mg/kg wet	2.000		69	40-140			
Benzo(b)fluoranthene	1.42	0.40	mg/kg wet	2.000		71	40-140			
Benzo(g,h,i)perylene	1.29	0.40	mg/kg wet	2.000		65	40-140			
Benzo(k)fluoranthene	1.34	0.40	mg/kg wet	2.000		67	40-140			
C11-C22 Unadjusted Aromatics1	27.0	15.0	mg/kg wet	34.00		80	40-140			
Chrysene	1.36	0.40	mg/kg wet	2.000		68	40-140			
Dibenzo(a,h)Anthracene	1.33	0.20	mg/kg wet	2.000		67	40-140			
Fluoranthene	1.17	0.40	mg/kg wet	2.000		58	40-140			
Fluorene	1.07	0.40	mg/kg wet	2.000		54	40-140			
Indeno(1,2,3-cd)Pyrene	1.09	0.40	mg/kg wet	2.000		54	40-140			
Naphthalene	0.85	0.40	mg/kg wet	2.000		43	40-140			
Phenanthrene	1.20	0.40	mg/kg wet	2.000		60	40-140			
Pyrene	1.19	0.40	mg/kg wet	2.000		60	40-140			
Surrogate: 2-Bromonaphthalene	*1.57*		mg/kg wet	*2.000*		*79*	*40-140*			
Surrogate: 2-Fluorobiphenyl	*1.64*		mg/kg wet	*2.000*		*82*	*40-140*			
Surrogate: O-Terphenyl	*1.56*		mg/kg wet	*2.000*		*78*	*40-140*			
LCS										
2-Methylnaphthalene Breakthrough	0.0		%				0-5			
Naphthalene Breakthrough	0.0		%				0-5			
LCS Dup										
C19-C36 Aliphatics1	16.1	15.0	mg/kg wet	16.00		101	40-140	15	25	
C9-C18 Aliphatics1	9.1	15.0	mg/kg wet	12.00		76	40-140	6	25	
Decane (C10)	0.9	0.5	mg/kg wet	2.000		44	40-140	2	25	
Docosane (C22)	1.7	0.5	mg/kg wet	2.000		85	40-140	5	25	
Dodecane (C12)	1.1	0.5	mg/kg wet	2.000		53	40-140	0.2	25	
Eicosane (C20)	1.7	0.5	mg/kg wet	2.000		83	40-140	4	25	
Hexacosane (C26)	1.7	0.5	mg/kg wet	2.000		85	40-140	4	25	
Hexadecane (C16)	1.5	0.5	mg/kg wet	2.000		77	40-140	2	25	
Hexatriacontane (C36)	1.7	0.5	mg/kg wet	2.000		83	40-140	4	25	
Nonadecane (C19)	1.7	0.5	mg/kg wet	2.000		83	40-140	3	25	
Nonane (C9)	0.6	0.5	mg/kg wet	2.000		32	30-140	0.3	25	
Octacosane (C28)	1.7	0.5	mg/kg wet	2.000		85	40-140	4	25	
Octadecane (C18)	1.6	0.5	mg/kg wet	2.000		82	40-140	3	25	
Tetracosane (C24)	1.7	0.5	mg/kg wet	2.000		84	40-140	5	25	
Tetradecane (C14)	1.3	0.5	mg/kg wet	2.000		67	40-140	0.09	25	

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
MADEP-EPH Extractable Petroleum Hydrocarbons										
Batch CH31208 - 3546										
Triacontane (C30)	1.7	0.5	mg/kg wet	2.000		85	40-140	4	25	
Surrogate: 1-Chlorooctadecane	*1.72*		mg/kg wet	*2.000*		*86*	*40-140*			
LCS Dup										
2-Methylnaphthalene	0.89	0.20	mg/kg wet	2.000		44	40-140	5	20	
Acenaphthene	1.04	0.40	mg/kg wet	2.000		52	40-140	11	20	
Acenaphthylene	0.90	0.20	mg/kg wet	2.000		45	40-140	10	20	
Anthracene	1.09	0.40	mg/kg wet	2.000		54	40-140	4	20	
Benzo(a)anthracene	1.18	0.40	mg/kg wet	2.000		59	40-140	3	20	
Benzo(a)pyrene	1.31	0.40	mg/kg wet	2.000		66	40-140	5	20	
Benzo(b)fluoranthene	1.29	0.40	mg/kg wet	2.000		65	40-140	9	20	
Benzo(g,h,i)perylene	1.20	0.40	mg/kg wet	2.000		60	40-140	7	20	
Benzo(k)fluoranthene	1.30	0.40	mg/kg wet	2.000		65	40-140	3	20	
C11-C22 Unadjusted Aromatics1	23.6	15.0	mg/kg wet	34.00		69	40-140	13	25	
Chrysene	1.31	0.40	mg/kg wet	2.000		65	40-140	4	20	
Dibenzo(a,h)Anthracene	1.25	0.20	mg/kg wet	2.000		62	40-140	7	20	
Fluoranthene	1.14	0.40	mg/kg wet	2.000		57	40-140	3	20	
Fluorene	0.98	0.40	mg/kg wet	2.000		49	40-140	9	20	
Indeno(1,2,3-cd)Pyrene	1.01	0.40	mg/kg wet	2.000		50	40-140	8	20	
Naphthalene	0.80	0.40	mg/kg wet	2.000		40	40-140	6	20	
Phenanthrene	1.11	0.40	mg/kg wet	2.000		56	40-140	8	20	
Pyrene	1.14	0.40	mg/kg wet	2.000		57	40-140	5	20	
Surrogate: 2-Bromonaphthalene	*1.51*		mg/kg wet	*2.000*		*76*	*40-140*			
Surrogate: 2-Fluorobiphenyl	*1.55*		mg/kg wet	*2.000*		*78*	*40-140*			
Surrogate: O-Terphenyl	*1.48*		mg/kg wet	*2.000*		*74*	*40-140*			
LCS Dup										
2-Methylnaphthalene Breakthrough	0.0		%				0-5		200	
Naphthalene Breakthrough	0.0		%				0-5		200	
Batch CH31228 - 3546										
Blank										
C19-C36 Aliphatics1	ND	15.0	mg/kg wet							
C9-C18 Aliphatics1	ND	15.0	mg/kg wet							
Decane (C10)	ND	0.5	mg/kg wet							
Docosane (C22)	ND	0.5	mg/kg wet							
Dodecane (C12)	ND	0.5	mg/kg wet							
Eicosane (C20)	ND	0.5	mg/kg wet							
Hexacosane (C26)	ND	0.5	mg/kg wet							
Hexadecane (C16)	ND	0.5	mg/kg wet							
Hexatriacontane (C36)	ND	0.5	mg/kg wet							
Nonadecane (C19)	ND	0.5	mg/kg wet							
Nonane (C9)	ND	0.5	mg/kg wet							
Octacosane (C28)	ND	0.5	mg/kg wet							
Octadecane (C18)	ND	0.5	mg/kg wet							
Tetracosane (C24)	ND	0.5	mg/kg wet							

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
MADEP-EPH Extractable Petroleum Hydrocarbons										
Batch CH31228 - 3546										
Tetradecane (C14)	ND	0.5	mg/kg wet							
Triacontane (C30)	ND	0.5	mg/kg wet							
Surrogate: 1-Chlorooctadecane	*1.23*		mg/kg wet	*2.000*		*61*	*40-140*			
Blank										
2-Methylnaphthalene	ND	0.20	mg/kg wet							
Acenaphthene	ND	0.40	mg/kg wet							
Acenaphthylene	ND	0.20	mg/kg wet							
Anthracene	ND	0.40	mg/kg wet							
Benzo(a)anthracene	ND	0.40	mg/kg wet							
Benzo(a)pyrene	ND	0.40	mg/kg wet							
Benzo(b)fluoranthene	ND	0.40	mg/kg wet							
Benzo(g,h,i)perylene	ND	0.40	mg/kg wet							
Benzo(k)fluoranthene	ND	0.40	mg/kg wet							
C11-C22 Unadjusted Aromatics1	ND	15.0	mg/kg wet							
Chrysene	ND	0.40	mg/kg wet							
Dibenzo(a,h)Anthracene	ND	0.20	mg/kg wet							
Fluoranthene	ND	0.40	mg/kg wet							
Fluorene	ND	0.40	mg/kg wet							
Indeno(1,2,3-cd)Pyrene	ND	0.40	mg/kg wet							
Naphthalene	ND	0.40	mg/kg wet							
Phenanthrene	ND	0.40	mg/kg wet							
Pyrene	ND	0.40	mg/kg wet							
Surrogate: 2-Bromonaphthalene	*1.50*		mg/kg wet	*2.000*		*75*	*40-140*			
Surrogate: 2-Fluorobiphenyl	*1.46*		mg/kg wet	*2.000*		*73*	*40-140*			
Surrogate: O-Terphenyl	*1.43*		mg/kg wet	*2.000*		*72*	*40-140*			
LCS										
C19-C36 Aliphatics1	14.7	15.0	mg/kg wet	16.00		92	40-140			
C9-C18 Aliphatics1	8.4	15.0	mg/kg wet	12.00		70	40-140			
Decane (C10)	1.0	0.5	mg/kg wet	2.000		49	40-140			
Docosane (C22)	1.6	0.5	mg/kg wet	2.000		79	40-140			
Dodecane (C12)	1.1	0.5	mg/kg wet	2.000		55	40-140			
Eicosane (C20)	1.6	0.5	mg/kg wet	2.000		78	40-140			
Hexacosane (C26)	1.6	0.5	mg/kg wet	2.000		80	40-140			
Hexadecane (C16)	1.4	0.5	mg/kg wet	2.000		71	40-140			
Hexatriacontane (C36)	1.6	0.5	mg/kg wet	2.000		81	40-140			
Nonadecane (C19)	1.6	0.5	mg/kg wet	2.000		78	40-140			
Nonane (C9)	0.8	0.5	mg/kg wet	2.000		38	30-140			
Octacosane (C28)	1.6	0.5	mg/kg wet	2.000		80	40-140			
Octadecane (C18)	1.5	0.5	mg/kg wet	2.000		77	40-140			
Tetracosane (C24)	1.6	0.5	mg/kg wet	2.000		79	40-140			
Tetradecane (C14)	1.2	0.5	mg/kg wet	2.000		62	40-140			
Triacontane (C30)	1.6	0.5	mg/kg wet	2.000		80	40-140			
Surrogate: 1-Chlorooctadecane	*1.52*		mg/kg wet	*2.000*		*76*	*40-140*			

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
MADEP-EPH Extractable Petroleum Hydrocarbons										
Batch CH31228 - 3546										
LCS										
2-Methylnaphthalene	0.98	0.20	mg/kg wet	2.000		49	40-140			
Acenaphthene	1.17	0.40	mg/kg wet	2.000		59	40-140			
Acenaphthylene	0.98	0.20	mg/kg wet	2.000		49	40-140			
Anthracene	1.15	0.40	mg/kg wet	2.000		57	40-140			
Benzo(a)anthracene	1.23	0.40	mg/kg wet	2.000		62	40-140			
Benzo(a)pyrene	1.38	0.40	mg/kg wet	2.000		69	40-140			
Benzo(b)fluoranthene	1.35	0.40	mg/kg wet	2.000		67	40-140			
Benzo(g,h,i)perylene	1.28	0.40	mg/kg wet	2.000		64	40-140			
Benzo(k)fluoranthene	1.29	0.40	mg/kg wet	2.000		65	40-140			
C11-C22 Unadjusted Aromatics1	24.6	15.0	mg/kg wet	34.00		72	40-140			
Chrysene	1.38	0.40	mg/kg wet	2.000		69	40-140			
Dibenzo(a,h)Anthracene	1.35	0.20	mg/kg wet	2.000		67	40-140			
Fluoranthene	1.23	0.40	mg/kg wet	2.000		62	40-140			
Fluorene	1.09	0.40	mg/kg wet	2.000		54	40-140			
Indeno(1,2,3-cd)Pyrene	1.12	0.40	mg/kg wet	2.000		56	40-140			
Naphthalene	0.89	0.40	mg/kg wet	2.000		45	40-140			
Phenanthrene	1.18	0.40	mg/kg wet	2.000		59	40-140			
Pyrene	1.22	0.40	mg/kg wet	2.000		61	40-140			
Surrogate: 2-Bromonaphthalene	*1.42*		mg/kg wet	*2.000*		*71*	*40-140*			
Surrogate: 2-Fluorobiphenyl	*1.44*		mg/kg wet	*2.000*		*72*	*40-140*			
Surrogate: O-Terphenyl	*1.57*		mg/kg wet	*2.000*		*79*	*40-140*			
LCS										
2-Methylnaphthalene Breakthrough	0.0		%				0-5			
Naphthalene Breakthrough	0.0		%				0-5			
LCS Dup										
C19-C36 Aliphatics1	14.9	15.0	mg/kg wet	16.00		93	40-140	1	25	
C9-C18 Aliphatics1	8.5	15.0	mg/kg wet	12.00		71	40-140	0.8	25	
Decane (C10)	0.9	0.5	mg/kg wet	2.000		46	40-140	5	25	
Docosane (C22)	1.6	0.5	mg/kg wet	2.000		79	40-140	0.008	25	
Dodecane (C12)	1.1	0.5	mg/kg wet	2.000		54	40-140	2	25	
Eicosane (C20)	1.5	0.5	mg/kg wet	2.000		77	40-140	2	25	
Hexacosane (C26)	1.6	0.5	mg/kg wet	2.000		78	40-140	2	25	
Hexadecane (C16)	1.4	0.5	mg/kg wet	2.000		69	40-140	3	25	
Hexatriacontane (C36)	1.6	0.5	mg/kg wet	2.000		79	40-140	3	25	
Nonadecane (C19)	1.5	0.5	mg/kg wet	2.000		76	40-140	2	25	
Nonane (C9)	0.7	0.5	mg/kg wet	2.000		36	30-140	7	25	
Octacosane (C28)	1.6	0.5	mg/kg wet	2.000		79	40-140	2	25	
Octadecane (C18)	1.5	0.5	mg/kg wet	2.000		75	40-140	3	25	
Tetracosane (C24)	1.6	0.5	mg/kg wet	2.000		78	40-140	1	25	
Tetradecane (C14)	1.2	0.5	mg/kg wet	2.000		61	40-140	2	25	
Triacontane (C30)	1.6	0.5	mg/kg wet	2.000		78	40-140	2	25	
Surrogate: 1-Chlorooctadecane	*1.48*		mg/kg wet	*2.000*		*74*	*40-140*			

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
MADEP-EPH Extractable Petroleum Hydrocarbons										
Batch CH31228 - 3546										
LCS Dup										
2-Methylnaphthalene	0.98	0.20	mg/kg wet	2.000		49	40-140	0.2	20	
Acenaphthene	1.13	0.40	mg/kg wet	2.000		57	40-140	4	20	
Acenaphthylene	0.99	0.20	mg/kg wet	2.000		49	40-140	0.2	20	
Anthracene	1.15	0.40	mg/kg wet	2.000		58	40-140	0.3	20	
Benzo(a)anthracene	1.29	0.40	mg/kg wet	2.000		65	40-140	5	20	
Benzo(a)pyrene	1.41	0.40	mg/kg wet	2.000		71	40-140	2	20	
Benzo(b)fluoranthene	1.42	0.40	mg/kg wet	2.000		71	40-140	5	20	
Benzo(g,h,i)perylene	1.28	0.40	mg/kg wet	2.000		64	40-140	0.09	20	
Benzo(k)fluoranthene	1.40	0.40	mg/kg wet	2.000		70	40-140	8	20	
C11-C22 Unadjusted Aromatics1	27.1	15.0	mg/kg wet	34.00		80	40-140	9	25	
Chrysene	1.36	0.40	mg/kg wet	2.000		68	40-140	2	20	
Dibenzo(a,h)Anthracene	1.35	0.20	mg/kg wet	2.000		67	40-140	0.1	20	
Fluoranthene	1.22	0.40	mg/kg wet	2.000		61	40-140	0.8	20	
Fluorene	1.08	0.40	mg/kg wet	2.000		54	40-140	0.4	20	
Indeno(1,2,3-cd)Pyrene	1.10	0.40	mg/kg wet	2.000		55	40-140	2	20	
Naphthalene	0.88	0.40	mg/kg wet	2.000		44	40-140	1	20	
Phenanthrene	1.21	0.40	mg/kg wet	2.000		61	40-140	2	20	
Pyrene	1.23	0.40	mg/kg wet	2.000		62	40-140	0.7	20	
Surrogate: 2-Bromonaphthalene	*1.46*		mg/kg wet	*2.000*		*73*	*40-140*			
Surrogate: 2-Fluorobiphenyl	*1.50*		mg/kg wet	*2.000*		*75*	*40-140*			
Surrogate: O-Terphenyl	*1.63*		mg/kg wet	*2.000*		*82*	*40-140*			
LCS Dup										
2-Methylnaphthalene Breakthrough	0.0		%				0-5		200	
Naphthalene Breakthrough	0.0		%				0-5		200	

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Notes and Definitions

IM	Internal Standard(s) outside of criteria due to matrix (UCM/coelution is present) (IM).
C-	Continuing Calibration recovery is below lower control limit (C-).
C+	Continuing Calibration recovery is above upper control limit (C+).
D	Diluted.
D+	Relative percent difference for duplicate is outside of criteria (D+).
EL	Elevated Method Reporting Limits due to sample matrix (EL).
B+	Blank Spike recovery is above upper control limit (B+).
ICV-	Initial Calibration Verification recovery is below lower control limit (ICV-).
U	Analyte included in the analysis, but not detected
P	Percent difference between primary and confirmation results exceeds 40% (P).
PT	Pentachlorophenol tailing factor > 2.
Q	Calibration required quadratic regression (Q).
S+	Surrogate recovery(ies) above upper control limit (S+).
SD	Surrogate recovery(ies) diluted below the MRL (SD).
SM	Surrogate recovery(ies) outside of criteria due to matrix (UCM/coelution/matrix is present) (SM).
ICV	Initial Calibration Verification recovery is outside of control limit (ICV).
ND	Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
I/V	Initial Volume
F/V	Final Volume
§	Subcontracted analysis; see attached report
1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of target analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.
Avg	Results reported as a mathematical average.
NR	No Recovery
[CALC]	Calculated Analyte
SUB	Subcontracted analysis; see attached report

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308109

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Department of Defense (DoD) Environmental Laboratory Accreditation Program (ELAP)
A2LA Accredited: Testing Cert# 2864.01
http://www.a2la.org/scopepdf/2864-01.pdf

Rhode Island Potable and Non Potable Water: LAI00179
http://www.health.ri.gov/labs/waterlabs-instate.php

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750
http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutofStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI0002
http://www.maine.gov/dep/blwq/topic/vessel/lab_list.pdf

Massachusetts Potable and Non Potable Water: M-RI002
http://public.dep.state.ma.us/labcert/labcert.aspx

New Hampshire (NELAP accredited) Potable and Non PotableWater, Solid and Hazardous Waste: 2424
http://www4.egov.nh.gov/des/nhelap/namesearch.asp

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313
http://www.wadsworth.org/labcert/elap/comm.html

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006
http://datamine2.state.nj.us/dep/DEP_OPRA/

United States Department of Agriculture Soil Permit: S-54210

Maryland Potable Water: 301
http://www.mde.state.md.us/assets/document/WSP_labs-2009apr20.pdf

CHEMISTRY

A2LA Accredited: Testing Cert # 2864.01
Lead in Paint, Phthalates, Lead in Children's Metals Products (Including Jewelry)
http://www.A2LA.org/dirsearchnew/newsearch.cfm

CPSC ID# 1141
Lead Paint, Lead in Children's Metals Jewelry
http://www.cpsc.gov/cgi-bin/labapplist.aspx

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING



ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Burlington
30 Community Drive
Suite 11
South Burlington, VT 05403
Tel: (802)660-1990

TestAmerica Job ID: 200-17862-3
TestAmerica Sample Delivery Group: 200-17862-3
Client Project/Site: Soil Analysis

For:
ESS Laboratory
185 Frances Ave.
Cranston, Rhode Island 02910

Attn: Ms. Christine Taylor

Authorized for release by:
8/19/2013 4:43:39 PM

Kathryn Kelly, Project Manager I
kathryn.kelly@testamericainc.com

LINKS
Review your project results through TotalAccess
Have a Question? Ask The Expert
Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Qualifiers

General Chemistry

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Job ID: 200-17862-3

Laboratory: TestAmerica Burlington

Narrative

CASE NARRATIVE

Client: ESS Laboratory

Project: Soil Analysis

Report Number: 200-17862-3

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The samples were received on 08/09/2013; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 1.4 C.

TOTAL ORGANIC CARBON

Samples 1308109-1, 1308109-3, 1308109-6, 1308109-7, 1308109-9, 1308109-11, 1308109-12, 1308109-14, 1308109-18 and 1308109-20 were analyzed for total organic carbon in accordance with Lloyd Kahn Method. The samples were analyzed on 08/14/2013.

TOC Result 2 was detected in method blank MB 200-59843/31 at a level exceeding the reporting limit. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. Refer to the QC report for details.

No other difficulties were encountered during the TOC analysis.

All other quality control parameters were within the acceptance limits.

Detection Summary

Client: ESS Laboratory
Project/Site: Soil Analysis

TestAmerica Job ID: 200-17862-3
SDG: 200-17862-3

Client Sample ID: 1308109-1 — Lab Sample ID: 200-17862-19

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	43000		2010	2010	mg/Kg	1	☼	Lloyd Kahn	Total/NA

Client Sample ID: 1308109-3 — Lab Sample ID: 200-17862-20

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	10100		1330	1330	mg/Kg	1	☼	Lloyd Kahn	Total/NA

Client Sample ID: 1308109-6 — Lab Sample ID: 200-17862-21

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	16800		1260	1260	mg/Kg	1	☼	Lloyd Kahn	Total/NA

Client Sample ID: 1308109-7 — Lab Sample ID: 200-17862-22

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	71800		1700	1700	mg/Kg	1	☼	Lloyd Kahn	Total/NA

Client Sample ID: 1308109-9 — Lab Sample ID: 200-17862-23

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	58500		3430	3430	mg/Kg	1	☼	Lloyd Kahn	Total/NA

Client Sample ID: 1308109-11 — Lab Sample ID: 200-17862-24

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	24500		1800	1800	mg/Kg	1	☼	Lloyd Kahn	Total/NA

Client Sample ID: 1308109-12 — Lab Sample ID: 200-17862-25

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	18600		1480	1480	mg/Kg	1	☼	Lloyd Kahn	Total/NA

Client Sample ID: 1308109-14 — Lab Sample ID: 200-17862-26

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	58700		2500	2500	mg/Kg	1	☼	Lloyd Kahn	Total/NA

Client Sample ID: 1308109-18 — Lab Sample ID: 200-17862-27

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	150000		6990	6990	mg/Kg	1	☼	Lloyd Kahn	Total/NA

Client Sample ID: 1308109-20 — Lab Sample ID: 200-17862-28

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	155000		6320	6320	mg/Kg	1	☼	Lloyd Kahn	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: 1308109-1

Lab Sample ID: 200-17862-19

Date Collected: 08/05/13 00:00
Matrix: Sediment
Date Received: 08/09/13 10:00
Percent Solids: 49.8

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	43000		2010	2010	mg/Kg	☼		08/14/13 15:35	1
Percent Solids	49.8		0.25	0.25	%			08/12/13 15:49	1

Client Sample ID: 1308109-3

Lab Sample ID: 200-17862-20

Date Collected: 08/05/13 00:00
Matrix: Sediment
Date Received: 08/09/13 10:00
Percent Solids: 75.4

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	10100		1330	1330	mg/Kg	☼		08/14/13 15:42	1
Percent Solids	75.4		0.25	0.25	%			08/12/13 15:49	1

Client Sample ID: 1308109-6

Lab Sample ID: 200-17862-21

Date Collected: 08/05/13 00:00
Matrix: Sediment
Date Received: 08/09/13 10:00
Percent Solids: 79.4

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	16800		1260	1260	mg/Kg	☼		08/14/13 16:47	1
Percent Solids	79.4		0.25	0.25	%			08/12/13 15:49	1

Client Sample ID: 1308109-7

Lab Sample ID: 200-17862-22

Date Collected: 08/06/13 00:00
Matrix: Sediment
Date Received: 08/09/13 10:00
Percent Solids: 58.7

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	71800		1700	1700	mg/Kg	☼		08/14/13 16:55	1
Percent Solids	58.7		0.25	0.25	%			08/12/13 15:49	1

Client Sample ID: 1308109-9

Lab Sample ID: 200-17862-23

Date Collected: 08/06/13 00:00
Matrix: Sediment
Date Received: 08/09/13 10:00
Percent Solids: 29.1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	58500		3430	3430	mg/Kg	☼		08/14/13 17:02	1
Percent Solids	29.1		0.25	0.25	%			08/12/13 15:49	1

Client Sample ID: 1308109-11

Lab Sample ID: 200-17862-24

Date Collected: 08/06/13 00:00
Matrix: Sediment
Date Received: 08/09/13 10:00
Percent Solids: 55.5

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	24500		1800	1800	mg/Kg	☼		08/14/13 17:09	1
Percent Solids	55.5		0.25	0.25	%			08/12/13 15:49	1

Client: ESS Laboratory
Project/Site: Soil Analysis

TestAmerica Job ID: 200-17862-3
SDG: 200-17862-3

Client Sample ID: 1308109-12

Lab Sample ID: 200-17862-25
Date Collected: 08/05/13 00:00
Matrix: Sediment
Date Received: 08/09/13 10:00
Percent Solids: 67.6

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	18600		1480	1480	mg/Kg	☼		08/14/13 17:17	1
Percent Solids	67.6		0.25	0.25	%			08/12/13 15:49	1

Client Sample ID: 1308109-14

Lab Sample ID: 200-17862-26
Date Collected: 08/05/13 00:00
Matrix: Sediment
Date Received: 08/09/13 10:00
Percent Solids: 40.0

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	58700		2500	2500	mg/Kg	☼		08/14/13 17:24	1
Percent Solids	40.0		0.25	0.25	%			08/12/13 15:49	1

Client Sample ID: 1308109-18

Lab Sample ID: 200-17862-27
Date Collected: 08/05/13 00:00
Matrix: Sediment
Date Received: 08/09/13 10:00
Percent Solids: 14.3

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	150000		6990	6990	mg/Kg	☼		08/14/13 17:32	1
Percent Solids	14.3		0.25	0.25	%			08/12/13 15:49	1

Client Sample ID: 1308109-20

Lab Sample ID: 200-17862-28
Date Collected: 08/05/13 00:00
Matrix: Sediment
Date Received: 08/09/13 10:00
Percent Solids: 15.8

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	155000		6320	6320	mg/Kg	☼		08/14/13 17:39	1
Percent Solids	15.8		0.25	0.25	%			08/12/13 15:49	1

Method: Lloyd Kahn - Organic Carbon, Total (TOC)

Lab Sample ID: MB 200-59843/31
Matrix: Sediment
Analysis Batch: 59843

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	1000	U	1000	1000	mg/Kg			08/14/13 16:18	1

Lab Sample ID: MB 200-59843/5
Matrix: Sediment
Analysis Batch: 59843

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	1000	U	1000	1000	mg/Kg			08/14/13 12:45	1

Lab Sample ID: LCS 200-59843/32
Matrix: Sediment
Analysis Batch: 59843

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	20100	22010		mg/Kg		110	75 - 125

Lab Sample ID: LCS 200-59843/6
Matrix: Sediment
Analysis Batch: 59843

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	20100	20500		mg/Kg		102	75 - 125

Method: Moisture - Percent Moisture

Lab Sample ID: 200-17862-25 DU
Matrix: Sediment
Analysis Batch: 59672

Client Sample ID: 1308109-12
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Solids	67.6		70.4		%		4	20

General Chemistry

Analysis Batch: 59672

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
200-17862-19	1308109-1	Total/NA	Sediment	Moisture	
200-17862-20	1308109-3	Total/NA	Sediment	Moisture	
200-17862-21	1308109-6	Total/NA	Sediment	Moisture	
200-17862-22	1308109-7	Total/NA	Sediment	Moisture	
200-17862-23	1308109-9	Total/NA	Sediment	Moisture	
200-17862-24	1308109-11	Total/NA	Sediment	Moisture	
200-17862-25	1308109-12	Total/NA	Sediment	Moisture	
200-17862-25 DU	1308109-12	Total/NA	Sediment	Moisture	
200-17862-26	1308109-14	Total/NA	Sediment	Moisture	
200-17862-27	1308109-18	Total/NA	Sediment	Moisture	
200-17862-28	1308109-20	Total/NA	Sediment	Moisture	

Analysis Batch: 59843

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
200-17862-19	1308109-1	Total/NA	Sediment	Lloyd Kahn	
200-17862-20	1308109-3	Total/NA	Sediment	Lloyd Kahn	
200-17862-21	1308109-6	Total/NA	Sediment	Lloyd Kahn	
200-17862-22	1308109-7	Total/NA	Sediment	Lloyd Kahn	
200-17862-23	1308109-9	Total/NA	Sediment	Lloyd Kahn	
200-17862-24	1308109-11	Total/NA	Sediment	Lloyd Kahn	
200-17862-25	1308109-12	Total/NA	Sediment	Lloyd Kahn	
200-17862-26	1308109-14	Total/NA	Sediment	Lloyd Kahn	
200-17862-27	1308109-18	Total/NA	Sediment	Lloyd Kahn	
200-17862-28	1308109-20	Total/NA	Sediment	Lloyd Kahn	
LCS 200-59843/32	Lab Control Sample	Total/NA	Sediment	Lloyd Kahn	
LCS 200-59843/6	Lab Control Sample	Total/NA	Sediment	Lloyd Kahn	
MB 200-59843/31	Method Blank	Total/NA	Sediment	Lloyd Kahn	
MB 200-59843/5	Method Blank	Total/NA	Sediment	Lloyd Kahn	

Lab Chronicle

Client: ESS Laboratory
Project/Site: Soil Analysis

TestAmerica Job ID: 200-17862-3
SDG: 200-17862-3

Client Sample ID: 1308109-1
Lab Sample ID: 200-17862-19
Date Collected: 08/05/13 00:00
Matrix: Sediment
Date Received: 08/09/13 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	59672	08/12/13 15:49	VTP	TAL BUR
Total/NA	Analysis	Lloyd Kahn		1	59843	08/14/13 15:35	VTP	TAL BUR

Client Sample ID: 1308109-3
Lab Sample ID: 200-17862-20
Date Collected: 08/05/13 00:00
Matrix: Sediment
Date Received: 08/09/13 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	59672	08/12/13 15:49	VTP	TAL BUR
Total/NA	Analysis	Lloyd Kahn		1	59843	08/14/13 15:42	VTP	TAL BUR

Client Sample ID: 1308109-6
Lab Sample ID: 200-17862-21
Date Collected: 08/05/13 00:00
Matrix: Sediment
Date Received: 08/09/13 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	59672	08/12/13 15:49	VTP	TAL BUR
Total/NA	Analysis	Lloyd Kahn		1	59843	08/14/13 16:47	VTP	TAL BUR

Client Sample ID: 1308109-7
Lab Sample ID: 200-17862-22
Date Collected: 08/06/13 00:00
Matrix: Sediment
Date Received: 08/09/13 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	59672	08/12/13 15:49	VTP	TAL BUR
Total/NA	Analysis	Lloyd Kahn		1	59843	08/14/13 16:55	VTP	TAL BUR

Client Sample ID: 1308109-9
Lab Sample ID: 200-17862-23
Date Collected: 08/06/13 00:00
Matrix: Sediment
Date Received: 08/09/13 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	59672	08/12/13 15:49	VTP	TAL BUR
Total/NA	Analysis	Lloyd Kahn		1	59843	08/14/13 17:02	VTP	TAL BUR

Client Sample ID: 1308109-11
Lab Sample ID: 200-17862-24
Date Collected: 08/06/13 00:00
Matrix: Sediment
Date Received: 08/09/13 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	59672	08/12/13 15:49	VTP	TAL BUR

Lab Chronicle

Client: ESS Laboratory
Project/Site: Soil Analysis

TestAmerica Job ID: 200-17862-3
SDG: 200-17862-3

Client Sample ID: 1308109-11

Date Collected: 08/06/13 00:00
Date Received: 08/09/13 10:00

Lab Sample ID: 200-17862-24

Matrix: Sediment
Percent Solids: 55.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Lloyd Kahn		1	59843	08/14/13 17:09	VTP	TAL BUR

Client Sample ID: 1308109-12

Date Collected: 08/05/13 00:00
Date Received: 08/09/13 10:00

Lab Sample ID: 200-17862-25

Matrix: Sediment

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	59672	08/12/13 15:49	VTP	TAL BUR
Total/NA	Analysis	Lloyd Kahn		1	59843	08/14/13 17:17	VTP	TAL BUR

Client Sample ID: 1308109-14

Date Collected: 08/05/13 00:00
Date Received: 08/09/13 10:00

Lab Sample ID: 200-17862-26

Matrix: Sediment

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	59672	08/12/13 15:49	VTP	TAL BUR
Total/NA	Analysis	Lloyd Kahn		1	59843	08/14/13 17:24	VTP	TAL BUR

Client Sample ID: 1308109-18

Date Collected: 08/05/13 00:00
Date Received: 08/09/13 10:00

Lab Sample ID: 200-17862-27

Matrix: Sediment

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	59672	08/12/13 15:49	VTP	TAL BUR
Total/NA	Analysis	Lloyd Kahn		1	59843	08/14/13 17:32	VTP	TAL BUR

Client Sample ID: 1308109-20

Date Collected: 08/05/13 00:00
Date Received: 08/09/13 10:00

Lab Sample ID: 200-17862-28

Matrix: Sediment

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	59672	08/12/13 15:49	VTP	TAL BUR
Total/NA	Analysis	Lloyd Kahn		1	59843	08/14/13 17:39	VTP	TAL BUR

Laboratory References:

TAL BUR = TestAmerica Burlington, 30 Community Drive, Suite 11, South Burlington, VT 05403, TEL (802)660-1990

Certification Summary

Client: ESS Laboratory
Project/Site: Soil Analysis

TestAmerica Job ID: 200-17862-3
SDG: 200-17862-3

Laboratory: TestAmerica Burlington

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Connecticut	State Program	1	PH-0751	09-30-13
DE Haz. Subst. Cleanup Act (HSCA)	State Program	3	NA	02-13-15
Florida	NELAP	4	E87467	06-30-14
L-A-B	DoD ELAP		L2336	10-26-13
Louisiana	NELAP	6	176292	06-30-14
Maine	State Program	1	VT00008	04-17-15
Minnesota	NELAP	5	050-999-436	12-31-13
New Hampshire	NELAP	1	2006	12-18-13
New Jersey	NELAP	2	VT972	06-30-14
New York	NELAP	2	10391	04-01-14
Pennsylvania	NELAP	3	68-00489	04-30-14
Rhode Island	State Program	1	LAO00298	12-30-13
US Fish & Wildlife	Federal		LE-058448-0	02-28-14
USDA	Federal		P330-11-00093	02-17-14
Vermont	State Program	1	VT-4000	12-31-13
Virginia	NELAP	3	460209	12-14-13

Method Summary

Client: ESS Laboratory
Project/Site: Soil Analysis

TestAmerica Job ID: 200-17862-3
SDG: 200-17862-3

Method	Method Description	Protocol	Laboratory
Lloyd Kahn	Organic Carbon, Total (TOC)	EPA	TAL BUR
Moisture	Percent Moisture	EPA	TAL BUR

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

TAL BUR = TestAmerica Burlington, 30 Community Drive, Suite 11, South Burlington, VT 05403, TEL (802)660-1990

Sample Summary

Client: ESS Laboratory
Project/Site: Soil Analysis

TestAmerica Job ID: 200-17862-3
SDG: 200-17862-3

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
200-17862-19	1308109-1	Sediment	08/05/13 00:00	08/09/13 10:00
200-17862-20	1308109-3	Sediment	08/05/13 00:00	08/09/13 10:00
200-17862-21	1308109-6	Sediment	08/05/13 00:00	08/09/13 10:00
200-17862-22	1308109-7	Sediment	08/06/13 00:00	08/09/13 10:00
200-17862-23	1308109-9	Sediment	08/06/13 00:00	08/09/13 10:00
200-17862-24	1308109-11	Sediment	08/06/13 00:00	08/09/13 10:00
200-17862-25	1308109-12	Sediment	08/05/13 00:00	08/09/13 10:00
200-17862-26	1308109-14	Sediment	08/05/13 00:00	08/09/13 10:00
200-17862-27	1308109-18	Sediment	08/05/13 00:00	08/09/13 10:00
200-17862-28	1308109-20	Sediment	08/05/13 00:00	08/09/13 10:00

ESS Laboratory

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

Page ____ of ____

Turn Time ___ Standard Other 4 day
If faster than 5 days, prior approval by laboratory is required # ____

State where samples were collected from:
(MA) RI CT NH NJ NY ME Other ____

Is this project for any of the following:
(MA-MCP) Navy USACE Other ____

Reporting Limits | ESS LAB PROJECT ID

Electronic Deliverable Yes / No ___
Format: Excel __ Access __ PDF __ Other ____

Co. Name: ESS | Project # 1308108 | Project Name (20 Char. or less)

Contact Person: Christine Taylor | Address

City | State | Zip | PO# 1308108

Telephone # | Fax # | Email Address: ctaylor@thielsch.com

ESS LAB Sample #	Date	Collection Time	COMP	GRAB	MATRIX	Sample Identification (20 Char. or less)	Pres Code	Number of Containers	Type of Containers	Write Required Analysis: TOC Glycol Nitrate
	8/6			✓	Sed	1308108-1	1	1	6	X
	8/2					-2				
	8/2					-4				
	8/6					-5				
	8/5					-9				
	8/5					-12				
	8/6					-13				
	8/5					-16				
	8/2					-18				
	8/2									

200-17862 COC

Container Type: P-Poly G-Glass S-Sterile V-VOA | Matrix: S-Soil SD-Solid D-Sludge WW-Waste Water GW-Ground Water SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filters

Cooler Present ___ Yes ___ No | Internal Use Only
Seals Intact ___ Yes ___ No NA: ___ [ ] Pickup
Cooler Temp: ____ [ ] Technicians ____

Preservation Code 1- NP, 2- HCl, 3- H_2SO_4, 4- HNO_3, 5- NaOH, 6- MeOH, 7- Asorbic Acid, 8- ZnAct, 9- ____

Sampled by:

Comments:

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
	8/9/13 1800						
		Stephanie Parker	8/9/13 1000				

*By circling MA-MCP, client acknowledges samples were collected in accordance with MADEP CAM VII A

Please fax all changes to Chain of Custody in writing.

1 (White) Lab Copy 2 (Yellow) Client Receipt

10/26/04 A

ESS Laboratory

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Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

Page_____ of_____

Turn Time ___ Standard Other 4 day
If faster than 5 days, prior approval by laboratory is required #

State where samples were collected from:
(MA) RI CT NH NJ NY ME Other _____

Is this project for any of the following:
(MA-MCP) Navy USACE Other _____

Reporting Limits

ESS LAB PROJECT ID

Electronic Deliverable Yes ___ No ___
Format: Excel __ Access __ PDF / Other _____

Co. Name	Project #	Project Name (20 Char. or less)
ESS	1308109	
Contact Person	**Address**	
C. Taylor		
City	**State**	**Zip**
Telephone #	**Fax #**	**Email Address**
		ctaylor@thielsch.com

PO# 1308109

ESS LAB Sample #	Date	Collection Time	COMP	GRAB	MATRIX	Sample Identification (20 Char. or less)	Pres Code	Number of Containers	Type of Containers	HC Hexyl Xylen	Write Required Analysis
	8/5			✓	Sed	1308109-1	1	1	6	X	
	8/5					-3					
	8/5					-6					
	8/6					-7					
	8/6					~~-8~~ -9					
	8/6					-11					
	8/5					-12					
	8/5					-14					
	8/5					-17					
	8/5					-20					

Container Type: P-Poly G-Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Waste Water GW-Ground Water SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filters

Cooler Present ___ Yes ___ No Internal Use Only

Seals Intact ___ Yes ___ No NA: ___ [ ] Pickup

Cooler Temp: _____ [ ] Technicians _____

Preservation Code 1- NP, 2- HCl, 3- H_2SO_4, 4- HNO_3, 5- NaOH, 6- MeOH, 7- Asorbic Acid, 8- ZnAct, 9-_____

Sampled by:

Comments:

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
	3/8/15 1800	Fed ex					
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
			8/9/13 1000				

*By circling MA-MCP, client acknowledges samples were collected in accordance with MADEP CAM VII A

Please fax all changes to Chain of Custody in writing.

1 (White) Lab Copy 2 (Yellow) Client Receipt

10/26/04 A

ESS Laboratory

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185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

Turn Time: Standard (5-7 days) Other 4 day
If faster than 5 days, prior approval by laboratory is required #

State where samples were collected from: MA RI CT NH NJ NY ME Other ____

Is this project for any of the following: MA-MCP Navy USACE Other ____

Reporting Limits

ESS LAB PROJECT ID

Electronic Deliverable Yes ✓ No ___

Format: Excel ___ Access ___ PDF ✓ Other ____

Co. Name	Project #	Project Name (20 Char. or less)
ESS	1308110	

Contact Person	Address
C Taylor	

City	State	Zip	PO#

Telephone #	Fax #	Email Address
		ctaylor@thielsch.com

ESS LAB Sample #	Date	Collection Time	COMP	GRAB	MATRIX	Sample Identification (20 Char. or less)	Pres Code	Number of Containers	Type of Containers	Write Required Analysis: BC (Cyc/Kan)
	8/5			✓	Sed	1308110-2	1	1	6	X
	8/5			↓	↓	-5	↓	↓	↓	↓
	8/5					-6				
	8/5					-9				
	8/5			↓	↓	-12	↓	↓	↓	↓

Container Type: P-Poly G-Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Waste Water GW-Ground Water SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filters

Cooler Present ___ Yes ___ No

Seals Intact ___ Yes ___ No NA: ___

Cooler Temp: ____

Internal Use Only
[ ] Pickup
[ ] Technicians ____

Preservation Code 1- NP, 2- HCl, 3- H_2SO_4, 4- HNO_3, 5- NaOH, 6- MeOH, 7- Asorbic Acid, 8- ZnAct, 9- ____

Sampled by:

Comments:

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
	8/8/13 1800	Fed ex					
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
			8/9/13 1000				

*By circling MA-MCP, client acknowledges samples were collected in accordance with MADEP CAM VII A

Please fax all changes to Chain of Custody in writing.

1 (White) Lab Copy 2 (Yellow) Client Receipt

10/26/04 A

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CHAIN OF CUSTODY

Page_____ of_____

Turn Time ___ Standard Other 4 day
If faster than 5 days, prior approval by laboratory is required # _____

State where samples were collected from:
(MA) RI CT NH NJ NY ME Other _____

Is this project for any of the following:
(MA-MCP) Navy USACE Other _____

Reporting Limits

ESS LAB PROJECT ID

Electronic Deliverable Yes ✓ No ___
Format: Excel __ Access __ PDF ✓ Other _____

Co. Name	Project #	Project Name (20 Char. or less)
ESS	1308107	

Contact Person	Address
Christine Taylor	

City	State	Zip	PO#

Telephone #	Fax #	Email Address
		ctaylor@thielsch.com

ESS LAB Sample #	Date	Collection Time	COMP	GRAB	MATRIX	Sample Identification (20 Char. or less)	Pres Code	Number of Containers	Type of Containers	Write Required Analysis: TOC (Lloyd Kahn)
	8/6	0837		✓	Sed	1308107-4	1	1	6	X
	8/1	1443		↓	↓	-6	↓	↓	↓	↓
	8/2	1232				-9				
	8/2	1232				-10				
	8/5	1250				-12				
	↓	1250				-13				
		1250				-16				
	↓	1350				-18	↓	↓	↓	↓
				↓	↓					

Container Type: P-Poly G-Glass S-Sterile V-VOA | Matrix: S-Soil SD-Solid D-Sludge WW-Waste Water GW-Ground Water SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filters

Cooler Present ___ Yes ___ No Internal Use Only

Seals Intact ___ Yes ___ No NA: ___ [ ] Pickup

Cooler Temp: _____ [ ] Technicians _____

Preservation Code 1- NP, 2- HCl, 3- H_2SO_4, 4- HNO_3, 5- NaOH, 6- MeOH, 7- Asorbic Acid, 8- ZnAct, 9- _____

Sampled by:

Comments:

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
[signature]	8/8/13 1800	Fed Ex	8/8/13	[signature]			
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
		[signature]	8/9/13 1000				

*By circling MA-MCP, client acknowledges samples were collected in accordance with MADEP CAM VII A

Please fax all changes to Chain of Custody in writing.

1 (White) Lab Copy 2 (Yellow) Client Receipt

10/26/04 A

From: (401) 467-6454
Sample Receiving
ESS Lab
185 Frances Ave

Cranston, RI 02910

Origin ID: PVDA

FedEx Express

J13201306260326

Ship Date: 08AUG13
ActWgt: 47.0 LB
CAD: 105103550/INET3430

Delivery Address Bar Code

SHIP TO: (802) 660-1990 BILL SENDER

Sample Receiving
Test America
30 Community Dr
Ste 11
S BURLINGTON, VT 05403

Ref #
Invoice #
PO #
Dept #

FRI - 09 AUG 10:30A
PRIORITY OVERNIGHT

TRK# 0201 7964 2397 6923

EK BTVA

05403
VT-US
BTV

51AG1/09B9/1A9E

After printing this label:
1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.
Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com.FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery,misdelivery,or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim.Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental,consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss.Maximum for items of extraordinary value is $1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our ServiceGuide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

Login Sample Receipt Checklist

Client: ESS Laboratory

Job Number: 200-17862-3
SDG Number: 200-17862-3

Login Number: 17862
List Number: 1
Creator: Marion, Greg T

List Source: TestAmerica Burlington

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.4ºC IR GUN ID 181/CF=-0.2
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	False	Refer to Job Narrative for details.
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	Received extra samples not listed on COC.
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	False	Refer to Job Narrative for details.
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	N/A	
Residual Chlorine Checked.	N/A	

Sample and Cooler Receipt Checklist

Client: GZA GeoEnvironmental, Inc.
Client Project ID: _____
Shipped/Delivered Via: ESS Courier

ESS Project ID: 13080109
Date Project Due: 8/14/13
Days For Project: 5 Day

Items to be checked upon receipt:

1. Air Bill Manifest Present?	* No	10. Are the samples properly preserved?	Yes
Air No.:		11. Proper sample containers used?	Yes
2. Were Custody Seals Present?	No	12. Any air bubbles in the VOA vials?	N/A
3. Were Custody Seals Intact?	N/A	13. Holding times exceeded?	No
4. Is Radiation count < 100 CPM?	Yes	14. Sufficient sample volumes?	Yes
5. Is a cooler present?	Yes	15. Any Subcontracting needed?	* Yes
Cooler Temp: **3.2**		16. Are ESS labels on correct containers?	**Yes|No**
Iced With: **Ice**		17. Were samples received intact?	**Yes|No**
6. Was COC included with samples?	Yes	ESS Sample IDs: 2, 5, 6, 9, 12	
7. Was COC signed and dated by client?	Yes	Sub Lab: ~~STL~~ / TA	
8. Does the COC match the sample	Yes	Analysis: TOC	
9. Is COC complete and correct?	Yes	TAT: 4d.	

18. Was there need to call project manager to discuss status? If yes, please explain.

_____

_____

_____

Who was called?:_____ By whom? _____

Sample Number	Properly Preserved	Container Type	# of Containers	Preservative
1	Yes	2 oz Soil Jar	1	NP
1	Yes	4 oz Soil Jar	1	NP
1	Yes	8 oz Soil Jar	1	NP
2	Yes	4 oz Soil Jar	1	NP
2	Yes	8 oz Soil Jar	1	NP
3	Yes	2 oz Soil Jar	1	NP
3	Yes	4 oz Soil Jar	1	NP
3	Yes	8 oz Soil Jar	1	NP
4	Yes	4 oz Soil Jar	1	NP
4	Yes	8 oz Soil Jar	1	NP
5	Yes	4 oz Soil Jar	1	NP
5	Yes	8 oz Soil Jar	1	NP
6	Yes	2 oz Soil Jar	1	NP
6	Yes	4 oz Soil Jar	1	NP
6	Yes	8 oz Soil Jar	1	NP
7	Yes	2 oz Soil Jar	1	NP
7	Yes	4 oz Soil Jar	1	NP
7	Yes	8 oz Soil Jar	1	NP
8	Yes	4 oz Soil Jar	1	NP
8	Yes	8 oz Soil Jar	1	NP
9	Yes	2 oz Soil Jar	1	NP
9	Yes	4 oz Soil Jar	1	NP
9	Yes	8 oz Soil Jar	1	NP
10	Yes	4 oz Soil Jar	1	NP
10	Yes	8 oz Soil Jar	1	NP

Sample and Cooler Receipt Checklist

Client: GZA GeoEnvironmental, Inc. ESS Project ID: 13080109

11	Yes	2 oz Soil Jar	1	NP
11	Yes	4 oz Soil Jar	1	NP
11	Yes	8 oz Soil Jar	1	NP
12	Yes	2 oz Soil Jar	1	NP
12	Yes	4 oz Soil Jar	1	NP
12	Yes	8 oz Soil Jar	1	NP
13	Yes	4 oz Soil Jar	1	NP
13	Yes	8 oz Soil Jar	1	NP
14	Yes	2 oz Soil Jar	1	NP
14	Yes	4 oz Soil Jar	1	NP
14	Yes	8 oz Soil Jar	1	NP
15	Yes	4 oz Soil Jar	1	NP
15	Yes	8 oz Soil Jar	1	NP
16	Yes	4 oz Soil Jar	1	NP
16	Yes	8 oz Soil Jar	1	NP
17	Yes	4 oz Soil Jar	1	NP
17	Yes	8 oz Soil Jar	1	NP
18	Yes	2 oz Soil Jar	1	NP
18	Yes	4 oz Soil Jar	1	NP
18	Yes	8 oz Soil Jar	1	NP
19	Yes	4 oz Soil Jar	1	NP
19	Yes	8 oz Soil Jar	1	NP
20	Yes	2 oz Soil Jar	1	NP
20	Yes	4 oz Soil Jar	1	NP
20	Yes	8 oz Soil Jar	1	NP

Completed By: _____ Date/Time: 8/8/13 11:57

Reviewed By: _____ Date/Time: 8/8/13 1155

ESS Laboratory

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS LAB PROJECT ID: 1308109

Turn Time ___x___ Standard Rush _____ Approved By: _____

Reporting Limits - see prev. email correspondence

State where samples were collected: MA RI CT NH NJ NY ME Other_____

Is this project for any of the following: (please circle)
MA-MCP CT-RCP RGP DOD Other_____

Electonic Deliverable Yes__x__ No____
Format: Excel_x__ Access___ PDF___ Other_____

GZA Project Manager: David E. Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Avenue
Norwood, MA 02062
(781) 278-3700
PRESUMPTIVE CERTAINTY REQUIRED

Project # 171521.02

Project Name: Former Everett Staging Yard

Contract Pricing ____
Special Pricing WO#: _____

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	MCP 14 metals	B/N Phthalates Esters 8270	PAH 8270 SIM	EPH Fractions	PCBs	TOC by Lloyd Kahn					Comment #
						Analysis											
1	8/5/13	8:20	G	Sed	GZ-139 0-0.5'	2	X					X					
2	8/5/13	8:20	G	Sed	GZ-139 2-4'	2	X										
3	8/5/13	8:20	G	Sed	GZ-139 6-8'	2	X					X					
4	8/5/13	8:45	G	Sed	GZ-140A 0-0.5'	2	X										
5	8/5/13	8:45	G	Sed	GZ-140A 0.5-2'	2	X										
6	8/5/13	8:45	G	Sed	GZ-140A 2-3'	2	X	X	X	X	X	X					
7	8/6/13	11:20	G	Sed	GZ-LC1 T 0-0.5'	2	X	X	X	X	X	X					
8	8/5/13	13:30	G	Sed	GZ-LC1 2-4'	2	X	X	X	X	X						
9	8/6/13	11:26	G	Sed	GZ-LC2 T 0-0.5'	2	X	X	X	X	X	X					
10	8/5/13	14:05	G	Sed	GZ-LC2 2-4'	2	X	X	X	X	X						
							AG	AG	AG	AG	AG	AG					

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-_____

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present ✓ Yes _____ No
Seals Intact ✓ Yes _____ No NA: BB
Cooler Temperature: 4-13.6-4.8-2.6-3.2

Sampled by : Dan Scanlon

Comments: Contract Price - 10%

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
[signature]	8/6/13 1320	[signature] 8/7/13 1080	[signature] 8/7/13	1120	[signature] 8/7/13 0800

Please E-mail all changes to Chain of Custody in writing.

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ESS Laboratory

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185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS LAB PROJECT ID: 1308109

Turn Time ___x___ Standard Rush_____ Approved By: _____

Reporting Limits - see prev. email correspondence

State where samples were collected: **MA RI CT NH NJ NY ME** Other_____

Is this project for any of the following: (please circle)
MA-MCP CT-RCP RGP DOD Other_____

Electonic Deliverable Yes__x__ No____
Format: Excel_x__ Access___ PDF___ Other_____

GZA Project Manager: David E. Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Avenue
Norwood, MA 02062
(781) 278-3700
PRESUMPTIVE CERTAINTY REQUIRED

Project # 171521.02
Project Name: Former Everett Staging Yard
Contract Pricing _____
Special Pricing WO#: _____

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	MCP 14 metals	B/N Phthalates Esters 8270	PAH 8270 SIM	EPH Fractions	PCBs	TOC by Lloyd Kahn					Comment #
						Analysis											
11	8/6/13	11:36	G	Sed	GZ-LC3 T 0-0.5'	2	X	X	X	X	X	X					
12	8/5/13	14:15	G	Sed	GZ-LC-3 0.5-2'	2	X	X	X	X	X	X					
13	8/5/13	14:15	G	Sed	GZ-LC-3 4-6'	2	X	X	X	X	X						
14	8/6/13	11:42	G	Sed	GZ-LC4 T 0-0.5'	2	X	X	X	X	X	X					
15	8/5/13	14:25	G	Sed	GZ-LC4 0.5-2'	2	X	X	X	X	X						
16	8/5/13	14:25	G	Sed	GZ-LC4 2-4'	2	X	X	X	X	X						
17	8/5/13	14:25	G	Sed	GZ-LC4 4-6'	2	X	X	X	X	X						
18	8/5/13	14:50	G	Sed	GZ-LC5 0-0.5'	2	X	X	X	X	X	X					
19	8/5/13	14:50	G	Sed	GZ-LC5 2-4'	2	X	X	X	X	X						
20	8/5/13	15:05	G	Sed	GZ-LC6 0-0.5'	2	X	X	X	X	X	X					
Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-_____																	
Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA							AG	AG	AG	AG	AG	AG					
Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter																	

Cooler Present ✓ Yes _____ No
Loose Ice
Seals Intact ✓ Yes _____ No NA: BB
5 coolers
Cooler Temperature: 4.1 3.6 4.8 2.6 3.2

Sampled by : Dan Scanlon
Comments: Contract Price - 10%

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Walsen	8/6/13 0820	Bob Beeson 8/7/13 1030	Bob Beeson 8/7/13	1120	8/7/13 1800

Please E-mail all changes to Chain of Custody in writing.

Page 19 of 16

CERTIFICATE OF ANALYSIS

David E Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Avenue
Norwood, MA 02062

RE: Everett (01.0171521.02)
ESS Laboratory Work Order Number: 1308110

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.



Laurel Stoddard
Laboratory Director

REVIEWED
By ESS Laboratory at 1:29 pm, Aug 20, 2013

Analytical Summary
The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with NELAC Standards, A2LA and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibratins, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.

Subcontracted Analyses

TestAmerica Laboratories, Inc. - Burlington, VT	Total Organic Carbon

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308110

SAMPLE RECEIPT

The following samples were received on August 07, 2013 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has performed and reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Data Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

For EPH soil samples, the aromatic range results have been corrected for identified cartridge contaminant in accordance with the CAM protocol.

Question I: All samples for SVOA were analyzed for a subset of the required MCP list per the client's request.

Lab Number	SampleName	Matrix	Analysis
1308110-01	GZ-LC6 2-4ft	Soil	6010B, 6020A, 7471B, 8082A, 8270D, EPH8270, MADEP-EPH
1308110-02	GZ-LC7 0-0.5ft	Soil	6010B, 6020A, 7471B, 8082A, 8270D, EPH8270, MADEP-EPH, TOC-LK
1308110-03	GZ-LC7 2-4ft	Soil	6010B, 6020A, 7471B, 8082A, 8270D, EPH8270, MADEP-EPH
1308110-04	GZ-LC7 4-5ft4in	Soil	6010B, 6020A, 7471B, 8082A, 8270D, EPH8270, MADEP-EPH
1308110-05	GZ-LC8 0-0.5ft	Soil	6010B, 6020A, 7471B, 8082A, 8270D, EPH8270, MADEP-EPH, TOC-LK
1308110-06	GZ-LC8 2-4ft	Soil	6010B, 6020A, 7471B, 8082A, 8270D, EPH8270, MADEP-EPH, TOC-LK
1308110-07	GZ-LC8 4-6ft	Soil	6010B, 6020A, 7471B, 8082A, 8270D, EPH8270, MADEP-EPH
1308110-08	GZ-LC8 6-7ft3in	Soil	6010B, 6020A, 7471B, 8082A, 8270D, EPH8270, MADEP-EPH
1308110-09	GZ-LC9 0-0.5ft	Soil	6010B, 6020A, 7471B, 8082A, 8270D, EPH8270, MADEP-EPH, TOC-LK
1308110-10	GZ-LC9 2-4ft	Soil	6010B, 6020A, 7471B, 8082A, 8270D, EPH8270, MADEP-EPH

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
ESS Laboratory Work Order: 1308110

1308110-11	GZ-LC9 4-5ft2in	Soil	6010B, 6020A, 7471B, 8082A, 8270D, EPH8270, MADEP-EPH
1308110-12	GZ-LC10 0-0.5ft	Soil	6010B, 6020A, 7471B, 8082A, 8270D, EPH8270, MADEP-EPH, TOC-LK
1308110-13	GZ-LC10 2-4ft	Soil	6010B, 6020A, 7471B, 8082A, 8270D, EPH8270, MADEP-EPH

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308110

PROJECT NARRATIVE

8270D Semi-Volatile Organic Compounds

CH31223-BS1	**Blank Spike recovery is below lower control limit (B-).** Hexachlorocyclopentadiene (36% @ 40-140%)
CH31223-BSD1	**Blank Spike recovery is below lower control limit (B-).** Hexachlorocyclopentadiene (36% @ 40-140%)
CWH0124-CCV1	**Calibration required quadratic regression (Q).** 2,4-Dinitrophenol (109% @ 80-120%), Benzoic Acid (106% @ 70-130%)
CWH0124-CCV1	**Continuing Calibration recovery is above upper control limit (C+).** 3+4-Methylphenol (121% @ 80-120%), 4-Chloroaniline (126% @ 80-120%)
CWH0124-CCV1	**Continuing Calibration recovery is below lower control limit (C-).** Acenaphthene (77% @ 80-120%)
CWH0124-CCV1	**Initial Calibration Verification recovery is below lower control limit (ICV-).** 2,4-Dinitrophenol
CWH0124-CCV1	**Initial Calibration Verification recovery is outside of control limit (ICV).** 1,1-Biphenyl
CWH0140-CCV1	**Calibration required quadratic regression (Q).** 2,4-Dinitrophenol (110% @ 80-120%), 4,6-Dinitro-2-Methylphenol (108% @ 70-130%), Benzoic Acid (66% @ 70-130%), Pentachlorophenol (73% @ 80-120%)
CWH0140-CCV1	**Continuing Calibration recovery is below lower control limit (C-).** Benzoic Acid (66% @ 70-130%), N-Nitrosodimethylamine (71% @ 80-120%), Pentachlorophenol (73% @ 80-120%)
CWH0140-CCV1	**Initial Calibration Verification recovery is outside of control limit (ICV).** Benzidine , Hexachlorocyclopentadiene
CWH0140-TUN1	**Pentachlorophenol tailing factor > 2.**
CWH0143-CCV1	**Calibration required quadratic regression (Q).** 2,4-Dinitrophenol (106% @ 80-120%), Benzoic Acid (135% @ 70-130%)
CWH0143-CCV1	**Continuing Calibration recovery is above upper control limit (C+).** 2,4,6-Tribromophenol (127% @ 80-120%), 2-Fluorophenol (127% @ 80-120%), 4-Bromophenyl-phenylether (128% @ 80-120%), Aniline (130% @ 80-120%), Benzoic Acid (135% @ 70-130%)
CWH0143-CCV1	**Initial Calibration Verification recovery is outside of control limit (ICV).** 1,1-Biphenyl , 2,4-Dinitrophenol
CWH0147-CCV1	**Calibration required quadratic regression (Q).** 2,4-Dinitrophenol (78% @ 80-120%), 4,6-Dinitro-2-Methylphenol (93% @ 70-130%), Benzoic Acid (34% @ 70-130%), Pentachlorophenol (76% @ 80-120%)
CWH0147-CCV1	**Continuing Calibration recovery is below lower control limit (C-).** 2,4-Dinitrophenol (78% @ 80-120%), Benzoic Acid (34% @ 70-130%), Hexachlorocyclopentadiene (59% @ 70-130%), N-Nitrosodimethylamine (56% @ 80-120%), Pentachlorophenol (76% @ 80-120%)
CWH0147-CCV1	**Initial Calibration Verification recovery is outside of control limit (ICV).** Benzidine , Hexachlorocyclopentadiene
CWH0147-TUN1	**Pentachlorophenol tailing factor > 2.**

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett ESS Laboratory Work Order: 1308110

CWH0158-CCV1 **Calibration required quadratic regression (Q).**
2,4-Dinitrophenol (69% @ 80-120%), 4,6-Dinitro-2-Methylphenol (85% @ 70-130%), Benzoic Acid (32% @ 70-130%), Pentachlorophenol (77% @ 80-120%)

CWH0158-CCV1 **Continuing Calibration recovery is below lower control limit (C-).**
2,4-Dinitrophenol (69% @ 80-120%), Benzoic Acid (32% @ 70-130%), Hexachlorocyclopentadiene (53% @ 70-130%), N-Nitrosodimethylamine (76% @ 80-120%), Pentachlorophenol (77% @ 80-120%)

CWH0158-CCV1 **Initial Calibration Verification recovery is outside of control limit (ICV).**
Benzidine , Hexachlorocyclopentadiene

CWH0158-TUN1 **Pentachlorophenol tailing factor > 2.**

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

Definitions of Quality Control Parameters

Semivolatile Organics Internal Standard Information

Semivolatile Organics Surrogate Information

Volatile Organics Internal Standard Information

Volatile Organics Surrogate Information

EPH and VPH Alkane Lists

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308110

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

1010A - Flashpoint
6010C - ICP
6020A - ICP MS
7010 - Graphite Furnace
7196A - Hexavalent Chromium
7470A - Aqueous Mercury
7471B - Solid Mercury
8011 - EDB/DBCP/TCP
8015C - GRO/DRO
8081B - Pesticides
8082A - PCB
8100M - TPH
8151A - Herbicides
8260B - VOA
8270D - SVOA
8270D SIM - SVOA Low Level
9014 - Cyanide
9038 - Sulfate
9040C - Aqueous pH
9045D - Solid pH (Corrosivity)
9050A - Specific Conductance
9056A - Anions (IC)
9060A - TOC
9095B - Paint Filter
MADEP 04-1.1 - EPH / VPH

Prep Methods

3005A - Aqueous ICP Digestion
3020A - Aqueous Graphite Furnace / ICP MS Digestion
3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
3060A - Solid Hexavalent Chromium Digestion
3510C - Separatory Funnel Extraction
3520C - Liquid / Liquid Extraction
3540C - Manual Soxhlet Extraction
3541 - Automated Soxhlet Extraction
3580A - Waste Dilution
5030B - Aqueous Purge and Trap
5035 - Solid Purge and Trap

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308110

MassDEP Analytical Protocol Certification Form

MADEP RTN: _____

This form provides certification for the following data set: **1308110-01 through 1308110-13**

Matrices: ( ) Ground Water/Surface Water (X) Soil/Sediment ( ) Drinking Water ( ) Air ( ) Other:_____

CAM Protocol (check all that apply below):

( ) 8260 VOC CAM II A	(X) 7470/7471 Hg CAM III B	( ) MassDEP VPH CAM IV A	( ) 8081 Pesticides CAM V B	( ) 7196 Hex Cr CAM VI B	( ) MassDEP APH CAM IX A
(X) 8270 SVOC CAM II B	( ) 7010 Metals CAM III C	(X) MassDEP EPH CAM IV B	( ) 8151 Herbicides CAM V C	( ) 8330 Explosives CAM VIII A	( ) TO-15 VOC CAM IX B
(X) 6010 Metals CAM III A	(X) 6020 Metals CAM III D	(X) 8082 PCB CAM V A	( ) 6860 Perchlorate CAM VIII B	( ) 9014 Total Cyanide/PAC CAM VI A	

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	Yes (X) No ( )
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	Yes (X) No ( )
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	Yes (X) No ( )
D	Does the laboratory report comply with all the reporting requirements specified in the CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	Yes (X) No ( )
E	a. VPH, EPH, APH and TO-15 only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	Yes (X) No ( )
	b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	Yes ( ) No ( )
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	Yes (X) No ( )

Responses to Questions G, H and I below are required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocols(s)?	Yes (X) No ( )*
	***Data User Note:* Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.**	
H	Were **all** QC performance standards specified in the CAM protocol(s) achieved?	Yes ( ) No (X)*
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	Yes ( ) No (X)*

All negative responses must be addressed in an attached laboratory narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: _____ Date: August 20, 2013

Printed Name: Laurel Stoddard Position: Laboratory Director

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC6 2-4ft
Date Sampled: 08/05/13 15:05
Percent Solids: 29

ESS Laboratory Work Order: 1308110
ESS Laboratory Sample ID: 1308110-01
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (3.5)		6020A		50	SVD	08/12/13 19:38	5.08	100	CH30857
Arsenic	**42.8** (3.4)		6010B		1	JP	08/10/13 20:33	5.08	100	CH30857
Barium	**96.5** (3.4)		6010B		1	JP	08/10/13 20:33	5.08	100	CH30857
Beryllium	**0.80** (0.14)		6010B		1	JP	08/10/13 20:33	5.08	100	CH30857
Cadmium	**5.34** (0.69)		6010B		1	JP	08/10/13 20:33	5.08	100	CH30857
Chromium	**141** (1.4)		6010B		1	JP	08/10/13 20:33	5.08	100	CH30857
Lead	**473** (6.9)		6010B		1	JP	08/10/13 20:33	5.08	100	CH30857
Mercury	**1.27** (0.231)		7471B		5	JP	08/12/13 20:54	1.5	40	CH30932
Nickel	**53.3** (3.4)		6010B		1	JP	08/10/13 20:33	5.08	100	CH30857
Selenium	ND (3.46)		6020A		50	SVD	08/12/13 19:38	5.08	100	CH30857
Silver	**2.31** (0.69)		6010B		1	JP	08/10/13 20:33	5.08	100	CH30857
Thallium	ND (3.46)		6020A		50	SVD	08/12/13 19:38	5.08	100	CH30857
Vanadium	**106** (1.4)		6010B		1	JP	08/10/13 20:33	5.08	100	CH30857
Zinc	**1290** (3.4)		6010B		1	JP	08/10/13 20:33	5.08	100	CH30857

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC6 2-4ft
Date Sampled: 08/05/13 15:05
Percent Solids: 29
Initial Volume: 19.4
Final Volume: 5
Extraction Method: 3540

ESS Laboratory Work Order: 1308110
ESS Laboratory Sample ID: 1308110-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 8/9/13 17:00
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0901)		8082A		1	08/14/13 15:05		CH30937
Aroclor 1221	ND (0.0901)		8082A		1	08/14/13 15:05		CH30937
Aroclor 1232	ND (0.0901)		8082A		1	08/14/13 15:05		CH30937
Aroclor 1242	ND (0.0901)		8082A		1	08/14/13 15:05		CH30937
Aroclor 1248	**1.19** (0.0901)		8082A		1	08/14/13 15:05		CH30937
Aroclor 1254	**1.45** (0.0901)		8082A		1	08/14/13 15:05		CH30937
Aroclor 1260	**1.21** (0.0901)		8082A		1	08/14/13 15:05		CH30937
Aroclor 1262	ND (0.0901)		8082A		1	08/14/13 15:05		CH30937
Aroclor 1268	ND (0.0901)		8082A		1	08/14/13 15:05		CH30937

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*114 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*99 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*86 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*79 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC6 2-4ft
Date Sampled: 08/05/13 15:05
Percent Solids: 29
Initial Volume: 15.1
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308110
ESS Laboratory Sample ID: 1308110-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/9/13 19:05

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (1.16)		8270D		1	08/12/13 11:00	CWH0147	CH30921
1,2-Dichlorobenzene	ND (1.16)		8270D		1	08/12/13 11:00	CWH0147	CH30921
1,3-Dichlorobenzene	ND (1.16)		8270D		1	08/12/13 11:00	CWH0147	CH30921
1,4-Dichlorobenzene	ND (1.16)		8270D		1	08/12/13 11:00	CWH0147	CH30921
2-Methylnaphthalene	ND (1.16)		8270D		1	08/12/13 11:00	CWH0147	CH30921
2-Methylphenol	ND (1.16)		8270D		1	08/12/13 11:00	CWH0147	CH30921
Acenaphthene	ND (1.16)		8270D		1	08/12/13 11:00	CWH0147	CH30921
Acenaphthylene	ND (1.16)		8270D		1	08/12/13 11:00	CWH0147	CH30921
Anthracene	ND (1.16)		8270D		1	08/12/13 11:00	CWH0147	CH30921
Benzo(a)anthracene	ND (1.16)		8270D		1	08/12/13 11:00	CWH0147	CH30921
Benzo(a)pyrene	ND (0.580)		8270D		1	08/12/13 11:00	CWH0147	CH30921
Benzo(b)fluoranthene	ND (1.16)		8270D		1	08/12/13 11:00	CWH0147	CH30921
Benzo(g,h,i)perylene	ND (1.16)		8270D		1	08/12/13 11:00	CWH0147	CH30921
Benzo(k)fluoranthene	ND (1.16)		8270D		1	08/12/13 11:00	CWH0147	CH30921
bis(2-Ethylhexyl)phthalate	**39.9** (11.6)		8270D		10	08/12/13 19:56	CWH0147	CH30921
Butylbenzylphthalate	ND (1.16)		8270D		1	08/12/13 11:00	CWH0147	CH30921
Carbazole	ND (1.16)		8270D		1	08/12/13 11:00	CWH0147	CH30921
Chrysene	ND (0.580)		8270D		1	08/12/13 11:00	CWH0147	CH30921
Dibenzo(a,h)Anthracene	ND (0.580)		8270D		1	08/12/13 11:00	CWH0147	CH30921
Dibenzofuran	ND (1.16)		8270D		1	08/12/13 11:00	CWH0147	CH30921
Diethylphthalate	ND (1.16)		8270D		1	08/12/13 11:00	CWH0147	CH30921
Dimethylphthalate	ND (1.16)		8270D		1	08/12/13 11:00	CWH0147	CH30921
Di-n-butylphthalate	ND (1.16)		8270D		1	08/12/13 11:00	CWH0147	CH30921
Di-n-octylphthalate	ND (1.16)		8270D		1	08/12/13 11:00	CWH0147	CH30921
Fluoranthene	ND (1.16)		8270D		1	08/12/13 11:00	CWH0147	CH30921
Fluorene	ND (1.16)		8270D		1	08/12/13 11:00	CWH0147	CH30921
Hexachlorobenzene	ND (1.16)		8270D		1	08/12/13 11:00	CWH0147	CH30921
Hexachlorocyclopentadiene	ND (5.80)		8270D		1	08/12/13 11:00	CWH0147	CH30921
Indeno(1,2,3-cd)Pyrene	ND (1.16)		8270D		1	08/12/13 11:00	CWH0147	CH30921
Naphthalene	ND (1.16)		8270D		1	08/12/13 11:00	CWH0147	CH30921
Phenanthrene	ND (1.16)		8270D		1	08/12/13 11:00	CWH0147	CH30921

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC6 2-4ft
Date Sampled: 08/05/13 15:05
Percent Solids: 29
Initial Volume: 15.1
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308110
ESS Laboratory Sample ID: 1308110-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/9/13 19:05

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Phenol	ND (1.16)		8270D		1	08/12/13 11:00	CWH0147	CH30921
Pyrene	ND (1.16)		8270D		1	08/12/13 11:00	CWH0147	CH30921

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*54 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*53 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*57 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*64 %*		*30-130*
Surrogate: 2-Fluorophenol	*56 %*		*30-130*
Surrogate: Nitrobenzene-d5	*62 %*		*30-130*
Surrogate: Phenol-d6	*60 %*		*30-130*
Surrogate: p-Terphenyl-d14	*91 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC6 2-4ft
Date Sampled: 08/05/13 15:05
Percent Solids: 29
Initial Volume: 15.2
Final Volume: 0.5
Extraction Method: 3541

ESS Laboratory Work Order: 1308110
ESS Laboratory Sample ID: 1308110-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/10/13 9:00

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.144)		8270D		5	08/13/13 8:44	CWH0159	CH31001
Acenaphthene	ND (0.144)		8270D		5	08/13/13 8:44	CWH0159	CH31001
Acenaphthylene	**0.190** (0.144)		8270D		5	08/13/13 8:44	CWH0159	CH31001
Anthracene	**0.195** (0.144)		8270D		5	08/13/13 8:44	CWH0159	CH31001
Benzo(a)anthracene	**0.322** (0.144)		8270D		5	08/13/13 8:44	CWH0159	CH31001
Benzo(a)pyrene	**0.351** (0.144)		8270D		5	08/13/13 8:44	CWH0159	CH31001
Benzo(b)fluoranthene	**0.437** (0.144)		8270D		5	08/13/13 8:44	CWH0159	CH31001
Benzo(g,h,i)perylene	**0.299** (0.144)		8270D		5	08/13/13 8:44	CWH0159	CH31001
Benzo(k)fluoranthene	**0.149** (0.144)		8270D		5	08/13/13 8:44	CWH0159	CH31001
Chrysene	**0.379** (0.144)		8270D		5	08/13/13 8:44	CWH0159	CH31001
Dibenzo(a,h)Anthracene	ND (0.144)		8270D		5	08/13/13 8:44	CWH0159	CH31001
Fluoranthene	**0.546** (0.144)		8270D		5	08/13/13 8:44	CWH0159	CH31001
Fluorene	ND (0.144)		8270D		5	08/13/13 8:44	CWH0159	CH31001
Indeno(1,2,3-cd)Pyrene	**0.253** (0.144)		8270D		5	08/13/13 8:44	CWH0159	CH31001
Naphthalene	**0.425** (0.144)		8270D		5	08/13/13 8:44	CWH0159	CH31001
Phenanthrene	**0.184** (0.144)		8270D		5	08/13/13 8:44	CWH0159	CH31001
Pyrene	**0.736** (0.144)		8270D		5	08/13/13 8:44	CWH0159	CH31001

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*47 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*52 %*		*30-130*
Surrogate: Nitrobenzene-d5	*58 %*		*30-130*
Surrogate: p-Terphenyl-d14	*77 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC6 2-4ft
Date Sampled: 08/05/13 15:05
Percent Solids: 29
Initial Volume: 14.7
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1308110
ESS Laboratory Sample ID: 1308110-01
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 8/12/13 10:00

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	**247** (89.1)		MADEP-EPH		1	VSC	08/13/13 6:29	CWH0163	CH31208
C19-C36 Aliphatics1	**1010** (89.1)		MADEP-EPH		1	VSC	08/13/13 6:29	CWH0163	CH31208
C11-C22 Unadjusted Aromatics1	**617** (89.1)		EPH8270		1	VSC	08/14/13 5:30	CWH0181	CH31208
C11-C22 Aromatics1,2	**617** (89.1)		EPH8270			VSC	08/14/13 5:30		[CALC]

	%Recovery	*Qualifier*	*Limits*
Surrogate: 1-Chlorooctadecane	*92 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*94 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*81 %*		*40-140*
Surrogate: O-Terphenyl	*87 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC7 0-0.5ft
Date Sampled: 08/05/13 15:15
Percent Solids: 17

ESS Laboratory Work Order: 1308110
ESS Laboratory Sample ID: 1308110-02
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (5.9)		6020A		50	SVD	08/12/13 19:44	5.12	100	CH30857
Arsenic	**30.4** (5.9)		6010B		1	JP	08/10/13 20:39	5.12	100	CH30857
Barium	**83.0** (5.9)		6010B		1	JP	08/10/13 20:39	5.12	100	CH30857
Beryllium	**0.80** (0.25)		6010B		1	JP	08/10/13 20:39	5.12	100	CH30857
Cadmium	**3.37** (1.18)		6010B		1	JP	08/10/13 20:39	5.12	100	CH30857
Chromium	**89.8** (2.3)		6010B		1	JP	08/10/13 20:39	5.12	100	CH30857
Lead	**321** (11.7)		6010B		1	JP	08/10/13 20:39	5.12	100	CH30857
Mercury	**0.972** (0.089)		7471B		1	JP	08/12/13 20:57	1.33	40	CH30932
Nickel	**31.6** (5.9)		6010B		1	JP	08/10/13 20:39	5.12	100	CH30857
Selenium	ND (5.89)		6020A		50	SVD	08/12/13 19:44	5.12	100	CH30857
Silver	**1.82** (1.18)		6010B		1	JP	08/10/13 20:39	5.12	100	CH30857
Thallium	ND (5.89)		6020A		50	SVD	08/12/13 19:44	5.12	100	CH30857
Vanadium	**63.1** (2.3)		6010B		1	JP	08/10/13 20:39	5.12	100	CH30857
Zinc	**743** (5.9)		6010B		1	JP	08/10/13 20:39	5.12	100	CH30857

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC7 0-0.5ft
Date Sampled: 08/05/13 15:15
Percent Solids: 17
Initial Volume: 19.2
Final Volume: 5
Extraction Method: 3540

ESS Laboratory Work Order: 1308110
ESS Laboratory Sample ID: 1308110-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 8/9/13 17:00
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.156)		8082A		1	08/14/13 13:10		CH31434
Aroclor 1221	ND (0.156)		8082A		1	08/14/13 13:10		CH31434
Aroclor 1232	ND (0.156)		8082A		1	08/14/13 13:10		CH31434
Aroclor 1242	ND (0.156)		8082A		1	08/14/13 13:10		CH31434
Aroclor 1248	**0.341** (0.156)		8082A		1	08/14/13 13:10		CH31434
Aroclor 1254	**0.826** (0.156)		8082A		1	08/14/13 13:10		CH31434
Aroclor 1260	**0.864** (0.156)		8082A		1	08/14/13 13:10		CH31434
Aroclor 1262	ND (0.156)		8082A		1	08/14/13 13:10		CH31434
Aroclor 1268	ND (0.156)		8082A		1	08/14/13 13:10		CH31434

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*108 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*100 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*86 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*76 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC7 0-0.5ft
Date Sampled: 08/05/13 15:15
Percent Solids: 17
Initial Volume: 20
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308110
ESS Laboratory Sample ID: 1308110-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/9/13 19:05

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (1.50)		8270D		1	08/12/13 15:28	CWH0147	CH30921
1,2-Dichlorobenzene	ND (1.50)		8270D		1	08/12/13 15:28	CWH0147	CH30921
1,3-Dichlorobenzene	ND (1.50)		8270D		1	08/12/13 15:28	CWH0147	CH30921
1,4-Dichlorobenzene	ND (1.50)		8270D		1	08/12/13 15:28	CWH0147	CH30921
2-Methylnaphthalene	ND (1.50)		8270D		1	08/12/13 15:28	CWH0147	CH30921
2-Methylphenol	ND (1.50)		8270D		1	08/12/13 15:28	CWH0147	CH30921
Acenaphthene	ND (1.50)		8270D		1	08/12/13 15:28	CWH0147	CH30921
Acenaphthylene	ND (1.50)		8270D		1	08/12/13 15:28	CWH0147	CH30921
Anthracene	ND (1.50)		8270D		1	08/12/13 15:28	CWH0147	CH30921
Benzo(a)anthracene	**2.02** (1.50)		8270D		1	08/12/13 15:28	CWH0147	CH30921
Benzo(a)pyrene	**2.34** (0.751)		8270D		1	08/12/13 15:28	CWH0147	CH30921
Benzo(b)fluoranthene	**4.10** (1.50)		8270D		1	08/12/13 15:28	CWH0147	CH30921
Benzo(g,h,i)perylene	ND (1.50)		8270D		1	08/12/13 15:28	CWH0147	CH30921
Benzo(k)fluoranthene	**1.79** (1.50)		8270D		1	08/12/13 15:28	CWH0147	CH30921
bis(2-Ethylhexyl)phthalate	**32.8** (1.50)		8270D		1	08/12/13 15:28	CWH0147	CH30921
Butylbenzylphthalate	ND (1.50)		8270D		1	08/12/13 15:28	CWH0147	CH30921
Carbazole	ND (1.50)		8270D		1	08/12/13 15:28	CWH0147	CH30921
Chrysene	**2.57** (0.751)		8270D		1	08/12/13 15:28	CWH0147	CH30921
Dibenzo(a,h)Anthracene	ND (0.751)		8270D		1	08/12/13 15:28	CWH0147	CH30921
Dibenzofuran	ND (1.50)		8270D		1	08/12/13 15:28	CWH0147	CH30921
Diethylphthalate	ND (1.50)		8270D		1	08/12/13 15:28	CWH0147	CH30921
Dimethylphthalate	ND (1.50)		8270D		1	08/12/13 15:28	CWH0147	CH30921
Di-n-butylphthalate	ND (1.50)		8270D		1	08/12/13 15:28	CWH0147	CH30921
Di-n-octylphthalate	ND (1.50)		8270D		1	08/12/13 15:28	CWH0147	CH30921
Fluoranthene	**5.09** (1.50)		8270D		1	08/12/13 15:28	CWH0147	CH30921
Fluorene	ND (1.50)		8270D		1	08/12/13 15:28	CWH0147	CH30921
Hexachlorobenzene	ND (1.50)		8270D		1	08/12/13 15:28	CWH0147	CH30921
Hexachlorocyclopentadiene	ND (7.51)		8270D		1	08/12/13 15:28	CWH0147	CH30921
Indeno(1,2,3-cd)Pyrene	ND (1.50)		8270D		1	08/12/13 15:28	CWH0147	CH30921
Naphthalene	ND (1.50)		8270D		1	08/12/13 15:28	CWH0147	CH30921
Phenanthrene	ND (1.50)		8270D		1	08/12/13 15:28	CWH0147	CH30921

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC7 0-0.5ft
Date Sampled: 08/05/13 15:15
Percent Solids: 17
Initial Volume: 20
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308110
ESS Laboratory Sample ID: 1308110-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/9/13 19:05

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Phenol	ND (1.50)		8270D		1	08/12/13 15:28	CWH0147	CH30921
Pyrene	**3.72** (1.50)		8270D		1	08/12/13 15:28	CWH0147	CH30921

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*41 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*45 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*46 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*46 %*		*30-130*
Surrogate: 2-Fluorophenol	*42 %*		*30-130*
Surrogate: Nitrobenzene-d5	*48 %*		*30-130*
Surrogate: Phenol-d6	*49 %*		*30-130*
Surrogate: p-Terphenyl-d14	*57 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC7 0-0.5ft
Date Sampled: 08/05/13 15:15
Percent Solids: 17
Initial Volume: 15.3
Final Volume: 0.5
Extraction Method: 3541

ESS Laboratory Work Order: 1308110
ESS Laboratory Sample ID: 1308110-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/10/13 9:00

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.245)		8270D		5	08/11/13 17:08	CWH0139	CH31001
Acenaphthene	ND (0.245)		8270D		5	08/11/13 17:08	CWH0139	CH31001
Acenaphthylene	**0.274** (0.245)		8270D		5	08/11/13 17:08	CWH0139	CH31001
Anthracene	**0.255** (0.245)		8270D		5	08/11/13 17:08	CWH0139	CH31001
Benzo(a)anthracene	**0.686** (0.245)		8270D		5	08/11/13 17:08	CWH0139	CH31001
Benzo(a)pyrene	**0.980** (0.245)		8270D		5	08/11/13 17:08	CWH0139	CH31001
Benzo(b)fluoranthene	**1.48** (0.245)		8270D		5	08/11/13 17:08	CWH0139	CH31001
Benzo(g,h,i)perylene	**0.990** (0.245)		8270D		5	08/11/13 17:08	CWH0139	CH31001
Benzo(k)fluoranthene	**0.431** (0.245)		8270D		5	08/11/13 17:08	CWH0139	CH31001
Chrysene	**0.951** (0.245)		8270D		5	08/11/13 17:08	CWH0139	CH31001
Dibenzo(a,h)Anthracene	ND (0.245)		8270D		5	08/11/13 17:08	CWH0139	CH31001
Fluoranthene	**1.48** (0.245)		8270D		5	08/11/13 17:08	CWH0139	CH31001
Fluorene	ND (0.245)		8270D		5	08/11/13 17:08	CWH0139	CH31001
Indeno(1,2,3-cd)Pyrene	**1.00** (0.245)		8270D		5	08/11/13 17:08	CWH0139	CH31001
Naphthalene	**0.245** (0.245)		8270D		5	08/11/13 17:08	CWH0139	CH31001
Phenanthrene	**0.402** (0.245)		8270D		5	08/11/13 17:08	CWH0139	CH31001
Pyrene	**1.36** (0.245)		8270D		5	08/11/13 17:08	CWH0139	CH31001

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*53 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*58 %*		*30-130*
Surrogate: Nitrobenzene-d5	*58 %*		*30-130*
Surrogate: p-Terphenyl-d14	*83 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC7 0-0.5ft
Date Sampled: 08/05/13 15:15
Percent Solids: 17

ESS Laboratory Work Order: 1308110
ESS Laboratory Sample ID: 1308110-02
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**160000** (6210)		TOC-LK		1	SUB	08/14/13 17:47	mg/kg	CH32011

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC7 0-0.5ft
Date Sampled: 08/05/13 15:15
Percent Solids: 17
Initial Volume: 15
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1308110
ESS Laboratory Sample ID: 1308110-02
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 8/12/13 10:00

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	ND (150)		MADEP-EPH		1	VSC	08/13/13 7:20	CWH0163	CH31208
C19-C36 Aliphatics1	**646** (150)		MADEP-EPH		1	VSC	08/13/13 7:20	CWH0163	CH31208
C11-C22 Unadjusted Aromatics1	**317** (150)		EPH8270		1	VSC	08/14/13 9:42	CWH0181	CH31208
C11-C22 Aromatics1,2	**317** (150)		EPH8270			VSC	08/14/13 9:42		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*74 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*91 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*84 %*		*40-140*
Surrogate: O-Terphenyl	*80 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC7 2-4ft
Date Sampled: 08/05/13 15:15
Percent Solids: 26

ESS Laboratory Work Order: 1308110
ESS Laboratory Sample ID: 1308110-03
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (3.7)		6020A		50	SVD	08/12/13 19:50	5.17	100	CH30857
Arsenic	**33.0** (3.7)		6010B		1	JP	08/10/13 20:44	5.17	100	CH30857
Barium	**92.9** (3.7)		6010B		1	JP	08/10/13 20:44	5.17	100	CH30857
Beryllium	**0.84** (0.15)		6010B		1	JP	08/10/13 20:44	5.17	100	CH30857
Cadmium	**4.47** (0.74)		6010B		1	JP	08/10/13 20:44	5.17	100	CH30857
Chromium	**109** (1.5)		6010B		1	JP	08/10/13 20:44	5.17	100	CH30857
Lead	**415** (7.3)		6010B		1	JP	08/10/13 20:44	5.17	100	CH30857
Mercury	**1.85** (0.272)		7471B		5	JP	08/12/13 20:59	1.38	40	CH30932
Nickel	**43.1** (3.7)		6010B		1	JP	08/10/13 20:44	5.17	100	CH30857
Selenium	ND (3.69)		6020A		50	SVD	08/12/13 19:50	5.17	100	CH30857
Silver	**2.31** (0.74)		6010B		1	JP	08/10/13 20:44	5.17	100	CH30857
Thallium	ND (3.69)		6020A		50	SVD	08/12/13 19:50	5.17	100	CH30857
Vanadium	**87.7** (1.5)		6010B		1	JP	08/10/13 20:44	5.17	100	CH30857
Zinc	**854** (3.7)		6010B		1	JP	08/10/13 20:44	5.17	100	CH30857

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC7 2-4ft
Date Sampled: 08/05/13 15:15
Percent Solids: 26
Initial Volume: 19.4
Final Volume: 5
Extraction Method: 3540

ESS Laboratory Work Order: 1308110
ESS Laboratory Sample ID: 1308110-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 8/9/13 17:00
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0979)		8082A		1	08/14/13 15:24		CH30937
Aroclor 1221	ND (0.0979)		8082A		1	08/14/13 15:24		CH30937
Aroclor 1232	ND (0.0979)		8082A		1	08/14/13 15:24		CH30937
Aroclor 1242	**7.76** (0.979)		8082A		10	08/14/13 15:43		CH30937
Aroclor 1248	ND (0.0979)		8082A		1	08/14/13 15:24		CH30937
Aroclor 1254	**3.79** (0.979)		8082A		10	08/14/13 15:43		CH30937
Aroclor 1260	**1.38** (0.0979)		8082A		1	08/14/13 15:24		CH30937
Aroclor 1262	ND (0.0979)		8082A		1	08/14/13 15:24		CH30937
Aroclor 1268	ND (0.0979)		8082A		1	08/14/13 15:24		CH30937

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*120 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*102 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*79 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*70 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC7 2-4ft
Date Sampled: 08/05/13 15:15
Percent Solids: 26
Initial Volume: 15.2
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308110
ESS Laboratory Sample ID: 1308110-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/9/13 19:05

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (1.25)		8270D		1	08/12/13 11:33	CWH0147	CH30921
1,2-Dichlorobenzene	ND (1.25)		8270D		1	08/12/13 11:33	CWH0147	CH30921
1,3-Dichlorobenzene	ND (1.25)		8270D		1	08/12/13 11:33	CWH0147	CH30921
1,4-Dichlorobenzene	ND (1.25)		8270D		1	08/12/13 11:33	CWH0147	CH30921
2-Methylnaphthalene	ND (1.25)		8270D		1	08/12/13 11:33	CWH0147	CH30921
2-Methylphenol	ND (1.25)		8270D		1	08/12/13 11:33	CWH0147	CH30921
Acenaphthene	ND (1.25)		8270D		1	08/12/13 11:33	CWH0147	CH30921
Acenaphthylene	ND (1.25)		8270D		1	08/12/13 11:33	CWH0147	CH30921
Anthracene	ND (1.25)		8270D		1	08/12/13 11:33	CWH0147	CH30921
Benzo(a)anthracene	**3.42** (1.25)		8270D		1	08/12/13 11:33	CWH0147	CH30921
Benzo(a)pyrene	**2.59** (0.626)		8270D		1	08/12/13 11:33	CWH0147	CH30921
Benzo(b)fluoranthene	**3.05** (1.25)		8270D		1	08/12/13 11:33	CWH0147	CH30921
Benzo(g,h,i)perylene	ND (1.25)		8270D		1	08/12/13 11:33	CWH0147	CH30921
Benzo(k)fluoranthene	**1.70** (1.25)		8270D		1	08/12/13 11:33	CWH0147	CH30921
bis(2-Ethylhexyl)phthalate	**689** (125)		8270D		100	08/12/13 21:03	CWH0147	CH30921
Butylbenzylphthalate	ND (1.25)		8270D		1	08/12/13 11:33	CWH0147	CH30921
Carbazole	ND (1.25)		8270D		1	08/12/13 11:33	CWH0147	CH30921
Chrysene	**3.47** (0.626)		8270D		1	08/12/13 11:33	CWH0147	CH30921
Dibenzo(a,h)Anthracene	ND (0.626)		8270D		1	08/12/13 11:33	CWH0147	CH30921
Dibenzofuran	ND (1.25)		8270D		1	08/12/13 11:33	CWH0147	CH30921
Diethylphthalate	ND (1.25)		8270D		1	08/12/13 11:33	CWH0147	CH30921
Dimethylphthalate	ND (1.25)		8270D		1	08/12/13 11:33	CWH0147	CH30921
Di-n-butylphthalate	ND (1.25)		8270D		1	08/12/13 11:33	CWH0147	CH30921
Di-n-octylphthalate	**6.29** (1.25)		8270D		1	08/12/13 11:33	CWH0147	CH30921
Fluoranthene	**6.45** (1.25)		8270D		1	08/12/13 11:33	CWH0147	CH30921
Fluorene	ND (1.25)		8270D		1	08/12/13 11:33	CWH0147	CH30921
Hexachlorobenzene	ND (1.25)		8270D		1	08/12/13 11:33	CWH0147	CH30921
Hexachlorocyclopentadiene	ND (6.26)		8270D		1	08/12/13 11:33	CWH0147	CH30921
Indeno(1,2,3-cd)Pyrene	ND (1.25)		8270D		1	08/12/13 11:33	CWH0147	CH30921
Naphthalene	**1.37** (1.25)		8270D		1	08/12/13 11:33	CWH0147	CH30921
Phenanthrene	**1.97** (1.25)		8270D		1	08/12/13 11:33	CWH0147	CH30921

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC7 2-4ft
Date Sampled: 08/05/13 15:15
Percent Solids: 26
Initial Volume: 15.2
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308110
ESS Laboratory Sample ID: 1308110-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/9/13 19:05

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Phenol	ND (1.25)		8270D		1	08/12/13 11:33	CWH0147	CH30921
Pyrene	**7.58** (1.25)		8270D		1	08/12/13 11:33	CWH0147	CH30921

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*52 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*46 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*55 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*55 %*		*30-130*
Surrogate: 2-Fluorophenol	*53 %*		*30-130*
Surrogate: Nitrobenzene-d5	*59 %*		*30-130*
Surrogate: Phenol-d6	*58 %*		*30-130*
Surrogate: p-Terphenyl-d14	*64 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC7 2-4ft
Date Sampled: 08/05/13 15:15
Percent Solids: 26
Initial Volume: 15.4
Final Volume: 0.5
Extraction Method: 3541

ESS Laboratory Work Order: 1308110
ESS Laboratory Sample ID: 1308110-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/10/13 9:00

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.154)		8270D		5	08/13/13 9:35	CWH0159	CH31001
Acenaphthene	ND (0.154)		8270D		5	08/13/13 9:35	CWH0159	CH31001
Acenaphthylene	**0.277** (0.154)		8270D		5	08/13/13 9:35	CWH0159	CH31001
Anthracene	**0.339** (0.154)		8270D		5	08/13/13 9:35	CWH0159	CH31001
Benzo(a)anthracene	**0.549** (0.154)		8270D		5	08/13/13 9:35	CWH0159	CH31001
Benzo(a)pyrene	**0.653** (0.154)		8270D		5	08/13/13 9:35	CWH0159	CH31001
Benzo(b)fluoranthene	**0.752** (0.154)		8270D		5	08/13/13 9:35	CWH0159	CH31001
Benzo(g,h,i)perylene	**0.505** (0.154)		8270D		5	08/13/13 9:35	CWH0159	CH31001
Benzo(k)fluoranthene	**0.370** (0.154)		8270D		5	08/13/13 9:35	CWH0159	CH31001
Chrysene	**0.659** (0.154)		8270D		5	08/13/13 9:35	CWH0159	CH31001
Dibenzo(a,h)Anthracene	ND (0.154)		8270D		5	08/13/13 9:35	CWH0159	CH31001
Fluoranthene	**0.998** (0.154)		8270D		5	08/13/13 9:35	CWH0159	CH31001
Fluorene	ND (0.154)		8270D		5	08/13/13 9:35	CWH0159	CH31001
Indeno(1,2,3-cd)Pyrene	**0.487** (0.154)		8270D		5	08/13/13 9:35	CWH0159	CH31001
Naphthalene	**0.376** (0.154)		8270D		5	08/13/13 9:35	CWH0159	CH31001
Phenanthrene	**0.419** (0.154)		8270D		5	08/13/13 9:35	CWH0159	CH31001
Pyrene	**1.20** (0.154)		8270D		5	08/13/13 9:35	CWH0159	CH31001

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*44 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*50 %*		*30-130*
Surrogate: Nitrobenzene-d5	*53 %*		*30-130*
Surrogate: p-Terphenyl-d14	*80 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC7 2-4ft
Date Sampled: 08/05/13 15:15
Percent Solids: 26
Initial Volume: 14.8
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1308110
ESS Laboratory Sample ID: 1308110-03
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 8/12/13 10:00

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	**182** (96.2)		MADEP-EPH		1	VSC	08/13/13 8:11	CWH0163	CH31208
C19-C36 Aliphatics1	**1130** (96.2)		MADEP-EPH		1	VSC	08/13/13 8:11	CWH0163	CH31208
C11-C22 Unadjusted Aromatics1	**643** (96.2)		EPH8270		1	VSC	08/15/13 0:05	CWH0181	CH31208
C11-C22 Aromatics1,2	**643** (96.2)		EPH8270			VSC	08/15/13 0:05		[CALC]

	%Recovery	*Qualifier*	*Limits*
Surrogate: 1-Chlorooctadecane	*84 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*93 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*85 %*		*40-140*
Surrogate: O-Terphenyl	*84 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC7 4-5ft4in
Date Sampled: 08/05/13 15:15
Percent Solids: 40

ESS Laboratory Work Order: 1308110
ESS Laboratory Sample ID: 1308110-04
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (2.3)		6020A		50	SVD	08/12/13 19:56	5.36	100	CH30857
Arsenic	**48.4** (2.3)		6010B		1	JP	08/10/13 20:59	5.36	100	CH30857
Barium	**101** (2.3)		6010B		1	JP	08/10/13 20:59	5.36	100	CH30857
Beryllium	**0.69** (0.10)		6010B		1	JP	08/10/13 20:59	5.36	100	CH30857
Cadmium	**4.28** (0.47)		6010B		1	JP	08/10/13 20:59	5.36	100	CH30857
Chromium	**96.4** (0.9)		6010B		1	JP	08/10/13 20:59	5.36	100	CH30857
Lead	**318** (4.6)		6010B		1	JP	08/10/13 20:59	5.36	100	CH30857
Mercury	**1.40** (0.235)		7471B		5	JP	08/12/13 21:02	1.05	40	CH30932
Nickel	**23.3** (2.3)		6010B		1	JP	08/10/13 20:59	5.36	100	CH30857
Selenium	**2.39** (2.34)		6020A		50	SVD	08/12/13 19:56	5.36	100	CH30857
Silver	**2.10** (0.47)		6010B		1	JP	08/10/13 20:59	5.36	100	CH30857
Thallium	ND (2.34)		6020A		50	SVD	08/12/13 19:56	5.36	100	CH30857
Vanadium	**86.6** (0.9)		6010B		1	JP	08/10/13 20:59	5.36	100	CH30857
Zinc	**743** (11.6)		6010B		5	SVD	08/11/13 20:41	5.36	100	CH30857

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC7 4-5ft4in
Date Sampled: 08/05/13 15:15
Percent Solids: 40
Initial Volume: 19.2
Final Volume: 5
Extraction Method: 3540

ESS Laboratory Work Order: 1308110
ESS Laboratory Sample ID: 1308110-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 8/9/13 17:00
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0649)		8082A		1	08/14/13 16:02		CH30937
Aroclor 1221	ND (0.0649)		8082A		1	08/14/13 16:02		CH30937
Aroclor 1232	ND (0.0649)		8082A		1	08/14/13 16:02		CH30937
Aroclor 1242	ND (0.0649)		8082A		1	08/14/13 16:02		CH30937
Aroclor 1248	**2.33** (0.324)		8082A		5	08/14/13 16:21		CH30937
Aroclor 1254	**2.06** (0.324)		8082A		5	08/14/13 16:21		CH30937
Aroclor 1260	**0.728** (0.0649)		8082A		1	08/14/13 16:02		CH30937
Aroclor 1262	ND (0.0649)		8082A		1	08/14/13 16:02		CH30937
Aroclor 1268	ND (0.0649)		8082A		1	08/14/13 16:02		CH30937

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*113 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*101 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*70 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*66 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC7 4-5ft4in
Date Sampled: 08/05/13 15:15
Percent Solids: 40
Initial Volume: 15
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308110
ESS Laboratory Sample ID: 1308110-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/12/13 15:30

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.829)		8270D		1	08/13/13 0:57	CWH0158	CH31223
1,2-Dichlorobenzene	ND (0.829)		8270D		1	08/13/13 0:57	CWH0158	CH31223
1,3-Dichlorobenzene	ND (0.829)		8270D		1	08/13/13 0:57	CWH0158	CH31223
1,4-Dichlorobenzene	ND (0.829)		8270D		1	08/13/13 0:57	CWH0158	CH31223
2-Methylnaphthalene	ND (0.829)		8270D		1	08/13/13 0:57	CWH0158	CH31223
2-Methylphenol	ND (0.829)		8270D		1	08/13/13 0:57	CWH0158	CH31223
Acenaphthene	ND (0.829)		8270D		1	08/13/13 0:57	CWH0158	CH31223
Acenaphthylene	**1.15** (0.829)		8270D		1	08/13/13 0:57	CWH0158	CH31223
Anthracene	**1.19** (0.829)		8270D		1	08/13/13 0:57	CWH0158	CH31223
Benzo(a)anthracene	**3.00** (0.829)		8270D		1	08/13/13 0:57	CWH0158	CH31223
Benzo(a)pyrene	**2.91** (0.416)		8270D		1	08/13/13 0:57	CWH0158	CH31223
Benzo(b)fluoranthene	**3.11** (0.829)		8270D		1	08/13/13 0:57	CWH0158	CH31223
Benzo(g,h,i)perylene	**1.58** (0.829)		8270D		1	08/13/13 0:57	CWH0158	CH31223
Benzo(k)fluoranthene	**1.29** (0.829)		8270D		1	08/13/13 0:57	CWH0158	CH31223
bis(2-Ethylhexyl)phthalate	**417** (82.9)		8270D		100	08/13/13 10:42	CWH0158	CH31223
Butylbenzylphthalate	ND (0.829)		8270D		1	08/13/13 0:57	CWH0158	CH31223
Carbazole	ND (0.829)		8270D		1	08/13/13 0:57	CWH0158	CH31223
Chrysene	**3.56** (0.416)		8270D		1	08/13/13 0:57	CWH0158	CH31223
Dibenzo(a,h)Anthracene	**0.736** (0.416)		8270D		1	08/13/13 0:57	CWH0158	CH31223
Dibenzofuran	ND (0.829)		8270D		1	08/13/13 0:57	CWH0158	CH31223
Diethylphthalate	ND (0.829)		8270D		1	08/13/13 0:57	CWH0158	CH31223
Dimethylphthalate	ND (0.829)		8270D		1	08/13/13 0:57	CWH0158	CH31223
Di-n-butylphthalate	ND (0.829)		8270D		1	08/13/13 0:57	CWH0158	CH31223
Di-n-octylphthalate	**6.86** (0.829)		8270D		1	08/13/13 0:57	CWH0158	CH31223
Fluoranthene	**5.97** (0.829)		8270D		1	08/13/13 0:57	CWH0158	CH31223
Fluorene	ND (0.829)		8270D		1	08/13/13 0:57	CWH0158	CH31223
Hexachlorobenzene	ND (0.829)		8270D		1	08/13/13 0:57	CWH0158	CH31223
Hexachlorocyclopentadiene	ND (4.16)		8270D		1	08/13/13 0:57	CWH0158	CH31223
Indeno(1,2,3-cd)Pyrene	**1.14** (0.829)		8270D		1	08/13/13 0:57	CWH0158	CH31223
Naphthalene	**0.879** (0.829)		8270D		1	08/13/13 0:57	CWH0158	CH31223
Phenanthrene	**1.78** (0.829)		8270D		1	08/13/13 0:57	CWH0158	CH31223

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC7 4-5ft4in
Date Sampled: 08/05/13 15:15
Percent Solids: 40
Initial Volume: 15
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308110
ESS Laboratory Sample ID: 1308110-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/12/13 15:30

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Phenol	ND (0.829)		8270D		1	08/13/13 0:57	CWH0158	CH31223
Pyrene	**6.31** (0.829)		8270D		1	08/13/13 0:57	CWH0158	CH31223

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*46 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*49 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*50 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*60 %*		*30-130*
Surrogate: 2-Fluorophenol	*45 %*		*30-130*
Surrogate: Nitrobenzene-d5	*59 %*		*30-130*
Surrogate: Phenol-d6	*51 %*		*30-130*
Surrogate: p-Terphenyl-d14	*70 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC7 4-5ft4in
Date Sampled: 08/05/13 15:15
Percent Solids: 40
Initial Volume: 15.2
Final Volume: 0.5
Extraction Method: 3541

ESS Laboratory Work Order: 1308110
ESS Laboratory Sample ID: 1308110-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/10/13 9:00

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	**0.221** (0.102)		8270D		5	08/13/13 10:25	CWH0159	CH31001
Acenaphthene	**0.172** (0.102)		8270D		5	08/13/13 10:25	CWH0159	CH31001
Acenaphthylene	**0.832** (0.102)		8270D		5	08/13/13 10:25	CWH0159	CH31001
Anthracene	**0.844** (0.102)		8270D		5	08/13/13 10:25	CWH0159	CH31001
Benzo(a)anthracene	**1.65** (0.102)		8270D		5	08/13/13 10:25	CWH0159	CH31001
Benzo(a)pyrene	**1.63** (0.102)		8270D		5	08/13/13 10:25	CWH0159	CH31001
Benzo(b)fluoranthene	**2.20** (0.102)		8270D		5	08/13/13 10:25	CWH0159	CH31001
Benzo(g,h,i)perylene	**1.03** (0.102)		8270D		5	08/13/13 10:25	CWH0159	CH31001
Benzo(k)fluoranthene	**0.709** (0.102)		8270D		5	08/13/13 10:25	CWH0159	CH31001
Chrysene	**1.76** (0.102)		8270D		5	08/13/13 10:25	CWH0159	CH31001
Dibenzo(a,h)Anthracene	**0.340** (0.102)		8270D		5	08/13/13 10:25	CWH0159	CH31001
Fluoranthene	**2.68** (0.102)		8270D		5	08/13/13 10:25	CWH0159	CH31001
Fluorene	**0.197** (0.102)		8270D		5	08/13/13 10:25	CWH0159	CH31001
Indeno(1,2,3-cd)Pyrene	**1.13** (0.102)		8270D		5	08/13/13 10:25	CWH0159	CH31001
Naphthalene	**0.836** (0.102)		8270D		5	08/13/13 10:25	CWH0159	CH31001
Phenanthrene	**0.840** (0.102)		8270D		5	08/13/13 10:25	CWH0159	CH31001
Pyrene	**3.48** (0.102)		8270D		5	08/13/13 10:25	CWH0159	CH31001

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*50 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*60 %*		*30-130*
Surrogate: Nitrobenzene-d5	*58 %*		*30-130*
Surrogate: p-Terphenyl-d14	*91 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC7 4-5ft4in
Date Sampled: 08/05/13 15:15
Percent Solids: 40
Initial Volume: 14.9
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1308110
ESS Laboratory Sample ID: 1308110-04
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 8/12/13 10:00

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	**458** (62.7)		MADEP-EPH		1	VSC	08/13/13 9:01	CWH0163	CH31208
C19-C36 Aliphatics1	**944** (62.7)		MADEP-EPH		1	VSC	08/13/13 9:01	CWH0163	CH31208
C11-C22 Unadjusted Aromatics1	**1350** (62.7)		EPH8270		1	VSC	08/14/13 17:32	CWH0181	CH31208
C11-C22 Aromatics1,2	**1330** (62.7)		EPH8270			VSC	08/14/13 17:32		[CALC]

	%Recovery	*Qualifier*	*Limits*
Surrogate: 1-Chlorooctadecane	*74 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*92 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*75 %*		*40-140*
Surrogate: O-Terphenyl	*62 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC8 0-0.5ft
Date Sampled: 08/05/13 15:25
Percent Solids: 16

ESS Laboratory Work Order: 1308110
ESS Laboratory Sample ID: 1308110-05
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (6.4)		6020A		50	SVD	08/12/13 20:02	5	100	CH30857
Arsenic	**32.7** (6.3)		6010B		1	JP	08/10/13 21:04	5	100	CH30857
Barium	**101** (6.3)		6010B		1	JP	08/10/13 21:04	5	100	CH30857
Beryllium	**0.97** (0.27)		6010B		1	JP	08/10/13 21:04	5	100	CH30857
Cadmium	**3.53** (1.27)		6010B		1	JP	08/10/13 21:04	5	100	CH30857
Chromium	**96.7** (2.5)		6010B		1	JP	08/10/13 21:04	5	100	CH30857
Lead	**362** (12.7)		6010B		1	JP	08/10/13 21:04	5	100	CH30857
Mercury	**1.05** (0.122)		7471B		1	JP	08/12/13 21:05	1.03	40	CH30932
Nickel	**33.0** (6.3)		6010B		1	JP	08/10/13 21:04	5	100	CH30857
Selenium	ND (6.37)		6020A		50	SVD	08/12/13 20:02	5	100	CH30857
Silver	**1.96** (1.27)		6010B		1	JP	08/10/13 21:04	5	100	CH30857
Thallium	ND (6.37)		6020A		50	SVD	08/12/13 20:02	5	100	CH30857
Vanadium	**74.3** (2.5)		6010B		1	JP	08/10/13 21:04	5	100	CH30857
Zinc	**884** (6.3)		6010B		1	SVD	08/11/13 20:45	5	100	CH30857

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC8 0-0.5ft
Date Sampled: 08/05/13 15:25
Percent Solids: 16
Initial Volume: 19.2
Final Volume: 5
Extraction Method: 3540

ESS Laboratory Work Order: 1308110
ESS Laboratory Sample ID: 1308110-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 8/9/13 17:00
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.165)		8082A		1	08/14/13 17:00		CH30937
Aroclor 1221	ND (0.165)		8082A		1	08/14/13 17:00		CH30937
Aroclor 1232	ND (0.165)		8082A		1	08/14/13 17:00		CH30937
Aroclor 1242	ND (0.165)		8082A		1	08/14/13 17:00		CH30937
Aroclor 1248	**0.434** (0.165)		8082A		1	08/14/13 17:00		CH30937
Aroclor 1254	**0.740** (0.165)		8082A		1	08/14/13 17:00		CH30937
Aroclor 1260	**0.644** (0.165)		8082A		1	08/14/13 17:00		CH30937
Aroclor 1262	ND (0.165)		8082A		1	08/14/13 17:00		CH30937
Aroclor 1268	ND (0.165)		8082A		1	08/14/13 17:00		CH30937

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*98 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*81 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*78 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*67 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC8 0-0.5ft
Date Sampled: 08/05/13 15:25
Percent Solids: 16
Initial Volume: 15.3
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308110
ESS Laboratory Sample ID: 1308110-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/12/13 15:30

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (2.07)		8270D		1	08/13/13 1:30	CWH0158	CH31223
1,2-Dichlorobenzene	ND (2.07)		8270D		1	08/13/13 1:30	CWH0158	CH31223
1,3-Dichlorobenzene	ND (2.07)		8270D		1	08/13/13 1:30	CWH0158	CH31223
1,4-Dichlorobenzene	ND (2.07)		8270D		1	08/13/13 1:30	CWH0158	CH31223
2-Methylnaphthalene	ND (2.07)		8270D		1	08/13/13 1:30	CWH0158	CH31223
2-Methylphenol	ND (2.07)		8270D		1	08/13/13 1:30	CWH0158	CH31223
Acenaphthene	ND (2.07)		8270D		1	08/13/13 1:30	CWH0158	CH31223
Acenaphthylene	ND (2.07)		8270D		1	08/13/13 1:30	CWH0158	CH31223
Anthracene	ND (2.07)		8270D		1	08/13/13 1:30	CWH0158	CH31223
Benzo(a)anthracene	**2.39** (2.07)		8270D		1	08/13/13 1:30	CWH0158	CH31223
Benzo(a)pyrene	**2.92** (1.04)		8270D		1	08/13/13 1:30	CWH0158	CH31223
Benzo(b)fluoranthene	**4.60** (2.07)		8270D		1	08/13/13 1:30	CWH0158	CH31223
Benzo(g,h,i)perylene	**2.87** (2.07)		8270D		1	08/13/13 1:30	CWH0158	CH31223
Benzo(k)fluoranthene	ND (2.07)		8270D		1	08/13/13 1:30	CWH0158	CH31223
bis(2-Ethylhexyl)phthalate	**32.4** (2.07)		8270D		1	08/13/13 1:30	CWH0158	CH31223
Butylbenzylphthalate	ND (2.07)		8270D		1	08/13/13 1:30	CWH0158	CH31223
Carbazole	ND (2.07)		8270D		1	08/13/13 1:30	CWH0158	CH31223
Chrysene	**4.03** (1.04)		8270D		1	08/13/13 1:30	CWH0158	CH31223
Dibenzo(a,h)Anthracene	**1.37** (1.04)		8270D		1	08/13/13 1:30	CWH0158	CH31223
Dibenzofuran	ND (2.07)		8270D		1	08/13/13 1:30	CWH0158	CH31223
Diethylphthalate	ND (2.07)		8270D		1	08/13/13 1:30	CWH0158	CH31223
Dimethylphthalate	ND (2.07)		8270D		1	08/13/13 1:30	CWH0158	CH31223
Di-n-butylphthalate	ND (2.07)		8270D		1	08/13/13 1:30	CWH0158	CH31223
Di-n-octylphthalate	ND (2.07)		8270D		1	08/13/13 1:30	CWH0158	CH31223
Fluoranthene	**8.07** (2.07)		8270D		1	08/13/13 1:30	CWH0158	CH31223
Fluorene	ND (2.07)		8270D		1	08/13/13 1:30	CWH0158	CH31223
Hexachlorobenzene	ND (2.07)		8270D		1	08/13/13 1:30	CWH0158	CH31223
Hexachlorocyclopentadiene	ND (10.4)		8270D		1	08/13/13 1:30	CWH0158	CH31223
Indeno(1,2,3-cd)Pyrene	**2.18** (2.07)		8270D		1	08/13/13 1:30	CWH0158	CH31223
Naphthalene	ND (2.07)		8270D		1	08/13/13 1:30	CWH0158	CH31223
Phenanthrene	ND (2.07)		8270D		1	08/13/13 1:30	CWH0158	CH31223

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC8 0-0.5ft
Date Sampled: 08/05/13 15:25
Percent Solids: 16
Initial Volume: 15.3
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308110
ESS Laboratory Sample ID: 1308110-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/12/13 15:30

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Phenol	ND (2.07)		8270D		1	08/13/13 1:30	CWH0158	CH31223
Pyrene	**6.01** (2.07)		8270D		1	08/13/13 1:30	CWH0158	CH31223

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*52 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*59 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*56 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*62 %*		*30-130*
Surrogate: 2-Fluorophenol	*52 %*		*30-130*
Surrogate: Nitrobenzene-d5	*55 %*		*30-130*
Surrogate: Phenol-d6	*60 %*		*30-130*
Surrogate: p-Terphenyl-d14	*92 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC8 0-0.5ft
Date Sampled: 08/05/13 15:25
Percent Solids: 16
Initial Volume: 15.5
Final Volume: 0.5
Extraction Method: 3541

ESS Laboratory Work Order: 1308110
ESS Laboratory Sample ID: 1308110-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/10/13 9:00

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.256)		8270D		5	08/13/13 11:15	CWH0159	CH31001
Acenaphthene	ND (0.256)		8270D		5	08/13/13 11:15	CWH0159	CH31001
Acenaphthylene	**0.767** (0.256)		8270D		5	08/13/13 11:15	CWH0159	CH31001
Anthracene	**0.829** (0.256)		8270D		5	08/13/13 11:15	CWH0159	CH31001
Benzo(a)anthracene	**3.08** (0.256)		8270D		5	08/13/13 11:15	CWH0159	CH31001
Benzo(a)pyrene	**4.18** (0.256)		8270D		5	08/13/13 11:15	CWH0159	CH31001
Benzo(b)fluoranthene	**6.51** (0.256)		8270D		5	08/13/13 11:15	CWH0159	CH31001
Benzo(g,h,i)perylene	**3.14** (0.256)		8270D		5	08/13/13 11:15	CWH0159	CH31001
Benzo(k)fluoranthene	**2.36** (0.256)		8270D		5	08/13/13 11:15	CWH0159	CH31001
Chrysene	**4.63** (0.256)		8270D		5	08/13/13 11:15	CWH0159	CH31001
Dibenzo(a,h)Anthracene	**0.829** (0.256)		8270D		5	08/13/13 11:15	CWH0159	CH31001
Fluoranthene	**7.49** (0.256)		8270D		5	08/13/13 11:15	CWH0159	CH31001
Fluorene	ND (0.256)		8270D		5	08/13/13 11:15	CWH0159	CH31001
Indeno(1,2,3-cd)Pyrene	**3.56** (0.256)		8270D		5	08/13/13 11:15	CWH0159	CH31001
Naphthalene	**0.389** (0.256)		8270D		5	08/13/13 11:15	CWH0159	CH31001
Phenanthrene	**1.52** (0.256)		8270D		5	08/13/13 11:15	CWH0159	CH31001
Pyrene	**6.59** (0.256)		8270D		5	08/13/13 11:15	CWH0159	CH31001

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*43 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*54 %*		*30-130*
Surrogate: Nitrobenzene-d5	*56 %*		*30-130*
Surrogate: p-Terphenyl-d14	*90 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC8 0-0.5ft
Date Sampled: 08/05/13 15:25
Percent Solids: 16

ESS Laboratory Work Order: 1308110
ESS Laboratory Sample ID: 1308110-05
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**163000** (6340)		TOC-LK		1	SUB	08/20/13 17:54	mg/kg	CH32011

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC8 0-0.5ft
Date Sampled: 08/05/13 15:25
Percent Solids: 16
Initial Volume: 14.7
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1308110
ESS Laboratory Sample ID: 1308110-05
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 8/12/13 10:00

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	ND (162)		MADEP-EPH		1	VSC	08/13/13 9:52	CWH0163	CH31208
C19-C36 Aliphatics1	**1050** (162)		MADEP-EPH		1	VSC	08/13/13 9:52	CWH0163	CH31208
C11-C22 Unadjusted Aromatics1	**475** (162)		EPH8270		1	VSC	08/14/13 12:03	CWH0181	CH31208
C11-C22 Aromatics1,2	**457** (162)		EPH8270			VSC	08/14/13 12:03		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*83 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*92 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*86 %*		*40-140*
Surrogate: O-Terphenyl	*85 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC8 2-4ft
Date Sampled: 08/05/13 15:25
Percent Solids: 23

ESS Laboratory Work Order: 1308110
ESS Laboratory Sample ID: 1308110-06
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (4.1)		6020A		50	SVD	08/12/13 20:44	5.29	100	CH30857
Arsenic	**39.6** (4.1)		6010B		1	JP	08/10/13 21:31	5.29	100	CH30857
Barium	**96.3** (4.1)		6010B		1	JP	08/10/13 21:31	5.29	100	CH30857
Beryllium	**0.99** (0.17)		6010B		1	JP	08/10/13 21:31	5.29	100	CH30857
Cadmium	**5.35** (0.82)		6010B		1	JP	08/10/13 21:31	5.29	100	CH30857
Chromium	**153** (1.6)		6010B		1	JP	08/10/13 21:31	5.29	100	CH30857
Lead	**554** (8.2)		6010B		1	JP	08/10/13 21:31	5.29	100	CH30857
Mercury	**1.52** (0.424)		7471B		5	JP	08/12/13 21:23	1.01	40	CH30932
Nickel	**60.7** (4.1)		6010B		1	JP	08/10/13 21:31	5.29	100	CH30857
Selenium	ND (4.11)		6020A		50	SVD	08/12/13 20:44	5.29	100	CH30857
Silver	**2.68** (0.82)		6010B		1	JP	08/10/13 21:31	5.29	100	CH30857
Thallium	ND (4.11)		6020A		50	SVD	08/12/13 20:44	5.29	100	CH30857
Vanadium	**114** (1.6)		6010B		1	JP	08/10/13 21:31	5.29	100	CH30857
Zinc	**1640** (20.4)		6010B		5	SVD	08/11/13 21:11	5.29	100	CH30857

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC8 2-4ft
Date Sampled: 08/05/13 15:25
Percent Solids: 23
Initial Volume: 19.7
Final Volume: 5
Extraction Method: 3540

ESS Laboratory Work Order: 1308110
ESS Laboratory Sample ID: 1308110-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 8/9/13 17:00
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.110)		8082A		1	08/14/13 17:19		CH30937
Aroclor 1221	ND (0.110)		8082A		1	08/14/13 17:19		CH30937
Aroclor 1232	ND (0.110)		8082A		1	08/14/13 17:19		CH30937
Aroclor 1242	ND (0.110)		8082A		1	08/14/13 17:19		CH30937
Aroclor 1248	**1.41** (0.110)		8082A		1	08/14/13 17:19		CH30937
Aroclor 1254	**1.71** (0.110)		8082A		1	08/14/13 17:19		CH30937
Aroclor 1260	**1.31** (0.110)		8082A		1	08/14/13 17:19		CH30937
Aroclor 1262	ND (0.110)		8082A		1	08/14/13 17:19		CH30937
Aroclor 1268	ND (0.110)		8082A		1	08/14/13 17:19		CH30937

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*100 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*82 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*67 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*62 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC8 2-4ft
Date Sampled: 08/05/13 15:25
Percent Solids: 23
Initial Volume: 15.3
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308110
ESS Laboratory Sample ID: 1308110-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/12/13 15:30

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (1.41)		8270D		1	08/13/13 2:04	CWH0158	CH31223
1,2-Dichlorobenzene	ND (1.41)		8270D		1	08/13/13 2:04	CWH0158	CH31223
1,3-Dichlorobenzene	ND (1.41)		8270D		1	08/13/13 2:04	CWH0158	CH31223
1,4-Dichlorobenzene	ND (1.41)		8270D		1	08/13/13 2:04	CWH0158	CH31223
2-Methylnaphthalene	ND (1.41)		8270D		1	08/13/13 2:04	CWH0158	CH31223
2-Methylphenol	ND (1.41)		8270D		1	08/13/13 2:04	CWH0158	CH31223
Acenaphthene	ND (1.41)		8270D		1	08/13/13 2:04	CWH0158	CH31223
Acenaphthylene	ND (1.41)		8270D		1	08/13/13 2:04	CWH0158	CH31223
Anthracene	ND (1.41)		8270D		1	08/13/13 2:04	CWH0158	CH31223
Benzo(a)anthracene	ND (1.41)		8270D		1	08/13/13 2:04	CWH0158	CH31223
Benzo(a)pyrene	**1.16** (0.708)		8270D		1	08/13/13 2:04	CWH0158	CH31223
Benzo(b)fluoranthene	**1.46** (1.41)		8270D		1	08/13/13 2:04	CWH0158	CH31223
Benzo(g,h,i)perylene	ND (1.41)		8270D		1	08/13/13 2:04	CWH0158	CH31223
Benzo(k)fluoranthene	ND (1.41)		8270D		1	08/13/13 2:04	CWH0158	CH31223
bis(2-Ethylhexyl)phthalate	**173** (14.1)		8270D		10	08/13/13 11:16	CWH0158	CH31223
Butylbenzylphthalate	ND (1.41)		8270D		1	08/13/13 2:04	CWH0158	CH31223
Carbazole	ND (1.41)		8270D		1	08/13/13 2:04	CWH0158	CH31223
Chrysene	**1.49** (0.708)		8270D		1	08/13/13 2:04	CWH0158	CH31223
Dibenzo(a,h)Anthracene	ND (0.708)		8270D		1	08/13/13 2:04	CWH0158	CH31223
Dibenzofuran	ND (1.41)		8270D		1	08/13/13 2:04	CWH0158	CH31223
Diethylphthalate	ND (1.41)		8270D		1	08/13/13 2:04	CWH0158	CH31223
Dimethylphthalate	ND (1.41)		8270D		1	08/13/13 2:04	CWH0158	CH31223
Di-n-butylphthalate	ND (1.41)		8270D		1	08/13/13 2:04	CWH0158	CH31223
Di-n-octylphthalate	**1.52** (1.41)		8270D		1	08/13/13 2:04	CWH0158	CH31223
Fluoranthene	**2.39** (1.41)		8270D		1	08/13/13 2:04	CWH0158	CH31223
Fluorene	ND (1.41)		8270D		1	08/13/13 2:04	CWH0158	CH31223
Hexachlorobenzene	ND (1.41)		8270D		1	08/13/13 2:04	CWH0158	CH31223
Hexachlorocyclopentadiene	ND (7.08)		8270D		1	08/13/13 2:04	CWH0158	CH31223
Indeno(1,2,3-cd)Pyrene	ND (1.41)		8270D		1	08/13/13 2:04	CWH0158	CH31223
Naphthalene	ND (1.41)		8270D		1	08/13/13 2:04	CWH0158	CH31223
Phenanthrene	ND (1.41)		8270D		1	08/13/13 2:04	CWH0158	CH31223

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC8 2-4ft
Date Sampled: 08/05/13 15:25
Percent Solids: 23
Initial Volume: 15.3
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308110
ESS Laboratory Sample ID: 1308110-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/12/13 15:30

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Phenol	ND (1.41)		8270D		1	08/13/13 2:04	CWH0158	CH31223
Pyrene	**2.54** (1.41)		8270D		1	08/13/13 2:04	CWH0158	CH31223

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*63 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*52 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*68 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*69 %*		*30-130*
Surrogate: 2-Fluorophenol	*61 %*		*30-130*
Surrogate: Nitrobenzene-d5	*67 %*		*30-130*
Surrogate: Phenol-d6	*68 %*		*30-130*
Surrogate: p-Terphenyl-d14	*89 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC8 2-4ft
Date Sampled: 08/05/13 15:25
Percent Solids: 23
Initial Volume: 15.3
Final Volume: 0.5
Extraction Method: 3541

ESS Laboratory Work Order: 1308110
ESS Laboratory Sample ID: 1308110-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/10/13 9:00

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.177)		8270D		5	08/14/13 9:12	CWH0174	CH31001
Acenaphthene	ND (0.177)		8270D		5	08/14/13 9:12	CWH0174	CH31001
Acenaphthylene	**0.304** (0.177)		8270D		5	08/14/13 9:12	CWH0174	CH31001
Anthracene	**0.325** (0.177)		8270D		5	08/14/13 9:12	CWH0174	CH31001
Benzo(a)anthracene	**0.551** (0.177)		8270D		5	08/14/13 9:12	CWH0174	CH31001
Benzo(a)pyrene	**0.692** (0.177)		8270D		5	08/14/13 9:12	CWH0174	CH31001
Benzo(b)fluoranthene	**0.953** (0.177)		8270D		5	08/14/13 9:12	CWH0174	CH31001
Benzo(g,h,i)perylene	**0.523** (0.177)		8270D		5	08/14/13 9:12	CWH0174	CH31001
Benzo(k)fluoranthene	**0.297** (0.177)		8270D		5	08/14/13 9:12	CWH0174	CH31001
Chrysene	**0.741** (0.177)		8270D		5	08/14/13 9:12	CWH0174	CH31001
Dibenzo(a,h)Anthracene	ND (0.177)		8270D		5	08/14/13 9:12	CWH0174	CH31001
Fluoranthene	**1.07** (0.177)		8270D		5	08/14/13 9:12	CWH0174	CH31001
Fluorene	ND (0.177)		8270D		5	08/14/13 9:12	CWH0174	CH31001
Indeno(1,2,3-cd)Pyrene	**0.508** (0.177)		8270D		5	08/14/13 9:12	CWH0174	CH31001
Naphthalene	**0.346** (0.177)		8270D		5	08/14/13 9:12	CWH0174	CH31001
Phenanthrene	**0.417** (0.177)		8270D		5	08/14/13 9:12	CWH0174	CH31001
Pyrene	**1.25** (0.177)		8270D		5	08/14/13 9:12	CWH0174	CH31001

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*43 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*46 %*		*30-130*
Surrogate: Nitrobenzene-d5	*48 %*		*30-130*
Surrogate: p-Terphenyl-d14	*80 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC8 2-4ft
Date Sampled: 08/05/13 15:25
Percent Solids: 23

ESS Laboratory Work Order: 1308110
ESS Laboratory Sample ID: 1308110-06
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**105000** (4310)		TOC-LK		1	SUB	08/20/13 18:02	mg/kg	CH32011

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC8 2-4ft
Date Sampled: 08/05/13 15:25
Percent Solids: 23
Initial Volume: 15.5
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1308110
ESS Laboratory Sample ID: 1308110-06
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 8/14/13 15:46

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	**124** (105)		MADEP-EPH		1	VSC	08/15/13 19:20	CWH0200	CH31405
C19-C36 Aliphatics1	**665** (105)		MADEP-EPH		1	VSC	08/15/13 19:20	CWH0200	CH31405
C11-C22 Unadjusted Aromatics1	**398** (105)		EPH8270		1	IBM	08/15/13 15:25	CWH0203	CH31405
C11-C22 Aromatics1,2	**398** (105)		EPH8270			IBM	08/15/13 15:25		[CALC]

	%Recovery	*Qualifier*	*Limits*
Surrogate: 1-Chlorooctadecane	*78 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*64 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*73 %*		*40-140*
Surrogate: O-Terphenyl	*85 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC8 4-6ft
Date Sampled: 08/05/13 15:25
Percent Solids: 45

ESS Laboratory Work Order: 1308110
ESS Laboratory Sample ID: 1308110-07
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (2.2)		6020A		50	SVD	08/12/13 20:50	5.06	100	CH30857
Arsenic	**29.2** (2.2)		6010B		1	JP	08/10/13 21:36	5.06	100	CH30857
Barium	**66.1** (2.2)		6010B		1	JP	08/10/13 21:36	5.06	100	CH30857
Beryllium	**0.56** (0.09)		6010B		1	JP	08/10/13 21:36	5.06	100	CH30857
Cadmium	**4.83** (0.44)		6010B		1	JP	08/10/13 21:36	5.06	100	CH30857
Chromium	**93.9** (0.9)		6010B		1	JP	08/10/13 21:36	5.06	100	CH30857
Lead	**260** (4.4)		6010B		1	JP	08/10/13 21:36	5.06	100	CH30857
Mercury	**1.01** (0.146)		7471B		5	JP	08/12/13 21:26	1.5	40	CH30932
Nickel	**30.6** (2.2)		6010B		1	JP	08/10/13 21:36	5.06	100	CH30857
Selenium	ND (2.20)		6020A		50	SVD	08/12/13 20:50	5.06	100	CH30857
Silver	**1.55** (0.44)		6010B		1	JP	08/10/13 21:36	5.06	100	CH30857
Thallium	ND (2.20)		6020A		50	SVD	08/12/13 20:50	5.06	100	CH30857
Vanadium	**74.8** (0.9)		6010B		1	JP	08/10/13 21:36	5.06	100	CH30857
Zinc	**1440** (10.9)		6010B		5	SVD	08/11/13 21:24	5.06	100	CH30857

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC8 4-6ft
Date Sampled: 08/05/13 15:25
Percent Solids: 45
Initial Volume: 19.6
Final Volume: 5
Extraction Method: 3540

ESS Laboratory Work Order: 1308110
ESS Laboratory Sample ID: 1308110-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 8/9/13 17:00
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0565)		8082A		1	08/14/13 17:38		CH30937
Aroclor 1221	ND (0.0565)		8082A		1	08/14/13 17:38		CH30937
Aroclor 1232	ND (0.0565)		8082A		1	08/14/13 17:38		CH30937
Aroclor 1242	ND (0.0565)		8082A		1	08/14/13 17:38		CH30937
Aroclor 1248	**2.75** (0.283)		8082A		5	08/14/13 19:46		CH30937
Aroclor 1254	**1.01** (0.0565)		8082A		1	08/14/13 17:38		CH30937
Aroclor 1260	**0.449** (0.0565)		8082A		1	08/14/13 17:38		CH30937
Aroclor 1262	ND (0.0565)		8082A		1	08/14/13 17:38		CH30937
Aroclor 1268	ND (0.0565)		8082A		1	08/14/13 17:38		CH30937

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*89 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*70 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*55 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*47 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC8 4-6ft
Date Sampled: 08/05/13 15:25
Percent Solids: 45
Initial Volume: 15.6
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308110
ESS Laboratory Sample ID: 1308110-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/12/13 15:30

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.710)		8270D		1	08/13/13 2:37	CWH0158	CH31223
1,2-Dichlorobenzene	ND (0.710)		8270D		1	08/13/13 2:37	CWH0158	CH31223
1,3-Dichlorobenzene	ND (0.710)		8270D		1	08/13/13 2:37	CWH0158	CH31223
1,4-Dichlorobenzene	ND (0.710)		8270D		1	08/13/13 2:37	CWH0158	CH31223
2-Methylnaphthalene	ND (0.710)		8270D		1	08/13/13 2:37	CWH0158	CH31223
2-Methylphenol	ND (0.710)		8270D		1	08/13/13 2:37	CWH0158	CH31223
Acenaphthene	ND (0.710)		8270D		1	08/13/13 2:37	CWH0158	CH31223
Acenaphthylene	**0.930** (0.710)		8270D		1	08/13/13 2:37	CWH0158	CH31223
Anthracene	ND (0.710)		8270D		1	08/13/13 2:37	CWH0158	CH31223
Benzo(a)anthracene	**1.55** (0.710)		8270D		1	08/13/13 2:37	CWH0158	CH31223
Benzo(a)pyrene	**1.22** (0.356)		8270D		1	08/13/13 2:37	CWH0158	CH31223
Benzo(b)fluoranthene	**1.43** (0.710)		8270D		1	08/13/13 2:37	CWH0158	CH31223
Benzo(g,h,i)perylene	ND (0.710)		8270D		1	08/13/13 2:37	CWH0158	CH31223
Benzo(k)fluoranthene	ND (0.710)		8270D		1	08/13/13 2:37	CWH0158	CH31223
bis(2-Ethylhexyl)phthalate	**344** (71.0)		8270D		100	08/13/13 12:23	CWH0158	CH31223
Butylbenzylphthalate	ND (0.710)		8270D		1	08/13/13 2:37	CWH0158	CH31223
Carbazole	ND (0.710)		8270D		1	08/13/13 2:37	CWH0158	CH31223
Chrysene	**1.91** (0.356)		8270D		1	08/13/13 2:37	CWH0158	CH31223
Dibenzo(a,h)Anthracene	ND (0.356)		8270D		1	08/13/13 2:37	CWH0158	CH31223
Dibenzofuran	ND (0.710)		8270D		1	08/13/13 2:37	CWH0158	CH31223
Diethylphthalate	ND (0.710)		8270D		1	08/13/13 2:37	CWH0158	CH31223
Dimethylphthalate	ND (0.710)		8270D		1	08/13/13 2:37	CWH0158	CH31223
Di-n-butylphthalate	ND (0.710)		8270D		1	08/13/13 2:37	CWH0158	CH31223
Di-n-octylphthalate	**5.17** (0.710)		8270D		1	08/13/13 2:37	CWH0158	CH31223
Fluoranthene	**3.00** (0.710)		8270D		1	08/13/13 2:37	CWH0158	CH31223
Fluorene	ND (0.710)		8270D		1	08/13/13 2:37	CWH0158	CH31223
Hexachlorobenzene	ND (0.710)		8270D		1	08/13/13 2:37	CWH0158	CH31223
Hexachlorocyclopentadiene	ND (3.56)		8270D		1	08/13/13 2:37	CWH0158	CH31223
Indeno(1,2,3-cd)Pyrene	ND (0.710)		8270D		1	08/13/13 2:37	CWH0158	CH31223
Naphthalene	ND (0.710)		8270D		1	08/13/13 2:37	CWH0158	CH31223
Phenanthrene	ND (0.710)		8270D		1	08/13/13 2:37	CWH0158	CH31223

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC8 4-6ft
Date Sampled: 08/05/13 15:25
Percent Solids: 45
Initial Volume: 15.6
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308110
ESS Laboratory Sample ID: 1308110-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/12/13 15:30

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Phenol	ND (0.710)		8270D		1	08/13/13 2:37	CWH0158	CH31223
Pyrene	**2.99** (0.710)		8270D		1	08/13/13 2:37	CWH0158	CH31223

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*58 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*55 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*62 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*72 %*		*30-130*
Surrogate: 2-Fluorophenol	*57 %*		*30-130*
Surrogate: Nitrobenzene-d5	*62 %*		*30-130*
Surrogate: Phenol-d6	*63 %*		*30-130*
Surrogate: p-Terphenyl-d14	*75 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC8 4-6ft
Date Sampled: 08/05/13 15:25
Percent Solids: 45
Initial Volume: 15.5
Final Volume: 0.5
Extraction Method: 3541

ESS Laboratory Work Order: 1308110
ESS Laboratory Sample ID: 1308110-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/10/13 9:00

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.089)		8270D		5	08/14/13 10:50	CWH0174	CH31001
Acenaphthene	ND (0.089)		8270D		5	08/14/13 10:50	CWH0174	CH31001
Acenaphthylene	**0.222** (0.089)		8270D		5	08/14/13 10:50	CWH0174	CH31001
Anthracene	**0.186** (0.089)		8270D		5	08/14/13 10:50	CWH0174	CH31001
Benzo(a)anthracene	**0.340** (0.089)		8270D		5	08/14/13 10:50	CWH0174	CH31001
Benzo(a)pyrene	**0.386** (0.089)		8270D		5	08/14/13 10:50	CWH0174	CH31001
Benzo(b)fluoranthene	**0.436** (0.089)		8270D		5	08/14/13 10:50	CWH0174	CH31001
Benzo(g,h,i)perylene	**0.218** (0.089)		8270D		5	08/14/13 10:50	CWH0174	CH31001
Benzo(k)fluoranthene	**0.125** (0.089)		8270D		5	08/14/13 10:50	CWH0174	CH31001
Chrysene	**0.379** (0.089)		8270D		5	08/14/13 10:50	CWH0174	CH31001
Dibenzo(a,h)Anthracene	ND (0.089)		8270D		5	08/14/13 10:50	CWH0174	CH31001
Fluoranthene	**0.550** (0.089)		8270D		5	08/14/13 10:50	CWH0174	CH31001
Fluorene	ND (0.089)		8270D		5	08/14/13 10:50	CWH0174	CH31001
Indeno(1,2,3-cd)Pyrene	**0.222** (0.089)		8270D		5	08/14/13 10:50	CWH0174	CH31001
Naphthalene	**0.264** (0.089)		8270D		5	08/14/13 10:50	CWH0174	CH31001
Phenanthrene	**0.193** (0.089)		8270D		5	08/14/13 10:50	CWH0174	CH31001
Pyrene	**0.765** (0.089)		8270D		5	08/14/13 10:50	CWH0174	CH31001

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*44 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*50 %*		*30-130*
Surrogate: Nitrobenzene-d5	*47 %*		*30-130*
Surrogate: p-Terphenyl-d14	*78 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC8 4-6ft
Date Sampled: 08/05/13 15:25
Percent Solids: 45
Initial Volume: 14.5
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1308110
ESS Laboratory Sample ID: 1308110-07
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 8/12/13 10:00

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	**132** (57.3)		MADEP-EPH		1	VSC	08/13/13 11:33	CWH0163	CH31208
C19-C36 Aliphatics1	**296** (57.3)		MADEP-EPH		1	VSC	08/13/13 11:33	CWH0163	CH31208
C11-C22 Unadjusted Aromatics1	**368** (57.3)		EPH8270		1	VSC	08/14/13 13:37	CWH0181	CH31208
C11-C22 Aromatics1,2	**368** (57.3)		EPH8270			VSC	08/14/13 13:37		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*77 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*89 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*86 %*		*40-140*
Surrogate: O-Terphenyl	*76 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC8 6-7ft3in
Date Sampled: 08/05/13 15:25
Percent Solids: 74

ESS Laboratory Work Order: 1308110
ESS Laboratory Sample ID: 1308110-08
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.3)		6020A		50	SVD	08/12/13 20:56	5.31	100	CH30857
Arsenic	**10.8** (1.3)		6010B		1	JP	08/10/13 21:42	5.31	100	CH30857
Barium	**25.6** (1.3)		6010B		1	JP	08/10/13 21:42	5.31	100	CH30857
Beryllium	**0.31** (0.05)		6010B		1	JP	08/10/13 21:42	5.31	100	CH30857
Cadmium	**0.47** (0.25)		6010B		1	JP	08/10/13 21:42	5.31	100	CH30857
Chromium	**24.4** (0.5)		6010B		1	JP	08/10/13 21:42	5.31	100	CH30857
Lead	**39.2** (2.5)		6010B		1	JP	08/10/13 21:42	5.31	100	CH30857
Mercury	ND (0.018)		7471B		1	JP	08/12/13 21:29	1.45	40	CH30932
Nickel	**10.3** (1.3)		6010B		1	JP	08/10/13 21:42	5.31	100	CH30857
Selenium	ND (1.27)		6020A		50	SVD	08/12/13 20:56	5.31	100	CH30857
Silver	**0.45** (0.25)		6010B		1	JP	08/10/13 21:42	5.31	100	CH30857
Thallium	ND (1.27)		6020A		50	SVD	08/12/13 20:56	5.31	100	CH30857
Vanadium	**28.5** (0.5)		6010B		1	JP	08/10/13 21:42	5.31	100	CH30857
Zinc	**99.9** (1.3)		6010B		1	SVD	08/11/13 21:28	5.31	100	CH30857

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC8 6-7ft3in
Date Sampled: 08/05/13 15:25
Percent Solids: 74
Initial Volume: 19.2
Final Volume: 5
Extraction Method: 3540

ESS Laboratory Work Order: 1308110
ESS Laboratory Sample ID: 1308110-08
Sample Matrix: Soil
Units: mg/kg dry
Analyst: ML
Prepared: 8/9/13 17:00
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0350)		8082A		1	08/12/13 21:58		CH30937
Aroclor 1221	ND (0.0350)		8082A		1	08/12/13 21:58		CH30937
Aroclor 1232	ND (0.0350)		8082A		1	08/12/13 21:58		CH30937
Aroclor 1242	ND (0.0350)		8082A		1	08/12/13 21:58		CH30937
Aroclor 1248	ND (0.0350)		8082A		1	08/12/13 21:58		CH30937
Aroclor 1254	ND (0.0350)		8082A		1	08/12/13 21:58		CH30937
Aroclor 1260	ND (0.0350)		8082A		1	08/12/13 21:58		CH30937
Aroclor 1262	ND (0.0350)		8082A		1	08/12/13 21:58		CH30937
Aroclor 1268	ND (0.0350)		8082A		1	08/12/13 21:58		CH30937

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*102 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*84 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*104 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*95 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC8 6-7ft3in
Date Sampled: 08/05/13 15:25
Percent Solids: 74
Initial Volume: 15.4
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308110
ESS Laboratory Sample ID: 1308110-08
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/12/13 15:30

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.436)		8270D		1	08/13/13 3:11	CWH0158	CH31223
1,2-Dichlorobenzene	ND (0.436)		8270D		1	08/13/13 3:11	CWH0158	CH31223
1,3-Dichlorobenzene	ND (0.436)		8270D		1	08/13/13 3:11	CWH0158	CH31223
1,4-Dichlorobenzene	ND (0.436)		8270D		1	08/13/13 3:11	CWH0158	CH31223
2-Methylnaphthalene	ND (0.436)		8270D		1	08/13/13 3:11	CWH0158	CH31223
2-Methylphenol	ND (0.436)		8270D		1	08/13/13 3:11	CWH0158	CH31223
Acenaphthene	ND (0.436)		8270D		1	08/13/13 3:11	CWH0158	CH31223
Acenaphthylene	ND (0.436)		8270D		1	08/13/13 3:11	CWH0158	CH31223
Anthracene	ND (0.436)		8270D		1	08/13/13 3:11	CWH0158	CH31223
Benzo(a)anthracene	ND (0.436)		8270D		1	08/13/13 3:11	CWH0158	CH31223
Benzo(a)pyrene	ND (0.219)		8270D		1	08/13/13 3:11	CWH0158	CH31223
Benzo(b)fluoranthene	ND (0.436)		8270D		1	08/13/13 3:11	CWH0158	CH31223
Benzo(g,h,i)perylene	ND (0.436)		8270D		1	08/13/13 3:11	CWH0158	CH31223
Benzo(k)fluoranthene	ND (0.436)		8270D		1	08/13/13 3:11	CWH0158	CH31223
bis(2-Ethylhexyl)phthalate	**55.0** (4.36)		8270D		10	08/13/13 12:56	CWH0158	CH31223
Butylbenzylphthalate	ND (0.436)		8270D		1	08/13/13 3:11	CWH0158	CH31223
Carbazole	ND (0.436)		8270D		1	08/13/13 3:11	CWH0158	CH31223
Chrysene	ND (0.219)		8270D		1	08/13/13 3:11	CWH0158	CH31223
Dibenzo(a,h)Anthracene	ND (0.219)		8270D		1	08/13/13 3:11	CWH0158	CH31223
Dibenzofuran	ND (0.436)		8270D		1	08/13/13 3:11	CWH0158	CH31223
Diethylphthalate	ND (0.436)		8270D		1	08/13/13 3:11	CWH0158	CH31223
Dimethylphthalate	ND (0.436)		8270D		1	08/13/13 3:11	CWH0158	CH31223
Di-n-butylphthalate	ND (0.436)		8270D		1	08/13/13 3:11	CWH0158	CH31223
Di-n-octylphthalate	**0.632** (0.436)		8270D		1	08/13/13 3:11	CWH0158	CH31223
Fluoranthene	ND (0.436)		8270D		1	08/13/13 3:11	CWH0158	CH31223
Fluorene	ND (0.436)		8270D		1	08/13/13 3:11	CWH0158	CH31223
Hexachlorobenzene	ND (0.436)		8270D		1	08/13/13 3:11	CWH0158	CH31223
Hexachlorocyclopentadiene	ND (2.19)		8270D		1	08/13/13 3:11	CWH0158	CH31223
Indeno(1,2,3-cd)Pyrene	ND (0.436)		8270D		1	08/13/13 3:11	CWH0158	CH31223
Naphthalene	ND (0.436)		8270D		1	08/13/13 3:11	CWH0158	CH31223
Phenanthrene	ND (0.436)		8270D		1	08/13/13 3:11	CWH0158	CH31223

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC8 6-7ft3in
Date Sampled: 08/05/13 15:25
Percent Solids: 74
Initial Volume: 15.4
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308110
ESS Laboratory Sample ID: 1308110-08
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/12/13 15:30

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Phenol	ND (0.436)		8270D		1	08/13/13 3:11	CWH0158	CH31223
Pyrene	ND (0.436)		8270D		1	08/13/13 3:11	CWH0158	CH31223

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*70 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*53 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*74 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*78 %*		*30-130*
Surrogate: 2-Fluorophenol	*68 %*		*30-130*
Surrogate: Nitrobenzene-d5	*75 %*		*30-130*
Surrogate: Phenol-d6	*74 %*		*30-130*
Surrogate: p-Terphenyl-d14	*87 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC8 6-7ft3in
Date Sampled: 08/05/13 15:25
Percent Solids: 74
Initial Volume: 15.5
Final Volume: 0.5
Extraction Method: 3541

ESS Laboratory Work Order: 1308110
ESS Laboratory Sample ID: 1308110-08
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/10/13 9:00

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.011)		8270D		1	08/14/13 10:01	CWH0174	CH31001
Acenaphthene	ND (0.011)		8270D		1	08/14/13 10:01	CWH0174	CH31001
Acenaphthylene	ND (0.011)		8270D		1	08/14/13 10:01	CWH0174	CH31001
Anthracene	ND (0.011)		8270D		1	08/14/13 10:01	CWH0174	CH31001
Benzo(a)anthracene	**0.012** (0.011)		8270D		1	08/14/13 10:01	CWH0174	CH31001
Benzo(a)pyrene	**0.012** (0.011)		8270D		1	08/14/13 10:01	CWH0174	CH31001
Benzo(b)fluoranthene	**0.013** (0.011)		8270D		1	08/14/13 10:01	CWH0174	CH31001
Benzo(g,h,i)perylene	ND (0.011)		8270D		1	08/14/13 10:01	CWH0174	CH31001
Benzo(k)fluoranthene	ND (0.011)		8270D		1	08/14/13 10:01	CWH0174	CH31001
Chrysene	**0.013** (0.011)		8270D		1	08/14/13 10:01	CWH0174	CH31001
Dibenzo(a,h)Anthracene	ND (0.011)		8270D		1	08/14/13 10:01	CWH0174	CH31001
Fluoranthene	**0.021** (0.011)		8270D		1	08/14/13 10:01	CWH0174	CH31001
Fluorene	ND (0.011)		8270D		1	08/14/13 10:01	CWH0174	CH31001
Indeno(1,2,3-cd)Pyrene	ND (0.011)		8270D		1	08/14/13 10:01	CWH0174	CH31001
Naphthalene	**0.013** (0.011)		8270D		1	08/14/13 10:01	CWH0174	CH31001
Phenanthrene	ND (0.011)		8270D		1	08/14/13 10:01	CWH0174	CH31001
Pyrene	**0.027** (0.011)		8270D		1	08/14/13 10:01	CWH0174	CH31001

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*63 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*62 %*		*30-130*
Surrogate: Nitrobenzene-d5	*73 %*		*30-130*
Surrogate: p-Terphenyl-d14	*84 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC8 6-7ft3in
Date Sampled: 08/05/13 15:25
Percent Solids: 74
Initial Volume: 14.9
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1308110
ESS Laboratory Sample ID: 1308110-08
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 8/12/13 10:00

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	ND (33.8)		MADEP-EPH		1	VSC	08/13/13 14:05	CWH0163	CH31208
C19-C36 Aliphatics1	ND (33.8)		MADEP-EPH		1	VSC	08/13/13 14:05	CWH0163	CH31208
C11-C22 Unadjusted Aromatics1	ND (33.8)		EPH8270		1	VSC	08/14/13 14:24	CWH0181	CH31208
C11-C22 Aromatics1,2	ND (33.8)		EPH8270			VSC	08/14/13 14:24		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*64 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*72 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*67 %*		*40-140*
Surrogate: O-Terphenyl	*68 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC9 0-0.5ft
Date Sampled: 08/05/13 15:35
Percent Solids: 17

ESS Laboratory Work Order: 1308110
ESS Laboratory Sample ID: 1308110-09
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (6.0)		6020A		50	SVD	08/12/13 21:02	5	100	CH30857
Arsenic	**33.6** (6.0)		6010B		1	JP	08/10/13 21:47	5	100	CH30857
Barium	**92.7** (6.0)		6010B		1	JP	08/10/13 21:47	5	100	CH30857
Beryllium	**0.85** (0.25)		6010B		1	JP	08/10/13 21:47	5	100	CH30857
Cadmium	**3.47** (1.21)		6010B		1	JP	08/10/13 21:47	5	100	CH30857
Chromium	**90.6** (2.4)		6010B		1	JP	08/10/13 21:47	5	100	CH30857
Lead	**341** (12.0)		6010B		1	JP	08/10/13 21:47	5	100	CH30857
Mercury	**1.00** (0.110)		7471B		1	JP	08/12/13 21:31	1.08	40	CH30932
Nickel	**32.2** (6.0)		6010B		1	JP	08/10/13 21:47	5	100	CH30857
Selenium	ND (6.05)		6020A		50	SVD	08/12/13 21:02	5	100	CH30857
Silver	**1.85** (1.21)		6010B		1	JP	08/10/13 21:47	5	100	CH30857
Thallium	ND (6.05)		6020A		50	SVD	08/12/13 21:02	5	100	CH30857
Vanadium	**68.3** (2.4)		6010B		1	JP	08/10/13 21:47	5	100	CH30857
Zinc	**804** (6.0)		6010B		1	SVD	08/11/13 21:33	5	100	CH30857

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC9 0-0.5ft
Date Sampled: 08/05/13 15:35
Percent Solids: 17
Initial Volume: 19.6
Final Volume: 5
Extraction Method: 3540

ESS Laboratory Work Order: 1308110
ESS Laboratory Sample ID: 1308110-09
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 8/9/13 17:00
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.154)		8082A		1	08/14/13 13:29		CH31434
Aroclor 1221	ND (0.154)		8082A		1	08/14/13 13:29		CH31434
Aroclor 1232	ND (0.154)		8082A		1	08/14/13 13:29		CH31434
Aroclor 1242	ND (0.154)		8082A		1	08/14/13 13:29		CH31434
Aroclor 1248	**0.319** (0.154)		8082A		1	08/14/13 13:29		CH31434
Aroclor 1254	**0.732** (0.154)		8082A		1	08/14/13 13:29		CH31434
Aroclor 1260	**0.672** (0.154)		8082A		1	08/14/13 13:29		CH31434
Aroclor 1262	ND (0.154)		8082A		1	08/14/13 13:29		CH31434
Aroclor 1268	ND (0.154)		8082A		1	08/14/13 13:29		CH31434

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*98 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*79 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*75 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*67 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC9 0-0.5ft
Date Sampled: 08/05/13 15:35
Percent Solids: 17
Initial Volume: 15.3
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308110
ESS Laboratory Sample ID: 1308110-09
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/12/13 15:30

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (1.96)		8270D		1	08/13/13 3:44	CWH0158	CH31223
1,2-Dichlorobenzene	ND (1.96)		8270D		1	08/13/13 3:44	CWH0158	CH31223
1,3-Dichlorobenzene	ND (1.96)		8270D		1	08/13/13 3:44	CWH0158	CH31223
1,4-Dichlorobenzene	ND (1.96)		8270D		1	08/13/13 3:44	CWH0158	CH31223
2-Methylnaphthalene	ND (1.96)		8270D		1	08/13/13 3:44	CWH0158	CH31223
2-Methylphenol	ND (1.96)		8270D		1	08/13/13 3:44	CWH0158	CH31223
Acenaphthene	ND (1.96)		8270D		1	08/13/13 3:44	CWH0158	CH31223
Acenaphthylene	ND (1.96)		8270D		1	08/13/13 3:44	CWH0158	CH31223
Anthracene	ND (1.96)		8270D		1	08/13/13 3:44	CWH0158	CH31223
Benzo(a)anthracene	ND (1.96)		8270D		1	08/13/13 3:44	CWH0158	CH31223
Benzo(a)pyrene	**1.61** (0.985)		8270D		1	08/13/13 3:44	CWH0158	CH31223
Benzo(b)fluoranthene	**3.20** (1.96)		8270D		1	08/13/13 3:44	CWH0158	CH31223
Benzo(g,h,i)perylene	ND (1.96)		8270D		1	08/13/13 3:44	CWH0158	CH31223
Benzo(k)fluoranthene	**3.71** (1.96)		8270D		1	08/13/13 3:44	CWH0158	CH31223
bis(2-Ethylhexyl)phthalate	**21.5** (1.96)		8270D		1	08/13/13 3:44	CWH0158	CH31223
Butylbenzylphthalate	ND (1.96)		8270D		1	08/13/13 3:44	CWH0158	CH31223
Carbazole	ND (1.96)		8270D		1	08/13/13 3:44	CWH0158	CH31223
Chrysene	**2.07** (0.985)		8270D		1	08/13/13 3:44	CWH0158	CH31223
Dibenzo(a,h)Anthracene	ND (0.985)		8270D		1	08/13/13 3:44	CWH0158	CH31223
Dibenzofuran	ND (1.96)		8270D		1	08/13/13 3:44	CWH0158	CH31223
Diethylphthalate	ND (1.96)		8270D		1	08/13/13 3:44	CWH0158	CH31223
Dimethylphthalate	ND (1.96)		8270D		1	08/13/13 3:44	CWH0158	CH31223
Di-n-butylphthalate	ND (1.96)		8270D		1	08/13/13 3:44	CWH0158	CH31223
Di-n-octylphthalate	ND (1.96)		8270D		1	08/13/13 3:44	CWH0158	CH31223
Fluoranthene	**3.43** (1.96)		8270D		1	08/13/13 3:44	CWH0158	CH31223
Fluorene	ND (1.96)		8270D		1	08/13/13 3:44	CWH0158	CH31223
Hexachlorobenzene	ND (1.96)		8270D		1	08/13/13 3:44	CWH0158	CH31223
Hexachlorocyclopentadiene	ND (9.85)		8270D		1	08/13/13 3:44	CWH0158	CH31223
Indeno(1,2,3-cd)Pyrene	ND (1.96)		8270D		1	08/13/13 3:44	CWH0158	CH31223
Naphthalene	ND (1.96)		8270D		1	08/13/13 3:44	CWH0158	CH31223
Phenanthrene	ND (1.96)		8270D		1	08/13/13 3:44	CWH0158	CH31223

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC9 0-0.5ft
Date Sampled: 08/05/13 15:35
Percent Solids: 17
Initial Volume: 15.3
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308110
ESS Laboratory Sample ID: 1308110-09
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/12/13 15:30

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Phenol	ND (1.96)		8270D		1	08/13/13 3:44	CWH0158	CH31223
Pyrene	**2.50** (1.96)		8270D		1	08/13/13 3:44	CWH0158	CH31223

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*51 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*45 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*55 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*56 %*		*30-130*
Surrogate: 2-Fluorophenol	*47 %*		*30-130*
Surrogate: Nitrobenzene-d5	*52 %*		*30-130*
Surrogate: Phenol-d6	*54 %*		*30-130*
Surrogate: p-Terphenyl-d14	*71 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC9 0-0.5ft
Date Sampled: 08/05/13 15:35
Percent Solids: 17
Initial Volume: 15.8
Final Volume: 0.5
Extraction Method: 3541

ESS Laboratory Work Order: 1308110
ESS Laboratory Sample ID: 1308110-09
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/10/13 9:00

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.238)		8270D		5	08/11/13 22:06	CWH0139	CH31001
Acenaphthene	ND (0.238)		8270D		5	08/11/13 22:06	CWH0139	CH31001
Acenaphthylene	**0.638** (0.238)		8270D		5	08/11/13 22:06	CWH0139	CH31001
Anthracene	**0.590** (0.238)		8270D		5	08/11/13 22:06	CWH0139	CH31001
Benzo(a)anthracene	**1.66** (0.238)		8270D		5	08/11/13 22:06	CWH0139	CH31001
Benzo(a)pyrene	**2.37** (0.238)		8270D		5	08/11/13 22:06	CWH0139	CH31001
Benzo(b)fluoranthene	**3.82** (0.238)		8270D		5	08/11/13 22:06	CWH0139	CH31001
Benzo(g,h,i)perylene	**1.79** (0.238)		8270D		5	08/11/13 22:06	CWH0139	CH31001
Benzo(k)fluoranthene	**1.05** (0.238)		8270D		5	08/11/13 22:06	CWH0139	CH31001
Chrysene	**2.50** (0.238)		8270D		5	08/11/13 22:06	CWH0139	CH31001
Dibenzo(a,h)Anthracene	**0.476** (0.238)		8270D		5	08/11/13 22:06	CWH0139	CH31001
Fluoranthene	**3.79** (0.238)		8270D		5	08/11/13 22:06	CWH0139	CH31001
Fluorene	ND (0.238)		8270D		5	08/11/13 22:06	CWH0139	CH31001
Indeno(1,2,3-cd)Pyrene	**2.02** (0.238)		8270D		5	08/11/13 22:06	CWH0139	CH31001
Naphthalene	**0.438** (0.238)		8270D		5	08/11/13 22:06	CWH0139	CH31001
Phenanthrene	**0.905** (0.238)		8270D		5	08/11/13 22:06	CWH0139	CH31001
Pyrene	**3.63** (0.238)		8270D		5	08/11/13 22:06	CWH0139	CH31001

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*56 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*65 %*		*30-130*
Surrogate: Nitrobenzene-d5	*67 %*		*30-130*
Surrogate: p-Terphenyl-d14	*96 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC9 0-0.5ft
Date Sampled: 08/05/13 15:35
Percent Solids: 17

ESS Laboratory Work Order: 1308110
ESS Laboratory Sample ID: 1308110-09
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**145000** (6320)		TOC-LK		1	SUB	08/20/13 18:09	mg/kg	CH32011

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC9 0-0.5ft
Date Sampled: 08/05/13 15:35
Percent Solids: 17
Initial Volume: 14.8
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1308110
ESS Laboratory Sample ID: 1308110-09
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 8/12/13 10:00

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	ND (153)		MADEP-EPH		1	VSC	08/13/13 14:55	CWH0163	CH31208
C19-C36 Aliphatics1	**755** (153)		MADEP-EPH		1	VSC	08/13/13 14:55	CWH0163	CH31208
C11-C22 Unadjusted Aromatics1	**403** (153)		EPH8270		1	VSC	08/14/13 10:29	CWH0181	CH31208
C11-C22 Aromatics1,2	**403** (153)		EPH8270			VSC	08/14/13 10:29		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*72 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*91 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*87 %*		*40-140*
Surrogate: O-Terphenyl	*78 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC9 2-4ft
Date Sampled: 08/05/13 15:35
Percent Solids: 28

ESS Laboratory Work Order: 1308110
ESS Laboratory Sample ID: 1308110-10
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (3.5)		6020A		50	SVD	08/12/13 21:08	5.08	100	CH30857
Arsenic	**52.6** (3.5)		6010B		1	JP	08/10/13 22:01	5.08	100	CH30857
Barium	**119** (3.5)		6010B		1	JP	08/10/13 22:01	5.08	100	CH30857
Beryllium	**0.86** (0.15)		6010B		1	JP	08/10/13 22:01	5.08	100	CH30857
Cadmium	**6.01** (0.70)		6010B		1	JP	08/10/13 22:01	5.08	100	CH30857
Chromium	**137** (1.4)		6010B		1	JP	08/10/13 22:01	5.08	100	CH30857
Lead	**403** (6.9)		6010B		1	JP	08/10/13 22:01	5.08	100	CH30857
Mercury	**1.63** (0.246)		7471B		5	JP	08/12/13 21:34	1.42	40	CH30932
Nickel	**40.1** (3.5)		6010B		1	JP	08/10/13 22:01	5.08	100	CH30857
Selenium	ND (3.49)		6020A		50	SVD	08/12/13 21:08	5.08	100	CH30857
Silver	**2.66** (0.70)		6010B		1	JP	08/10/13 22:01	5.08	100	CH30857
Thallium	ND (3.49)		6020A		50	SVD	08/12/13 21:08	5.08	100	CH30857
Vanadium	**122** (1.4)		6010B		1	JP	08/10/13 22:01	5.08	100	CH30857
Zinc	**1720** (17.3)		6010B		5	SVD	08/11/13 21:39	5.08	100	CH30857

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC9 2-4ft
Date Sampled: 08/05/13 15:35
Percent Solids: 28
Initial Volume: 19.6
Final Volume: 5
Extraction Method: 3540

ESS Laboratory Work Order: 1308110
ESS Laboratory Sample ID: 1308110-10
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 8/9/13 17:00
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0899)		8082A		1	08/14/13 19:08		CH30937
Aroclor 1221	ND (0.0899)		8082A		1	08/14/13 19:08		CH30937
Aroclor 1232	ND (0.0899)		8082A		1	08/14/13 19:08		CH30937
Aroclor 1242	ND (0.0899)		8082A		1	08/14/13 19:08		CH30937
Aroclor 1248	**3.40** (0.449)		8082A		5	08/15/13 12:41		CH30937
Aroclor 1254	**2.74** (0.449)		8082A		5	08/15/13 12:41		CH30937
Aroclor 1260	**1.09** (0.0899)		8082A		1	08/14/13 19:08		CH30937
Aroclor 1262	ND (0.0899)		8082A		1	08/14/13 19:08		CH30937
Aroclor 1268	ND (0.0899)		8082A		1	08/14/13 19:08		CH30937

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*102 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*96 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*80 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*76 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC9 2-4ft
Date Sampled: 08/05/13 15:35
Percent Solids: 28
Initial Volume: 15.1
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308110
ESS Laboratory Sample ID: 1308110-10
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/12/13 15:30

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (1.17)		8270D		1	08/13/13 4:18	CWH0158	CH31223
1,2-Dichlorobenzene	ND (1.17)		8270D		1	08/13/13 4:18	CWH0158	CH31223
1,3-Dichlorobenzene	ND (1.17)		8270D		1	08/13/13 4:18	CWH0158	CH31223
1,4-Dichlorobenzene	ND (1.17)		8270D		1	08/13/13 4:18	CWH0158	CH31223
2-Methylnaphthalene	ND (1.17)		8270D		1	08/13/13 4:18	CWH0158	CH31223
2-Methylphenol	ND (1.17)		8270D		1	08/13/13 4:18	CWH0158	CH31223
Acenaphthene	ND (1.17)		8270D		1	08/13/13 4:18	CWH0158	CH31223
Acenaphthylene	ND (1.17)		8270D		1	08/13/13 4:18	CWH0158	CH31223
Anthracene	ND (1.17)		8270D		1	08/13/13 4:18	CWH0158	CH31223
Benzo(a)anthracene	ND (1.17)		8270D		1	08/13/13 4:18	CWH0158	CH31223
Benzo(a)pyrene	ND (0.585)		8270D		1	08/13/13 4:18	CWH0158	CH31223
Benzo(b)fluoranthene	ND (1.17)		8270D		1	08/13/13 4:18	CWH0158	CH31223
Benzo(g,h,i)perylene	ND (1.17)		8270D		1	08/13/13 4:18	CWH0158	CH31223
Benzo(k)fluoranthene	ND (1.17)		8270D		1	08/13/13 4:18	CWH0158	CH31223
bis(2-Ethylhexyl)phthalate	**102** (11.7)		8270D		10	08/13/13 13:30	CWH0158	CH31223
Butylbenzylphthalate	ND (1.17)		8270D		1	08/13/13 4:18	CWH0158	CH31223
Carbazole	ND (1.17)		8270D		1	08/13/13 4:18	CWH0158	CH31223
Chrysene	ND (0.585)		8270D		1	08/13/13 4:18	CWH0158	CH31223
Dibenzo(a,h)Anthracene	ND (0.585)		8270D		1	08/13/13 4:18	CWH0158	CH31223
Dibenzofuran	ND (1.17)		8270D		1	08/13/13 4:18	CWH0158	CH31223
Diethylphthalate	ND (1.17)		8270D		1	08/13/13 4:18	CWH0158	CH31223
Dimethylphthalate	ND (1.17)		8270D		1	08/13/13 4:18	CWH0158	CH31223
Di-n-butylphthalate	ND (1.17)		8270D		1	08/13/13 4:18	CWH0158	CH31223
Di-n-octylphthalate	**1.29** (1.17)		8270D		1	08/13/13 4:18	CWH0158	CH31223
Fluoranthene	ND (1.17)		8270D		1	08/13/13 4:18	CWH0158	CH31223
Fluorene	ND (1.17)		8270D		1	08/13/13 4:18	CWH0158	CH31223
Hexachlorobenzene	ND (1.17)		8270D		1	08/13/13 4:18	CWH0158	CH31223
Hexachlorocyclopentadiene	ND (5.85)		8270D		1	08/13/13 4:18	CWH0158	CH31223
Indeno(1,2,3-cd)Pyrene	ND (1.17)		8270D		1	08/13/13 4:18	CWH0158	CH31223
Naphthalene	ND (1.17)		8270D		1	08/13/13 4:18	CWH0158	CH31223
Phenanthrene	ND (1.17)		8270D		1	08/13/13 4:18	CWH0158	CH31223

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC9 2-4ft
Date Sampled: 08/05/13 15:35
Percent Solids: 28
Initial Volume: 15.1
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308110
ESS Laboratory Sample ID: 1308110-10
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/12/13 15:30

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Phenol	ND (1.17)		8270D		1	08/13/13 4:18	CWH0158	CH31223
Pyrene	ND (1.17)		8270D		1	08/13/13 4:18	CWH0158	CH31223

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*50 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*49 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*53 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*57 %*		*30-130*
Surrogate: 2-Fluorophenol	*50 %*		*30-130*
Surrogate: Nitrobenzene-d5	*51 %*		*30-130*
Surrogate: Phenol-d6	*53 %*		*30-130*
Surrogate: p-Terphenyl-d14	*80 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC9 2-4ft
Date Sampled: 08/05/13 15:35
Percent Solids: 28
Initial Volume: 15.4
Final Volume: 0.5
Extraction Method: 3541

ESS Laboratory Work Order: 1308110
ESS Laboratory Sample ID: 1308110-10
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/10/13 9:00

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.143)		8270D		5	08/14/13 13:18	CWH0174	CH31001
Acenaphthene	ND (0.143)		8270D		5	08/14/13 13:18	CWH0174	CH31001
Acenaphthylene	**0.332** (0.143)		8270D		5	08/14/13 13:18	CWH0174	CH31001
Anthracene	**0.378** (0.143)		8270D		5	08/14/13 13:18	CWH0174	CH31001
Benzo(a)anthracene	**0.578** (0.143)		8270D		5	08/14/13 13:18	CWH0174	CH31001
Benzo(a)pyrene	**0.629** (0.143)		8270D		5	08/14/13 13:18	CWH0174	CH31001
Benzo(b)fluoranthene	**0.778** (0.143)		8270D		5	08/14/13 13:18	CWH0174	CH31001
Benzo(g,h,i)perylene	**0.429** (0.143)		8270D		5	08/14/13 13:18	CWH0174	CH31001
Benzo(k)fluoranthene	**0.257** (0.143)		8270D		5	08/14/13 13:18	CWH0174	CH31001
Chrysene	**0.704** (0.143)		8270D		5	08/14/13 13:18	CWH0174	CH31001
Dibenzo(a,h)Anthracene	ND (0.143)		8270D		5	08/14/13 13:18	CWH0174	CH31001
Fluoranthene	**1.07** (0.143)		8270D		5	08/14/13 13:18	CWH0174	CH31001
Fluorene	ND (0.143)		8270D		5	08/14/13 13:18	CWH0174	CH31001
Indeno(1,2,3-cd)Pyrene	**0.389** (0.143)		8270D		5	08/14/13 13:18	CWH0174	CH31001
Naphthalene	**0.349** (0.143)		8270D		5	08/14/13 13:18	CWH0174	CH31001
Phenanthrene	**0.389** (0.143)		8270D		5	08/14/13 13:18	CWH0174	CH31001
Pyrene	**1.46** (0.143)		8270D		5	08/14/13 13:18	CWH0174	CH31001

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*44 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*42 %*		*30-130*
Surrogate: Nitrobenzene-d5	*40 %*		*30-130*
Surrogate: p-Terphenyl-d14	*74 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC9 2-4ft
Date Sampled: 08/05/13 15:35
Percent Solids: 28
Initial Volume: 14.7
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1308110
ESS Laboratory Sample ID: 1308110-10
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 8/12/13 10:00

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	**557** (89.9)		MADEP-EPH		1	VSC	08/13/13 15:47	CWH0163	CH31208
C19-C36 Aliphatics1	**1730** (89.9)		MADEP-EPH		1	VSC	08/13/13 15:47	CWH0163	CH31208
C11-C22 Unadjusted Aromatics1	**1370** (89.9)		EPH8270		1	VSC	08/15/13 0:52	CWH0181	CH31208
C11-C22 Aromatics1,2	**1350** (89.9)		EPH8270			VSC	08/15/13 0:52		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*80 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*103 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*93 %*		*40-140*
Surrogate: O-Terphenyl	*91 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC9 4-5ft2in
Date Sampled: 08/05/13 15:35
Percent Solids: 49

ESS Laboratory Work Order: 1308110
ESS Laboratory Sample ID: 1308110-11
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.9)		6020A		50	SVD	08/12/13 21:14	5.46	100	CH30857
Arsenic	**36.4** (1.9)		6010B		1	JP	08/10/13 22:07	5.46	100	CH30857
Barium	**78.4** (1.9)		6010B		1	JP	08/10/13 22:07	5.46	100	CH30857
Beryllium	**0.60** (0.08)		6010B		1	JP	08/10/13 22:07	5.46	100	CH30857
Cadmium	**2.89** (0.38)		6010B		1	JP	08/10/13 22:07	5.46	100	CH30857
Chromium	**79.0** (0.7)		6010B		1	JP	08/10/13 22:07	5.46	100	CH30857
Lead	**232** (3.7)		6010B		1	JP	08/10/13 22:07	5.46	100	CH30857
Mercury	**0.971** (0.135)		7471B		5	JP	08/12/13 21:37	1.5	40	CH30932
Nickel	**20.6** (1.9)		6010B		1	JP	08/10/13 22:07	5.46	100	CH30857
Selenium	ND (1.88)		6020A		50	SVD	08/12/13 21:14	5.46	100	CH30857
Silver	**1.66** (0.38)		6010B		1	JP	08/10/13 22:07	5.46	100	CH30857
Thallium	ND (1.88)		6020A		50	SVD	08/12/13 21:14	5.46	100	CH30857
Vanadium	**75.2** (0.7)		6010B		1	JP	08/10/13 22:07	5.46	100	CH30857
Zinc	**483** (9.3)		6010B		5	SVD	08/11/13 21:43	5.46	100	CH30857

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC9 4-5ft2in
Date Sampled: 08/05/13 15:35
Percent Solids: 49
Initial Volume: 19.5
Final Volume: 5
Extraction Method: 3540

ESS Laboratory Work Order: 1308110
ESS Laboratory Sample ID: 1308110-11
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 8/9/13 17:00
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0524)		8082A		1	08/14/13 19:27		CH30937
Aroclor 1221	ND (0.0524)		8082A		1	08/14/13 19:27		CH30937
Aroclor 1232	ND (0.0524)		8082A		1	08/14/13 19:27		CH30937
Aroclor 1242	ND (0.0524)		8082A		1	08/14/13 19:27		CH30937
Aroclor 1248	**1.25** (0.262)		8082A		5	08/15/13 13:00		CH30937
Aroclor 1254	**1.41** (0.262)		8082A		5	08/15/13 13:00		CH30937
Aroclor 1260	**0.456** (0.0524)		8082A		1	08/14/13 19:27		CH30937
Aroclor 1262	ND (0.0524)		8082A		1	08/14/13 19:27		CH30937
Aroclor 1268	ND (0.0524)		8082A		1	08/14/13 19:27		CH30937

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*93 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*100 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*71 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*69 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC9 4-5ft2in
Date Sampled: 08/05/13 15:35
Percent Solids: 49
Initial Volume: 15.6
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308110
ESS Laboratory Sample ID: 1308110-11
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/12/13 15:30

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.654)		8270D		1	08/13/13 4:52	CWH0158	CH31223
1,2-Dichlorobenzene	ND (0.654)		8270D		1	08/13/13 4:52	CWH0158	CH31223
1,3-Dichlorobenzene	ND (0.654)		8270D		1	08/13/13 4:52	CWH0158	CH31223
1,4-Dichlorobenzene	ND (0.654)		8270D		1	08/13/13 4:52	CWH0158	CH31223
2-Methylnaphthalene	ND (0.654)		8270D		1	08/13/13 4:52	CWH0158	CH31223
2-Methylphenol	ND (0.654)		8270D		1	08/13/13 4:52	CWH0158	CH31223
Acenaphthene	ND (0.654)		8270D		1	08/13/13 4:52	CWH0158	CH31223
Acenaphthylene	ND (0.654)		8270D		1	08/13/13 4:52	CWH0158	CH31223
Anthracene	ND (0.654)		8270D		1	08/13/13 4:52	CWH0158	CH31223
Benzo(a)anthracene	**1.29** (0.654)		8270D		1	08/13/13 4:52	CWH0158	CH31223
Benzo(a)pyrene	**1.14** (0.328)		8270D		1	08/13/13 4:52	CWH0158	CH31223
Benzo(b)fluoranthene	**1.34** (0.654)		8270D		1	08/13/13 4:52	CWH0158	CH31223
Benzo(g,h,i)perylene	ND (0.654)		8270D		1	08/13/13 4:52	CWH0158	CH31223
Benzo(k)fluoranthene	ND (0.654)		8270D		1	08/13/13 4:52	CWH0158	CH31223
bis(2-Ethylhexyl)phthalate	**232** (65.4)		8270D		100	08/13/13 14:37	CWH0158	CH31223
Butylbenzylphthalate	ND (0.654)		8270D		1	08/13/13 4:52	CWH0158	CH31223
Carbazole	ND (0.654)		8270D		1	08/13/13 4:52	CWH0158	CH31223
Chrysene	**1.35** (0.328)		8270D		1	08/13/13 4:52	CWH0158	CH31223
Dibenzo(a,h)Anthracene	ND (0.328)		8270D		1	08/13/13 4:52	CWH0158	CH31223
Dibenzofuran	ND (0.654)		8270D		1	08/13/13 4:52	CWH0158	CH31223
Diethylphthalate	ND (0.654)		8270D		1	08/13/13 4:52	CWH0158	CH31223
Dimethylphthalate	ND (0.654)		8270D		1	08/13/13 4:52	CWH0158	CH31223
Di-n-butylphthalate	ND (0.654)		8270D		1	08/13/13 4:52	CWH0158	CH31223
Di-n-octylphthalate	**3.17** (0.654)		8270D		1	08/13/13 4:52	CWH0158	CH31223
Fluoranthene	**2.61** (0.654)		8270D		1	08/13/13 4:52	CWH0158	CH31223
Fluorene	ND (0.654)		8270D		1	08/13/13 4:52	CWH0158	CH31223
Hexachlorobenzene	ND (0.654)		8270D		1	08/13/13 4:52	CWH0158	CH31223
Hexachlorocyclopentadiene	ND (3.28)		8270D		1	08/13/13 4:52	CWH0158	CH31223
Indeno(1,2,3-cd)Pyrene	ND (0.654)		8270D		1	08/13/13 4:52	CWH0158	CH31223
Naphthalene	**0.702** (0.654)		8270D		1	08/13/13 4:52	CWH0158	CH31223
Phenanthrene	ND (0.654)		8270D		1	08/13/13 4:52	CWH0158	CH31223

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC9 4-5ft2in
Date Sampled: 08/05/13 15:35
Percent Solids: 49
Initial Volume: 15.6
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308110
ESS Laboratory Sample ID: 1308110-11
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/12/13 15:30

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Phenol	ND (0.654)		8270D		1	08/13/13 4:52	CWH0158	CH31223
Pyrene	**2.68** (0.654)		8270D		1	08/13/13 4:52	CWH0158	CH31223

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*62 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*49 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*65 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*69 %*		*30-130*
Surrogate: 2-Fluorophenol	*59 %*		*30-130*
Surrogate: Nitrobenzene-d5	*62 %*		*30-130*
Surrogate: Phenol-d6	*63 %*		*30-130*
Surrogate: p-Terphenyl-d14	*78 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC9 4-5ft2in
Date Sampled: 08/05/13 15:35
Percent Solids: 49
Initial Volume: 15.4
Final Volume: 0.5
Extraction Method: 3541

ESS Laboratory Work Order: 1308110
ESS Laboratory Sample ID: 1308110-11
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/10/13 9:00

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.083)		8270D		5	08/14/13 12:29	CWH0174	CH31001
Acenaphthene	ND (0.083)		8270D		5	08/14/13 12:29	CWH0174	CH31001
Acenaphthylene	**0.318** (0.083)		8270D		5	08/14/13 12:29	CWH0174	CH31001
Anthracene	**0.325** (0.083)		8270D		5	08/14/13 12:29	CWH0174	CH31001
Benzo(a)anthracene	**0.554** (0.083)		8270D		5	08/14/13 12:29	CWH0174	CH31001
Benzo(a)pyrene	**0.557** (0.083)		8270D		5	08/14/13 12:29	CWH0174	CH31001
Benzo(b)fluoranthene	**0.663** (0.083)		8270D		5	08/14/13 12:29	CWH0174	CH31001
Benzo(g,h,i)perylene	**0.292** (0.083)		8270D		5	08/14/13 12:29	CWH0174	CH31001
Benzo(k)fluoranthene	**0.196** (0.083)		8270D		5	08/14/13 12:29	CWH0174	CH31001
Chrysene	**0.620** (0.083)		8270D		5	08/14/13 12:29	CWH0174	CH31001
Dibenzo(a,h)Anthracene	**0.093** (0.083)		8270D		5	08/14/13 12:29	CWH0174	CH31001
Fluoranthene	**0.948** (0.083)		8270D		5	08/14/13 12:29	CWH0174	CH31001
Fluorene	ND (0.083)		8270D		5	08/14/13 12:29	CWH0174	CH31001
Indeno(1,2,3-cd)Pyrene	**0.308** (0.083)		8270D		5	08/14/13 12:29	CWH0174	CH31001
Naphthalene	**0.288** (0.083)		8270D		5	08/14/13 12:29	CWH0174	CH31001
Phenanthrene	**0.312** (0.083)		8270D		5	08/14/13 12:29	CWH0174	CH31001
Pyrene	**1.22** (0.083)		8270D		5	08/14/13 12:29	CWH0174	CH31001

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*38 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*51 %*		*30-130*
Surrogate: Nitrobenzene-d5	*38 %*		*30-130*
Surrogate: p-Terphenyl-d14	*86 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC9 4-5ft2in
Date Sampled: 08/05/13 15:35
Percent Solids: 49
Initial Volume: 14.9
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1308110
ESS Laboratory Sample ID: 1308110-11
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 8/12/13 10:00

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	**309** (51.4)		MADEP-EPH		1	VSC	08/13/13 16:37	CWH0163	CH31208
C19-C36 Aliphatics1	**658** (51.4)		MADEP-EPH		1	VSC	08/13/13 16:37	CWH0163	CH31208
C11-C22 Unadjusted Aromatics1	**887** (51.4)		EPH8270		1	VSC	08/14/13 16:45	CWH0181	CH31208
C11-C22 Aromatics1,2	**872** (51.4)		EPH8270			VSC	08/14/13 16:45		[CALC]

	%Recovery	*Qualifier*	*Limits*
Surrogate: 1-Chlorooctadecane	*79 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*93 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*89 %*		*40-140*
Surrogate: O-Terphenyl	*82 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC10 0-0.5ft
Date Sampled: 08/05/13 15:45
Percent Solids: 27

ESS Laboratory Work Order: 1308110
ESS Laboratory Sample ID: 1308110-12
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (3.7)		6020A		50	SVD	08/12/13 21:32	5.06	100	CH30857
Arsenic	**27.2** (3.6)		6010B		1	JP	08/10/13 22:12	5.06	100	CH30857
Barium	**77.0** (3.6)		6010B		1	JP	08/10/13 22:12	5.06	100	CH30857
Beryllium	**0.65** (0.15)		6010B		1	JP	08/10/13 22:12	5.06	100	CH30857
Cadmium	**3.42** (0.73)		6010B		1	JP	08/10/13 22:12	5.06	100	CH30857
Chromium	**73.2** (1.5)		6010B		1	JP	08/10/13 22:12	5.06	100	CH30857
Lead	**275** (7.3)		6010B		1	JP	08/10/13 22:12	5.06	100	CH30857
Mercury	**0.890** (0.361)		7471B		5	JP	08/12/13 21:39	1.01	40	CH30932
Nickel	**31.5** (3.6)		6010B		1	JP	08/10/13 22:12	5.06	100	CH30857
Selenium	ND (3.66)		6020A		50	SVD	08/12/13 21:32	5.06	100	CH30857
Silver	**1.62** (0.73)		6010B		1	JP	08/10/13 22:12	5.06	100	CH30857
Thallium	ND (3.66)		6020A		50	SVD	08/12/13 21:32	5.06	100	CH30857
Vanadium	**58.4** (1.5)		6010B		1	JP	08/10/13 22:12	5.06	100	CH30857
Zinc	**709** (3.6)		6010B		1	SVD	08/11/13 21:47	5.06	100	CH30857

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC10 0-0.5ft
Date Sampled: 08/05/13 15:45
Percent Solids: 27
Initial Volume: 19.3
Final Volume: 5
Extraction Method: 3540

ESS Laboratory Work Order: 1308110
ESS Laboratory Sample ID: 1308110-12
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 8/9/13 17:00
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0955)		8082A		1	08/14/13 13:48		CH31434
Aroclor 1221	ND (0.0955)		8082A		1	08/14/13 13:48		CH31434
Aroclor 1232	ND (0.0955)		8082A		1	08/14/13 13:48		CH31434
Aroclor 1242	ND (0.0955)		8082A		1	08/14/13 13:48		CH31434
Aroclor 1248	**0.391** (0.0955)		8082A		1	08/14/13 13:48		CH31434
Aroclor 1254	**0.670** (0.0955)		8082A		1	08/14/13 13:48		CH31434
Aroclor 1260	**0.608** (0.0955)		8082A		1	08/14/13 13:48		CH31434
Aroclor 1262	ND (0.0955)		8082A		1	08/14/13 13:48		CH31434
Aroclor 1268	ND (0.0955)		8082A		1	08/14/13 13:48		CH31434

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*95 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*77 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*71 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*62 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC10 0-0.5ft
Date Sampled: 08/05/13 15:45
Percent Solids: 27
Initial Volume: 15.9
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308110
ESS Laboratory Sample ID: 1308110-12
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/12/13 15:30

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (1.16)		8270D		1	08/13/13 9:01	CWH0143	CH31223
1,2-Dichlorobenzene	ND (1.16)		8270D		1	08/13/13 9:01	CWH0143	CH31223
1,3-Dichlorobenzene	ND (1.16)		8270D		1	08/13/13 9:01	CWH0143	CH31223
1,4-Dichlorobenzene	ND (1.16)		8270D		1	08/13/13 9:01	CWH0143	CH31223
2-Methylnaphthalene	ND (1.16)		8270D		1	08/13/13 9:01	CWH0143	CH31223
2-Methylphenol	ND (1.16)		8270D		1	08/13/13 9:01	CWH0143	CH31223
Acenaphthene	ND (1.16)		8270D		1	08/13/13 9:01	CWH0143	CH31223
Acenaphthylene	ND (1.16)		8270D		1	08/13/13 9:01	CWH0143	CH31223
Anthracene	ND (1.16)		8270D		1	08/13/13 9:01	CWH0143	CH31223
Benzo(a)anthracene	ND (1.16)		8270D		1	08/13/13 9:01	CWH0143	CH31223
Benzo(a)pyrene	**1.54** (0.580)		8270D		1	08/13/13 9:01	CWH0143	CH31223
Benzo(b)fluoranthene	**2.54** (1.16)		8270D		1	08/13/13 9:01	CWH0143	CH31223
Benzo(g,h,i)perylene	**1.24** (1.16)		8270D		1	08/13/13 9:01	CWH0143	CH31223
Benzo(k)fluoranthene	ND (1.16)		8270D		1	08/13/13 9:01	CWH0143	CH31223
bis(2-Ethylhexyl)phthalate	**27.2** (1.16)		8270D		1	08/13/13 9:01	CWH0143	CH31223
Butylbenzylphthalate	ND (1.16)		8270D		1	08/13/13 9:01	CWH0143	CH31223
Carbazole	ND (1.16)		8270D		1	08/13/13 9:01	CWH0143	CH31223
Chrysene	**1.54** (0.580)		8270D		1	08/13/13 9:01	CWH0143	CH31223
Dibenzo(a,h)Anthracene	ND (0.580)		8270D		1	08/13/13 9:01	CWH0143	CH31223
Dibenzofuran	ND (1.16)		8270D		1	08/13/13 9:01	CWH0143	CH31223
Diethylphthalate	ND (1.16)		8270D		1	08/13/13 9:01	CWH0143	CH31223
Dimethylphthalate	ND (1.16)		8270D		1	08/13/13 9:01	CWH0143	CH31223
Di-n-butylphthalate	ND (1.16)		8270D		1	08/13/13 9:01	CWH0143	CH31223
Di-n-octylphthalate	ND (1.16)		8270D		1	08/13/13 9:01	CWH0143	CH31223
Fluoranthene	**1.81** (1.16)		8270D		1	08/13/13 9:01	CWH0143	CH31223
Fluorene	ND (1.16)		8270D		1	08/13/13 9:01	CWH0143	CH31223
Hexachlorobenzene	ND (1.16)		8270D		1	08/13/13 9:01	CWH0143	CH31223
Hexachlorocyclopentadiene	ND (5.80)		8270D		1	08/13/13 9:01	CWH0143	CH31223
Indeno(1,2,3-cd)Pyrene	ND (1.16)		8270D		1	08/13/13 9:01	CWH0143	CH31223
Naphthalene	ND (1.16)		8270D		1	08/13/13 9:01	CWH0143	CH31223
Phenanthrene	ND (1.16)		8270D		1	08/13/13 9:01	CWH0143	CH31223

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC10 0-0.5ft
Date Sampled: 08/05/13 15:45
Percent Solids: 27
Initial Volume: 15.9
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308110
ESS Laboratory Sample ID: 1308110-12
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/12/13 15:30

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Phenol	ND (1.16)		8270D		1	08/13/13 9:01	CWH0143	CH31223
Pyrene	**2.06** (1.16)		8270D		1	08/13/13 9:01	CWH0143	CH31223

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*47 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*99 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*54 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*63 %*		*30-130*
Surrogate: 2-Fluorophenol	*56 %*		*30-130*
Surrogate: Nitrobenzene-d5	*56 %*		*30-130*
Surrogate: Phenol-d6	*56 %*		*30-130*
Surrogate: p-Terphenyl-d14	*85 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC10 0-0.5ft
Date Sampled: 08/05/13 15:45
Percent Solids: 27
Initial Volume: 15.7
Final Volume: 0.5
Extraction Method: 3541

ESS Laboratory Work Order: 1308110
ESS Laboratory Sample ID: 1308110-12
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/10/13 9:00

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.147)		8270D		5	08/11/13 22:55	CWH0139	CH31001
Acenaphthene	ND (0.147)		8270D		5	08/11/13 22:55	CWH0139	CH31001
Acenaphthylene	**0.593** (0.147)		8270D		5	08/11/13 22:55	CWH0139	CH31001
Anthracene	**0.452** (0.147)		8270D		5	08/11/13 22:55	CWH0139	CH31001
Benzo(a)anthracene	**0.886** (0.147)		8270D		5	08/11/13 22:55	CWH0139	CH31001
Benzo(a)pyrene	**1.26** (0.147)		8270D		5	08/11/13 22:55	CWH0139	CH31001
Benzo(b)fluoranthene	**1.86** (0.147)		8270D		5	08/11/13 22:55	CWH0139	CH31001
Benzo(g,h,i)perylene	**0.915** (0.147)		8270D		5	08/11/13 22:55	CWH0139	CH31001
Benzo(k)fluoranthene	**0.499** (0.147)		8270D		5	08/11/13 22:55	CWH0139	CH31001
Chrysene	**1.17** (0.147)		8270D		5	08/11/13 22:55	CWH0139	CH31001
Dibenzo(a,h)Anthracene	**0.252** (0.147)		8270D		5	08/11/13 22:55	CWH0139	CH31001
Fluoranthene	**1.63** (0.147)		8270D		5	08/11/13 22:55	CWH0139	CH31001
Fluorene	ND (0.147)		8270D		5	08/11/13 22:55	CWH0139	CH31001
Indeno(1,2,3-cd)Pyrene	**0.962** (0.147)		8270D		5	08/11/13 22:55	CWH0139	CH31001
Naphthalene	**0.464** (0.147)		8270D		5	08/11/13 22:55	CWH0139	CH31001
Phenanthrene	**0.569** (0.147)		8270D		5	08/11/13 22:55	CWH0139	CH31001
Pyrene	**1.71** (0.147)		8270D		5	08/11/13 22:55	CWH0139	CH31001

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*38 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*52 %*		*30-130*
Surrogate: Nitrobenzene-d5	*47 %*		*30-130*
Surrogate: p-Terphenyl-d14	*86 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC10 0-0.5ft
Date Sampled: 08/05/13 15:45
Percent Solids: 27

ESS Laboratory Work Order: 1308110
ESS Laboratory Sample ID: 1308110-12
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**111000** (3970)		TOC-LK		1	SUB	08/20/13 18:17	mg/kg	CH32011

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC10 0-0.5ft
Date Sampled: 08/05/13 15:45
Percent Solids: 27
Initial Volume: 14.9
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1308110
ESS Laboratory Sample ID: 1308110-12
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 8/12/13 10:00

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	ND (92.7)		MADEP-EPH		1	VSC	08/13/13 17:28	CWH0163	CH31208
C19-C36 Aliphatics1	**390** (92.7)		MADEP-EPH		1	VSC	08/13/13 17:28	CWH0163	CH31208
C11-C22 Unadjusted Aromatics1	**229** (92.7)		EPH8270		1	VSC	08/14/13 11:16	CWH0181	CH31208
C11-C22 Aromatics1,2	**229** (92.7)		EPH8270			VSC	08/14/13 11:16		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*77 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*90 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*80 %*		*40-140*
Surrogate: O-Terphenyl	*78 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC10 2-4ft
Date Sampled: 08/05/13 15:45
Percent Solids: 72

ESS Laboratory Work Order: 1308110
ESS Laboratory Sample ID: 1308110-13
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals Solid

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.4)		6020A		50	SVD	08/12/13 21:38	5	100	CH30857
Arsenic	**4.1** (1.4)		6010B		1	JP	08/10/13 22:18	5	100	CH30857
Barium	**11.1** (1.4)		6010B		1	JP	08/10/13 22:18	5	100	CH30857
Beryllium	**0.21** (0.06)		6010B		1	JP	08/10/13 22:18	5	100	CH30857
Cadmium	ND (0.28)		6010B		1	JP	08/10/13 22:18	5	100	CH30857
Chromium	**11.6** (0.6)		6010B		1	JP	08/10/13 22:18	5	100	CH30857
Lead	ND (2.8)		6010B		1	JP	08/10/13 22:18	5	100	CH30857
Mercury	ND (0.018)		7471B		1	JP	08/12/13 21:47	1.5	40	CH30932
Nickel	**6.9** (1.4)		6010B		1	JP	08/10/13 22:18	5	100	CH30857
Selenium	ND (1.40)		6020A		50	SVD	08/12/13 21:38	5	100	CH30857
Silver	ND (0.28)		6010B		1	JP	08/10/13 22:18	5	100	CH30857
Thallium	ND (1.40)		6020A		50	SVD	08/12/13 21:38	5	100	CH30857
Vanadium	**14.7** (0.6)		6010B		1	JP	08/10/13 22:18	5	100	CH30857
Zinc	**21.0** (1.4)		6010B		1	SVD	08/11/13 21:53	5	100	CH30857

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC10 2-4ft
Date Sampled: 08/05/13 15:45
Percent Solids: 72
Initial Volume: 19.6
Final Volume: 5
Extraction Method: 3540

ESS Laboratory Work Order: 1308110
ESS Laboratory Sample ID: 1308110-13
Sample Matrix: Soil
Units: mg/kg dry
Analyst: ML
Prepared: 8/9/13 17:00
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0356)		8082A		1	08/12/13 23:33		CH30937
Aroclor 1221	ND (0.0356)		8082A		1	08/12/13 23:33		CH30937
Aroclor 1232	ND (0.0356)		8082A		1	08/12/13 23:33		CH30937
Aroclor 1242	ND (0.0356)		8082A		1	08/12/13 23:33		CH30937
Aroclor 1248	ND (0.0356)		8082A		1	08/12/13 23:33		CH30937
Aroclor 1254	ND (0.0356)		8082A		1	08/12/13 23:33		CH30937
Aroclor 1260	ND (0.0356)		8082A		1	08/12/13 23:33		CH30937
Aroclor 1262	ND (0.0356)		8082A		1	08/12/13 23:33		CH30937
Aroclor 1268	ND (0.0356)		8082A		1	08/12/13 23:33		CH30937

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*105 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*90 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*106 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*91 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC10 2-4ft
Date Sampled: 08/05/13 15:45
Percent Solids: 72
Initial Volume: 15.6
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308110
ESS Laboratory Sample ID: 1308110-13
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/12/13 15:30

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.446)		8270D		1	08/13/13 9:35	CWH0143	CH31223
1,2-Dichlorobenzene	ND (0.446)		8270D		1	08/13/13 9:35	CWH0143	CH31223
1,3-Dichlorobenzene	ND (0.446)		8270D		1	08/13/13 9:35	CWH0143	CH31223
1,4-Dichlorobenzene	ND (0.446)		8270D		1	08/13/13 9:35	CWH0143	CH31223
2-Methylnaphthalene	ND (0.446)		8270D		1	08/13/13 9:35	CWH0143	CH31223
2-Methylphenol	ND (0.446)		8270D		1	08/13/13 9:35	CWH0143	CH31223
Acenaphthene	ND (0.446)		8270D		1	08/13/13 9:35	CWH0143	CH31223
Acenaphthylene	ND (0.446)		8270D		1	08/13/13 9:35	CWH0143	CH31223
Anthracene	ND (0.446)		8270D		1	08/13/13 9:35	CWH0143	CH31223
Benzo(a)anthracene	ND (0.446)		8270D		1	08/13/13 9:35	CWH0143	CH31223
Benzo(a)pyrene	ND (0.224)		8270D		1	08/13/13 9:35	CWH0143	CH31223
Benzo(b)fluoranthene	ND (0.446)		8270D		1	08/13/13 9:35	CWH0143	CH31223
Benzo(g,h,i)perylene	ND (0.446)		8270D		1	08/13/13 9:35	CWH0143	CH31223
Benzo(k)fluoranthene	ND (0.446)		8270D		1	08/13/13 9:35	CWH0143	CH31223
bis(2-Ethylhexyl)phthalate	ND (0.446)		8270D		1	08/13/13 9:35	CWH0143	CH31223
Butylbenzylphthalate	ND (0.446)		8270D		1	08/13/13 9:35	CWH0143	CH31223
Carbazole	ND (0.446)		8270D		1	08/13/13 9:35	CWH0143	CH31223
Chrysene	ND (0.224)		8270D		1	08/13/13 9:35	CWH0143	CH31223
Dibenzo(a,h)Anthracene	ND (0.224)		8270D		1	08/13/13 9:35	CWH0143	CH31223
Dibenzofuran	ND (0.446)		8270D		1	08/13/13 9:35	CWH0143	CH31223
Diethylphthalate	ND (0.446)		8270D		1	08/13/13 9:35	CWH0143	CH31223
Dimethylphthalate	ND (0.446)		8270D		1	08/13/13 9:35	CWH0143	CH31223
Di-n-butylphthalate	ND (0.446)		8270D		1	08/13/13 9:35	CWH0143	CH31223
Di-n-octylphthalate	ND (0.446)		8270D		1	08/13/13 9:35	CWH0143	CH31223
Fluoranthene	ND (0.446)		8270D		1	08/13/13 9:35	CWH0143	CH31223
Fluorene	ND (0.446)		8270D		1	08/13/13 9:35	CWH0143	CH31223
Hexachlorobenzene	ND (0.446)		8270D		1	08/13/13 9:35	CWH0143	CH31223
Hexachlorocyclopentadiene	ND (2.24)		8270D		1	08/13/13 9:35	CWH0143	CH31223
Indeno(1,2,3-cd)Pyrene	ND (0.446)		8270D		1	08/13/13 9:35	CWH0143	CH31223
Naphthalene	ND (0.446)		8270D		1	08/13/13 9:35	CWH0143	CH31223
Phenanthrene	ND (0.446)		8270D		1	08/13/13 9:35	CWH0143	CH31223

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC10 2-4ft
Date Sampled: 08/05/13 15:45
Percent Solids: 72
Initial Volume: 15.6
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308110
ESS Laboratory Sample ID: 1308110-13
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/12/13 15:30

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Phenol	ND (0.446)		8270D		1	08/13/13 9:35	CWH0143	CH31223
Pyrene	ND (0.446)		8270D		1	08/13/13 9:35	CWH0143	CH31223

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*74 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*102 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*80 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*76 %*		*30-130*
Surrogate: 2-Fluorophenol	*83 %*		*30-130*
Surrogate: Nitrobenzene-d5	*80 %*		*30-130*
Surrogate: Phenol-d6	*77 %*		*30-130*
Surrogate: p-Terphenyl-d14	*93 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC10 2-4ft
Date Sampled: 08/05/13 15:45
Percent Solids: 72
Initial Volume: 15.1
Final Volume: 0.5
Extraction Method: 3541

ESS Laboratory Work Order: 1308110
ESS Laboratory Sample ID: 1308110-13
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/10/13 9:00

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.012)		8270D		1	08/15/13 0:04	CWH0193	CH31001
Acenaphthene	ND (0.012)		8270D		1	08/15/13 0:04	CWH0193	CH31001
Acenaphthylene	ND (0.012)		8270D		1	08/15/13 0:04	CWH0193	CH31001
Anthracene	ND (0.012)		8270D		1	08/15/13 0:04	CWH0193	CH31001
Benzo(a)anthracene	ND (0.012)		8270D		1	08/15/13 0:04	CWH0193	CH31001
Benzo(a)pyrene	ND (0.012)		8270D		1	08/15/13 0:04	CWH0193	CH31001
Benzo(b)fluoranthene	ND (0.012)		8270D		1	08/15/13 0:04	CWH0193	CH31001
Benzo(g,h,i)perylene	ND (0.012)		8270D		1	08/15/13 0:04	CWH0193	CH31001
Benzo(k)fluoranthene	ND (0.012)		8270D		1	08/15/13 0:04	CWH0193	CH31001
Chrysene	ND (0.012)		8270D		1	08/15/13 0:04	CWH0193	CH31001
Dibenzo(a,h)Anthracene	ND (0.012)		8270D		1	08/15/13 0:04	CWH0193	CH31001
Fluoranthene	ND (0.012)		8270D		1	08/15/13 0:04	CWH0193	CH31001
Fluorene	ND (0.012)		8270D		1	08/15/13 0:04	CWH0193	CH31001
Indeno(1,2,3-cd)Pyrene	ND (0.012)		8270D		1	08/15/13 0:04	CWH0193	CH31001
Naphthalene	ND (0.012)		8270D		1	08/15/13 0:04	CWH0193	CH31001
Phenanthrene	ND (0.012)		8270D		1	08/15/13 0:04	CWH0193	CH31001
Pyrene	ND (0.012)		8270D		1	08/15/13 0:04	CWH0193	CH31001

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*68 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*61 %*		*30-130*
Surrogate: Nitrobenzene-d5	*75 %*		*30-130*
Surrogate: p-Terphenyl-d14	*88 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC10 2-4ft
Date Sampled: 08/05/13 15:45
Percent Solids: 72
Initial Volume: 15
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1308110
ESS Laboratory Sample ID: 1308110-13
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 8/12/13 10:00

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	ND (34.9)		MADEP-EPH		1	VSC	08/13/13 18:19	CWH0163	CH31208
C19-C36 Aliphatics1	ND (34.9)		MADEP-EPH		1	VSC	08/13/13 18:19	CWH0163	CH31208
C11-C22 Unadjusted Aromatics1	ND (34.9)		EPH8270		1	VSC	08/14/13 18:19	CWH0181	CH31208
C11-C22 Aromatics1,2	ND (34.9)		EPH8270			VSC	08/14/13 18:19		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*79 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*85 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*79 %*		*40-140*
Surrogate: O-Terphenyl	*77 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308110

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Total Metals Solid										
Batch CH30857 - 3050B										
Blank										
Antimony	ND	2.5	mg/kg wet							
Arsenic	ND	2.5	mg/kg wet							
Barium	ND	2.5	mg/kg wet							
Beryllium	ND	0.10	mg/kg wet							
Cadmium	ND	0.50	mg/kg wet							
Chromium	ND	1.0	mg/kg wet							
Lead	ND	5.0	mg/kg wet							
Nickel	ND	2.5	mg/kg wet							
Selenium	ND	2.51	mg/kg wet							
Silver	ND	0.50	mg/kg wet							
Thallium	ND	2.51	mg/kg wet							
Vanadium	ND	1.0	mg/kg wet							
Zinc	ND	2.5	mg/kg wet							
LCS										
Antimony	105	8.8	mg/kg wet	106.0		99	80-120			
Arsenic	156	8.8	mg/kg wet	182.0		86	80-120			
Barium	129	8.8	mg/kg wet	143.0		90	80-120			
Beryllium	87.9	0.37	mg/kg wet	98.30		89	80-120			
Cadmium	56.5	1.76	mg/kg wet	60.40		94	80-120			
Chromium	114	3.5	mg/kg wet	125.0		91	80-120			
Lead	122	17.6	mg/kg wet	136.0		90	80-120			
Nickel	117	8.8	mg/kg wet	128.0		92	80-120			
Selenium	89.1	8.82	mg/kg wet	85.90		104	80-120			
Silver	59.6	1.76	mg/kg wet	61.30		97	80-120			
Thallium	157	8.82	mg/kg wet	144.0		109	80-120			
Vanadium	99.4	3.5	mg/kg wet	104.0		96	80-120			
Zinc	177	8.8	mg/kg wet	204.0		87	80-120			
LCS Dup										
Antimony	113	9.7	mg/kg wet	106.0		106	80-120	7	20	
Arsenic	156	9.6	mg/kg wet	182.0		85	80-120	0.4	20	
Barium	127	9.6	mg/kg wet	143.0		89	80-120	2	20	
Beryllium	87.6	0.40	mg/kg wet	98.30		89	80-120	0.4	20	
Cadmium	55.3	1.93	mg/kg wet	60.40		92	80-120	2	20	
Chromium	112	3.8	mg/kg wet	125.0		90	80-120	2	20	
Lead	122	19.2	mg/kg wet	136.0		90	80-120	0.1	20	
Nickel	115	9.6	mg/kg wet	128.0		90	80-120	2	20	
Selenium	87.8	9.66	mg/kg wet	85.90		102	80-120	2	20	
Silver	59.3	1.93	mg/kg wet	61.30		97	80-120	0.4	20	
Thallium	157	9.66	mg/kg wet	144.0		109	80-120	0.02	20	
Vanadium	97.8	3.8	mg/kg wet	104.0		94	80-120	2	20	
Zinc	178	9.6	mg/kg wet	204.0		87	80-120	0.2	20	
Batch CH30932 - 7471A										
Blank										

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308110

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Total Metals Solid										
Batch CH30932 - 7471A										
Mercury	ND	0.033	mg/kg wet							
LCS										
Mercury	10.9	0.786	mg/kg wet	9.250		118	80-120			
LCS Dup										
Mercury	10.6	0.762	mg/kg wet	9.250		115	80-120	2	20	
8082A Polychlorinated Biphenyls (PCB)										
Batch CH30937 - 3540										
Blank										
Aroclor 1016	ND	0.0250	mg/kg wet							
Aroclor 1016 (1)	ND	0.0250	mg/kg wet							
Aroclor 1016 (1) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1016 (2)	ND	0.0250	mg/kg wet							
Aroclor 1016 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1016 (3)	ND	0.0250	mg/kg wet							
Aroclor 1016 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1016 (4)	ND	0.0250	mg/kg wet							
Aroclor 1016 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1016 (5)	ND	0.0250	mg/kg wet							
Aroclor 1016 (5) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1221	ND	0.0250	mg/kg wet							
Aroclor 1221 (1)	ND	0.0250	mg/kg wet							
Aroclor 1221 (1) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1221 (2)	ND	0.0250	mg/kg wet							
Aroclor 1221 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1221 (3)	ND	0.0250	mg/kg wet							
Aroclor 1221 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1221 (4)	ND	0.0250	mg/kg wet							
Aroclor 1221 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1221 (5)	ND	0.0250	mg/kg wet							
Aroclor 1221 (5) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1232	ND	0.0250	mg/kg wet							
Aroclor 1232 (1)	ND	0.0250	mg/kg wet							
Aroclor 1232 (1) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1232 (2)	ND	0.0250	mg/kg wet							
Aroclor 1232 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1232 (3)	ND	0.0250	mg/kg wet							
Aroclor 1232 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1232 (4)	ND	0.0250	mg/kg wet							
Aroclor 1232 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1232 (5)	ND	0.0250	mg/kg wet							
Aroclor 1232 (5) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1242	ND	0.0250	mg/kg wet							
Aroclor 1242 (1)	ND	0.0250	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308110

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch CH30937 - 3540										
Aroclor 1242 (1) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1242 (2)	ND	0.0250	mg/kg wet							
Aroclor 1242 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1242 (3)	ND	0.0250	mg/kg wet							
Aroclor 1242 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1242 (4)	ND	0.0250	mg/kg wet							
Aroclor 1242 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1242 (5)	ND	0.0250	mg/kg wet							
Aroclor 1242 (5) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1248	ND	0.0250	mg/kg wet							
Aroclor 1248 (1)	ND	0.0250	mg/kg wet							
Aroclor 1248 (1) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1248 (2)	ND	0.0250	mg/kg wet							
Aroclor 1248 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1248 (3)	ND	0.0250	mg/kg wet							
Aroclor 1248 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1248 (4)	ND	0.0250	mg/kg wet							
Aroclor 1248 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1248 (5)	ND	0.0250	mg/kg wet							
Aroclor 1248 (5) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1254	ND	0.0250	mg/kg wet							
Aroclor 1254 (1)	ND	0.0250	mg/kg wet							
Aroclor 1254 (1) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1254 (2)	ND	0.0250	mg/kg wet							
Aroclor 1254 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1254 (3)	ND	0.0250	mg/kg wet							
Aroclor 1254 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1254 (4)	ND	0.0250	mg/kg wet							
Aroclor 1254 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1254 (5)	ND	0.0250	mg/kg wet							
Aroclor 1254 (5) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1260	ND	0.0250	mg/kg wet							
Aroclor 1260 (1)	ND	0.0250	mg/kg wet							
Aroclor 1260 (1) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1260 (2)	ND	0.0250	mg/kg wet							
Aroclor 1260 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1260 (3)	ND	0.0250	mg/kg wet							
Aroclor 1260 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1260 (4)	ND	0.0250	mg/kg wet							
Aroclor 1260 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1260 (5)	ND	0.0250	mg/kg wet							
Aroclor 1260 (5) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1262	ND	0.0250	mg/kg wet							
Aroclor 1262 (1)	ND	0.0250	mg/kg wet							
Aroclor 1262 (1) [2C]	ND	0.0250	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308110

Quality Control Data

8082A Polychlorinated Biphenyls (PCB)

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch CH30937 - 3540										
Aroclor 1262 (2)	ND	0.0250	mg/kg wet							
Aroclor 1262 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1262 (3)	ND	0.0250	mg/kg wet							
Aroclor 1262 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1262 (4)	ND	0.0250	mg/kg wet							
Aroclor 1262 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1262 (5)	ND	0.0250	mg/kg wet							
Aroclor 1262 (5) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1268	ND	0.0250	mg/kg wet							
Aroclor 1268 (1)	ND	0.0250	mg/kg wet							
Aroclor 1268 (1) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1268 (2)	ND	0.0250	mg/kg wet							
Aroclor 1268 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1268 (3)	ND	0.0250	mg/kg wet							
Aroclor 1268 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1268 (4)	ND	0.0250	mg/kg wet							
Aroclor 1268 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1268 (5)	ND	0.0250	mg/kg wet							
Aroclor 1268 (5) [2C]	ND	0.0250	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0127*		mg/kg wet	*0.01250*		*101*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0108*		mg/kg wet	*0.01250*		*87*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0119*		mg/kg wet	*0.01250*		*95*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0100*		mg/kg wet	*0.01250*		*80*	*30-150*			
LCS										
Aroclor 1016	0.279	0.0250	mg/kg wet	0.2500		111	40-140			
Aroclor 1260	0.291	0.0250	mg/kg wet	0.2500		117	40-140			
Surrogate: Decachlorobiphenyl	*0.0142*		mg/kg wet	*0.01250*		*114*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0116*		mg/kg wet	*0.01250*		*93*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0145*		mg/kg wet	*0.01250*		*116*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0116*		mg/kg wet	*0.01250*		*93*	*30-150*			
LCS Dup										
Aroclor 1016	0.267	0.0250	mg/kg wet	0.2500		107	40-140	4	30	
Aroclor 1260	0.281	0.0250	mg/kg wet	0.2500		112	40-140	4	30	
Surrogate: Decachlorobiphenyl	*0.0134*		mg/kg wet	*0.01250*		*107*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0110*		mg/kg wet	*0.01250*		*88*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0131*		mg/kg wet	*0.01250*		*105*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0106*		mg/kg wet	*0.01250*		*84*	*30-150*			
Batch CH31434 - 3540										
Blank										
Aroclor 1016	ND	0.0250	mg/kg wet							
Aroclor 1016 (1)	ND	0.0250	mg/kg wet							
Aroclor 1016 (1) [2C]	ND	0.0250	mg/kg wet							

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Client Name: GZA GeoEnvironmental, Inc.
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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch CH31434 - 3540										
Aroclor 1016 (2)	ND	0.0250	mg/kg wet							
Aroclor 1016 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1016 (3)	ND	0.0250	mg/kg wet							
Aroclor 1016 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1016 (4)	ND	0.0250	mg/kg wet							
Aroclor 1016 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1016 (5)	ND	0.0250	mg/kg wet							
Aroclor 1016 (5) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1221	ND	0.0250	mg/kg wet							
Aroclor 1221 (1)	ND	0.0250	mg/kg wet							
Aroclor 1221 (1) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1221 (2)	ND	0.0250	mg/kg wet							
Aroclor 1221 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1221 (3)	ND	0.0250	mg/kg wet							
Aroclor 1221 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1221 (4)	ND	0.0250	mg/kg wet							
Aroclor 1221 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1221 (5)	ND	0.0250	mg/kg wet							
Aroclor 1221 (5) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1232	ND	0.0250	mg/kg wet							
Aroclor 1232 (1)	ND	0.0250	mg/kg wet							
Aroclor 1232 (1) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1232 (2)	ND	0.0250	mg/kg wet							
Aroclor 1232 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1232 (3)	ND	0.0250	mg/kg wet							
Aroclor 1232 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1232 (4)	ND	0.0250	mg/kg wet							
Aroclor 1232 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1232 (5)	ND	0.0250	mg/kg wet							
Aroclor 1232 (5) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1242	ND	0.0250	mg/kg wet							
Aroclor 1242 (1)	ND	0.0250	mg/kg wet							
Aroclor 1242 (1) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1242 (2)	ND	0.0250	mg/kg wet							
Aroclor 1242 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1242 (3)	ND	0.0250	mg/kg wet							
Aroclor 1242 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1242 (4)	ND	0.0250	mg/kg wet							
Aroclor 1242 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1242 (5)	ND	0.0250	mg/kg wet							
Aroclor 1242 (5) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1248	ND	0.0250	mg/kg wet							
Aroclor 1248 (1)	ND	0.0250	mg/kg wet							
Aroclor 1248 (1) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1248 (2)	ND	0.0250	mg/kg wet							

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch CH31434 - 3540										
Aroclor 1248 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1248 (3)	ND	0.0250	mg/kg wet							
Aroclor 1248 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1248 (4)	ND	0.0250	mg/kg wet							
Aroclor 1248 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1248 (5)	ND	0.0250	mg/kg wet							
Aroclor 1248 (5) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1254	ND	0.0250	mg/kg wet							
Aroclor 1254 (1)	ND	0.0250	mg/kg wet							
Aroclor 1254 (1) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1254 (2)	ND	0.0250	mg/kg wet							
Aroclor 1254 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1254 (3)	ND	0.0250	mg/kg wet							
Aroclor 1254 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1254 (4)	ND	0.0250	mg/kg wet							
Aroclor 1254 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1254 (5)	ND	0.0250	mg/kg wet							
Aroclor 1254 (5) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1260	ND	0.0250	mg/kg wet							
Aroclor 1260 (1)	ND	0.0250	mg/kg wet							
Aroclor 1260 (1) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1260 (2)	ND	0.0250	mg/kg wet							
Aroclor 1260 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1260 (3)	ND	0.0250	mg/kg wet							
Aroclor 1260 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1260 (4)	ND	0.0250	mg/kg wet							
Aroclor 1260 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1260 (5)	ND	0.0250	mg/kg wet							
Aroclor 1260 (5) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1262	ND	0.0250	mg/kg wet							
Aroclor 1262 (1)	ND	0.0250	mg/kg wet							
Aroclor 1262 (1) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1262 (2)	ND	0.0250	mg/kg wet							
Aroclor 1262 (2) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1262 (3)	ND	0.0250	mg/kg wet							
Aroclor 1262 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1262 (4)	ND	0.0250	mg/kg wet							
Aroclor 1262 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1262 (5)	ND	0.0250	mg/kg wet							
Aroclor 1262 (5) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1268	ND	0.0250	mg/kg wet							
Aroclor 1268 (1)	ND	0.0250	mg/kg wet							
Aroclor 1268 (1) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1268 (2)	ND	0.0250	mg/kg wet							
Aroclor 1268 (2) [2C]	ND	0.0250	mg/kg wet							

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Client Name: GZA GeoEnvironmental, Inc.
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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch CH31434 - 3540										
Aroclor 1268 (3)	ND	0.0250	mg/kg wet							
Aroclor 1268 (3) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1268 (4)	ND	0.0250	mg/kg wet							
Aroclor 1268 (4) [2C]	ND	0.0250	mg/kg wet							
Aroclor 1268 (5)	ND	0.0250	mg/kg wet							
Aroclor 1268 (5) [2C]	ND	0.0250	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0162*		mg/kg wet	*0.01250*		*129*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0131*		mg/kg wet	*0.01250*		*105*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0111*		mg/kg wet	*0.01250*		*89*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0106*		mg/kg wet	*0.01250*		*85*	*30-150*			
LCS										
Aroclor 1016	0.294	0.0250	mg/kg wet	0.2500		118	40-140			
Aroclor 1260	0.318	0.0250	mg/kg wet	0.2500		127	40-140			
Surrogate: Decachlorobiphenyl	*0.0181*		mg/kg wet	*0.01250*		*145*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0147*		mg/kg wet	*0.01250*		*117*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0139*		mg/kg wet	*0.01250*		*111*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0129*		mg/kg wet	*0.01250*		*103*	*30-150*			
LCS Dup										
Aroclor 1016	0.291	0.0250	mg/kg wet	0.2500		116	40-140	1	30	
Aroclor 1260	0.306	0.0250	mg/kg wet	0.2500		122	40-140	4	30	
Surrogate: Decachlorobiphenyl	*0.0171*		mg/kg wet	*0.01250*		*137*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0137*		mg/kg wet	*0.01250*		*110*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0128*		mg/kg wet	*0.01250*		*103*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0117*		mg/kg wet	*0.01250*		*93*	*30-150*			
8270D Semi-Volatile Organic Compounds										
Batch CH30921 - 3546										
Blank										
1,2,4-Trichlorobenzene	ND	0.333	mg/kg wet							
1,2-Dichlorobenzene	ND	0.333	mg/kg wet							
1,3-Dichlorobenzene	ND	0.333	mg/kg wet							
1,4-Dichlorobenzene	ND	0.333	mg/kg wet							
2-Methylnaphthalene	ND	0.333	mg/kg wet							
2-Methylphenol	ND	0.333	mg/kg wet							
Acenaphthene	ND	0.333	mg/kg wet							
Acenaphthylene	ND	0.333	mg/kg wet							
Anthracene	ND	0.333	mg/kg wet							
Benzo(a)anthracene	ND	0.333	mg/kg wet							
Benzo(a)pyrene	ND	0.167	mg/kg wet							
Benzo(b)fluoranthene	ND	0.333	mg/kg wet							
Benzo(g,h,i)perylene	ND	0.333	mg/kg wet							
Benzo(k)fluoranthene	ND	0.333	mg/kg wet							

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Client Name: GZA GeoEnvironmental, Inc.
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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch CH30921 - 3546										
bis(2-Ethylhexyl)phthalate	ND	0.333	mg/kg wet							
Butylbenzylphthalate	ND	0.333	mg/kg wet							
Carbazole	ND	0.333	mg/kg wet							
Chrysene	ND	0.167	mg/kg wet							
Dibenzo(a,h)Anthracene	ND	0.167	mg/kg wet							
Dibenzofuran	ND	0.333	mg/kg wet							
Diethylphthalate	ND	0.333	mg/kg wet							
Dimethylphthalate	ND	0.333	mg/kg wet							
Di-n-butylphthalate	ND	0.333	mg/kg wet							
Di-n-octylphthalate	ND	0.333	mg/kg wet							
Fluoranthene	ND	0.333	mg/kg wet							
Fluorene	ND	0.333	mg/kg wet							
Hexachlorobenzene	ND	0.333	mg/kg wet							
Hexachlorocyclopentadiene	ND	1.67	mg/kg wet							
Indeno(1,2,3-cd)Pyrene	ND	0.333	mg/kg wet							
Naphthalene	ND	0.333	mg/kg wet							
Phenanthrene	ND	0.333	mg/kg wet							
Phenol	ND	0.333	mg/kg wet							
Pyrene	ND	0.333	mg/kg wet							
Surrogate: 1,2-Dichlorobenzene-d4	*2.83*		mg/kg wet	*3.333*		*85*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*4.52*		mg/kg wet	*5.000*		*90*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*4.20*		mg/kg wet	*5.000*		*84*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*2.96*		mg/kg wet	*3.333*		*89*	*30-130*			
Surrogate: 2-Fluorophenol	*2.87*		mg/kg wet	*5.000*		*57*	*30-130*			
Surrogate: Nitrobenzene-d5	*2.96*		mg/kg wet	*3.333*		*89*	*30-130*			
Surrogate: Phenol-d6	*4.36*		mg/kg wet	*5.000*		*87*	*30-130*			
Surrogate: p-Terphenyl-d14	*2.87*		mg/kg wet	*3.333*		*86*	*30-130*			
LCS										
1,2,4-Trichlorobenzene	2.55	0.333	mg/kg wet	3.333		77	40-140			
1,2-Dichlorobenzene	2.62	0.333	mg/kg wet	3.333		79	40-140			
1,3-Dichlorobenzene	2.55	0.333	mg/kg wet	3.333		77	40-140			
1,4-Dichlorobenzene	2.47	0.333	mg/kg wet	3.333		74	40-140			
2-Methylnaphthalene	2.76	0.333	mg/kg wet	3.333		83	40-140			
2-Methylphenol	2.97	0.333	mg/kg wet	3.333		89	30-130			
Acenaphthene	2.61	0.333	mg/kg wet	3.333		78	40-140			
Acenaphthylene	2.65	0.333	mg/kg wet	3.333		79	40-140			
Anthracene	2.94	0.333	mg/kg wet	3.333		88	40-140			
Benzo(a)anthracene	3.10	0.333	mg/kg wet	3.333		93	40-140			
Benzo(a)pyrene	3.01	0.167	mg/kg wet	3.333		90	40-140			
Benzo(b)fluoranthene	3.06	0.333	mg/kg wet	3.333		92	40-140			
Benzo(g,h,i)perylene	3.36	0.333	mg/kg wet	3.333		101	40-140			
Benzo(k)fluoranthene	3.31	0.333	mg/kg wet	3.333		99	40-140			
bis(2-Ethylhexyl)phthalate	3.29	0.333	mg/kg wet	3.333		99	40-140			
Butylbenzylphthalate	3.34	0.333	mg/kg wet	3.333		100	40-140			
Carbazole	2.80	0.333	mg/kg wet	3.333		84	40-140			

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Client Name: GZA GeoEnvironmental, Inc.
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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch CH30921 - 3546										
Chrysene	3.02	0.167	mg/kg wet	3.333		91	40-140			
Dibenzo(a,h)Anthracene	3.36	0.167	mg/kg wet	3.333		101	40-140			
Dibenzofuran	2.77	0.333	mg/kg wet	3.333		83	40-140			
Diethylphthalate	2.61	0.333	mg/kg wet	3.333		78	40-140			
Dimethylphthalate	2.96	0.333	mg/kg wet	3.333		89	40-140			
Di-n-butylphthalate	2.78	0.333	mg/kg wet	3.333		84	40-140			
Di-n-octylphthalate	3.58	0.333	mg/kg wet	3.333		107	40-140			
Fluoranthene	2.57	0.333	mg/kg wet	3.333		77	40-140			
Fluorene	2.85	0.333	mg/kg wet	3.333		85	40-140			
Hexachlorobenzene	2.81	0.333	mg/kg wet	3.333		84	40-140			
Hexachlorocyclopentadiene	1.86	1.67	mg/kg wet	3.333		56	40-140			
Indeno(1,2,3-cd)Pyrene	3.28	0.333	mg/kg wet	3.333		98	40-140			
Naphthalene	2.63	0.333	mg/kg wet	3.333		79	40-140			
Phenanthrene	2.93	0.333	mg/kg wet	3.333		88	40-140			
Phenol	2.58	0.333	mg/kg wet	3.333		77	30-130			
Pyrene	3.33	0.333	mg/kg wet	3.333		100	40-140			
Surrogate: 1,2-Dichlorobenzene-d4	*2.72*		mg/kg wet	*3.333*		*82*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*4.75*		mg/kg wet	*5.000*		*95*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*4.17*		mg/kg wet	*5.000*		*83*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*2.83*		mg/kg wet	*3.333*		*85*	*30-130*			
Surrogate: 2-Fluorophenol	*2.78*		mg/kg wet	*5.000*		*56*	*30-130*			
Surrogate: Nitrobenzene-d5	*2.73*		mg/kg wet	*3.333*		*82*	*30-130*			
Surrogate: Phenol-d6	*4.26*		mg/kg wet	*5.000*		*85*	*30-130*			
Surrogate: p-Terphenyl-d14	*3.32*		mg/kg wet	*3.333*		*100*	*30-130*			
LCS Dup										
1,2,4-Trichlorobenzene	2.76	0.333	mg/kg wet	3.333		83	40-140	8	30	
1,2-Dichlorobenzene	2.74	0.333	mg/kg wet	3.333		82	40-140	4	30	
1,3-Dichlorobenzene	2.58	0.333	mg/kg wet	3.333		77	40-140	1	30	
1,4-Dichlorobenzene	2.62	0.333	mg/kg wet	3.333		79	40-140	6	30	
2-Methylnaphthalene	2.90	0.333	mg/kg wet	3.333		87	40-140	5	30	
2-Methylphenol	3.12	0.333	mg/kg wet	3.333		94	30-130	5	30	
Acenaphthene	3.04	0.333	mg/kg wet	3.333		91	40-140	15	30	
Acenaphthylene	2.67	0.333	mg/kg wet	3.333		80	40-140	0.9	30	
Anthracene	3.16	0.333	mg/kg wet	3.333		95	40-140	7	30	
Benzo(a)anthracene	3.17	0.333	mg/kg wet	3.333		95	40-140	2	30	
Benzo(a)pyrene	3.14	0.167	mg/kg wet	3.333		94	40-140	4	30	
Benzo(b)fluoranthene	3.48	0.333	mg/kg wet	3.333		104	40-140	13	30	
Benzo(g,h,i)perylene	3.64	0.333	mg/kg wet	3.333		109	40-140	8	30	
Benzo(k)fluoranthene	3.15	0.333	mg/kg wet	3.333		95	40-140	5	30	
bis(2-Ethylhexyl)phthalate	3.64	0.333	mg/kg wet	3.333		109	40-140	10	30	
Butylbenzylphthalate	3.58	0.333	mg/kg wet	3.333		107	40-140	7	30	
Carbazole	3.10	0.333	mg/kg wet	3.333		93	40-140	10	30	
Chrysene	3.56	0.167	mg/kg wet	3.333		107	40-140	16	30	
Dibenzo(a,h)Anthracene	3.60	0.167	mg/kg wet	3.333		108	40-140	7	30	
Dibenzofuran	2.85	0.333	mg/kg wet	3.333		85	40-140	3	30	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308110

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch CH30921 - 3546										
Diethylphthalate	2.66	0.333	mg/kg wet	3.333		80	40-140	2	30	
Dimethylphthalate	2.76	0.333	mg/kg wet	3.333		83	40-140	7	30	
Di-n-butylphthalate	2.96	0.333	mg/kg wet	3.333		89	40-140	6	30	
Di-n-octylphthalate	3.68	0.333	mg/kg wet	3.333		110	40-140	3	30	
Fluoranthene	2.80	0.333	mg/kg wet	3.333		84	40-140	9	30	
Fluorene	2.99	0.333	mg/kg wet	3.333		90	40-140	5	30	
Hexachlorobenzene	3.04	0.333	mg/kg wet	3.333		91	40-140	8	30	
Hexachlorocyclopentadiene	2.06	1.67	mg/kg wet	3.333		62	40-140	10	30	
Indeno(1,2,3-cd)Pyrene	3.61	0.333	mg/kg wet	3.333		108	40-140	9	30	
Naphthalene	2.77	0.333	mg/kg wet	3.333		83	40-140	5	30	
Phenanthrene	3.14	0.333	mg/kg wet	3.333		94	40-140	7	30	
Phenol	2.62	0.333	mg/kg wet	3.333		79	30-130	2	30	
Pyrene	3.69	0.333	mg/kg wet	3.333		111	40-140	10	30	
Surrogate: 1,2-Dichlorobenzene-d4	*2.69*		mg/kg wet	*3.333*		*81*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*4.96*		mg/kg wet	*5.000*		*99*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*4.21*		mg/kg wet	*5.000*		*84*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*2.96*		mg/kg wet	*3.333*		*89*	*30-130*			
Surrogate: 2-Fluorophenol	*2.70*		mg/kg wet	*5.000*		*54*	*30-130*			
Surrogate: Nitrobenzene-d5	*2.80*		mg/kg wet	*3.333*		*84*	*30-130*			
Surrogate: Phenol-d6	*4.29*		mg/kg wet	*5.000*		*86*	*30-130*			
Surrogate: p-Terphenyl-d14	*3.56*		mg/kg wet	*3.333*		*107*	*30-130*			
Batch CH31223 - 3546										
Blank										
1,2,4-Trichlorobenzene	ND	0.333	mg/kg wet							
1,2-Dichlorobenzene	ND	0.333	mg/kg wet							
1,3-Dichlorobenzene	ND	0.333	mg/kg wet							
1,4-Dichlorobenzene	ND	0.333	mg/kg wet							
2-Methylnaphthalene	ND	0.333	mg/kg wet							
2-Methylphenol	ND	0.333	mg/kg wet							
Acenaphthene	ND	0.333	mg/kg wet							
Acenaphthylene	ND	0.333	mg/kg wet							
Anthracene	ND	0.333	mg/kg wet							
Benzo(a)anthracene	ND	0.333	mg/kg wet							
Benzo(a)pyrene	ND	0.167	mg/kg wet							
Benzo(b)fluoranthene	ND	0.333	mg/kg wet							
Benzo(g,h,i)perylene	ND	0.333	mg/kg wet							
Benzo(k)fluoranthene	ND	0.333	mg/kg wet							
bis(2-Ethylhexyl)phthalate	ND	0.333	mg/kg wet							
Butylbenzylphthalate	ND	0.333	mg/kg wet							
Carbazole	ND	0.333	mg/kg wet							
Chrysene	ND	0.167	mg/kg wet							
Dibenzo(a,h)Anthracene	ND	0.167	mg/kg wet							
Dibenzofuran	ND	0.333	mg/kg wet							
Diethylphthalate	ND	0.333	mg/kg wet							
Dimethylphthalate	ND	0.333	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308110

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch CH31223 - 3546										
Di-n-butylphthalate	ND	0.333	mg/kg wet							
Di-n-octylphthalate	ND	0.333	mg/kg wet							
Fluoranthene	ND	0.333	mg/kg wet							
Fluorene	ND	0.333	mg/kg wet							
Hexachlorobenzene	ND	0.333	mg/kg wet							
Hexachlorocyclopentadiene	ND	1.67	mg/kg wet							
Indeno(1,2,3-cd)Pyrene	ND	0.333	mg/kg wet							
Naphthalene	ND	0.333	mg/kg wet							
Phenanthrene	ND	0.333	mg/kg wet							
Phenol	ND	0.333	mg/kg wet							
Pyrene	ND	0.333	mg/kg wet							
Surrogate: 1,2-Dichlorobenzene-d4	*2.60*		mg/kg wet	*3.333*		*78*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*1.92*		mg/kg wet	*5.000*		*38*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*4.08*		mg/kg wet	*5.000*		*82*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*2.87*		mg/kg wet	*3.333*		*86*	*30-130*			
Surrogate: 2-Fluorophenol	*4.00*		mg/kg wet	*5.000*		*80*	*30-130*			
Surrogate: Nitrobenzene-d5	*3.00*		mg/kg wet	*3.333*		*90*	*30-130*			
Surrogate: Phenol-d6	*4.34*		mg/kg wet	*5.000*		*87*	*30-130*			
Surrogate: p-Terphenyl-d14	*3.52*		mg/kg wet	*3.333*		*106*	*30-130*			
LCS										
1,2,4-Trichlorobenzene	2.68	0.333	mg/kg wet	3.333		80	40-140			
1,2-Dichlorobenzene	2.71	0.333	mg/kg wet	3.333		81	40-140			
1,3-Dichlorobenzene	2.64	0.333	mg/kg wet	3.333		79	40-140			
1,4-Dichlorobenzene	2.68	0.333	mg/kg wet	3.333		80	40-140			
2-Methylnaphthalene	3.00	0.333	mg/kg wet	3.333		90	40-140			
2-Methylphenol	2.98	0.333	mg/kg wet	3.333		89	30-130			
Acenaphthene	2.92	0.333	mg/kg wet	3.333		87	40-140			
Acenaphthylene	2.76	0.333	mg/kg wet	3.333		83	40-140			
Anthracene	3.18	0.333	mg/kg wet	3.333		95	40-140			
Benzo(a)anthracene	3.01	0.333	mg/kg wet	3.333		90	40-140			
Benzo(a)pyrene	2.77	0.167	mg/kg wet	3.333		83	40-140			
Benzo(b)fluoranthene	3.23	0.333	mg/kg wet	3.333		97	40-140			
Benzo(g,h,i)perylene	3.00	0.333	mg/kg wet	3.333		90	40-140			
Benzo(k)fluoranthene	3.16	0.333	mg/kg wet	3.333		95	40-140			
bis(2-Ethylhexyl)phthalate	3.40	0.333	mg/kg wet	3.333		102	40-140			
Butylbenzylphthalate	3.24	0.333	mg/kg wet	3.333		97	40-140			
Carbazole	3.12	0.333	mg/kg wet	3.333		94	40-140			
Chrysene	3.12	0.167	mg/kg wet	3.333		94	40-140			
Dibenzo(a,h)Anthracene	3.31	0.167	mg/kg wet	3.333		99	40-140			
Dibenzofuran	2.89	0.333	mg/kg wet	3.333		87	40-140			
Diethylphthalate	3.09	0.333	mg/kg wet	3.333		93	40-140			
Dimethylphthalate	2.97	0.333	mg/kg wet	3.333		89	40-140			
Di-n-butylphthalate	3.37	0.333	mg/kg wet	3.333		101	40-140			
Di-n-octylphthalate	3.13	0.333	mg/kg wet	3.333		94	40-140			
Fluoranthene	3.16	0.333	mg/kg wet	3.333		95	40-140			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308110

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch CH31223 - 3546										
Fluorene	3.06	0.333	mg/kg wet	3.333		92	40-140			
Hexachlorobenzene	3.01	0.333	mg/kg wet	3.333		90	40-140			
Hexachlorocyclopentadiene	1.19	1.67	mg/kg wet	3.333		36	40-140			B-
Indeno(1,2,3-cd)Pyrene	3.15	0.333	mg/kg wet	3.333		94	40-140			
Naphthalene	3.00	0.333	mg/kg wet	3.333		90	40-140			
Phenanthrene	3.14	0.333	mg/kg wet	3.333		94	40-140			
Phenol	3.68	0.333	mg/kg wet	3.333		110	30-130			
Pyrene	3.18	0.333	mg/kg wet	3.333		95	40-140			
Surrogate: 1,2-Dichlorobenzene-d4	*2.85*		mg/kg wet	*3.333*		*86*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*4.27*		mg/kg wet	*5.000*		*85*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*4.55*		mg/kg wet	*5.000*		*91*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*2.98*		mg/kg wet	*3.333*		*90*	*30-130*			
Surrogate: 2-Fluorophenol	*4.31*		mg/kg wet	*5.000*		*86*	*30-130*			
Surrogate: Nitrobenzene-d5	*3.34*		mg/kg wet	*3.333*		*100*	*30-130*			
Surrogate: Phenol-d6	*4.66*		mg/kg wet	*5.000*		*93*	*30-130*			
Surrogate: p-Terphenyl-d14	*3.11*		mg/kg wet	*3.333*		*93*	*30-130*			
LCS Dup										
1,2,4-Trichlorobenzene	2.74	0.333	mg/kg wet	3.333		82	40-140	2	30	
1,2-Dichlorobenzene	2.76	0.333	mg/kg wet	3.333		83	40-140	2	30	
1,3-Dichlorobenzene	2.72	0.333	mg/kg wet	3.333		82	40-140	3	30	
1,4-Dichlorobenzene	2.76	0.333	mg/kg wet	3.333		83	40-140	3	30	
2-Methylnaphthalene	2.96	0.333	mg/kg wet	3.333		89	40-140	2	30	
2-Methylphenol	2.84	0.333	mg/kg wet	3.333		85	30-130	5	30	
Acenaphthene	3.07	0.333	mg/kg wet	3.333		92	40-140	5	30	
Acenaphthylene	2.91	0.333	mg/kg wet	3.333		87	40-140	5	30	
Anthracene	3.36	0.333	mg/kg wet	3.333		101	40-140	6	30	
Benzo(a)anthracene	3.42	0.333	mg/kg wet	3.333		103	40-140	13	30	
Benzo(a)pyrene	3.04	0.167	mg/kg wet	3.333		91	40-140	9	30	
Benzo(b)fluoranthene	3.28	0.333	mg/kg wet	3.333		98	40-140	1	30	
Benzo(g,h,i)perylene	3.15	0.333	mg/kg wet	3.333		95	40-140	5	30	
Benzo(k)fluoranthene	3.03	0.333	mg/kg wet	3.333		91	40-140	4	30	
bis(2-Ethylhexyl)phthalate	3.77	0.333	mg/kg wet	3.333		113	40-140	10	30	
Butylbenzylphthalate	3.34	0.333	mg/kg wet	3.333		100	40-140	3	30	
Carbazole	3.34	0.333	mg/kg wet	3.333		100	40-140	7	30	
Chrysene	3.29	0.167	mg/kg wet	3.333		99	40-140	5	30	
Dibenzo(a,h)Anthracene	3.70	0.167	mg/kg wet	3.333		111	40-140	11	30	
Dibenzofuran	2.97	0.333	mg/kg wet	3.333		89	40-140	3	30	
Diethylphthalate	3.17	0.333	mg/kg wet	3.333		95	40-140	3	30	
Dimethylphthalate	3.02	0.333	mg/kg wet	3.333		91	40-140	2	30	
Di-n-butylphthalate	3.61	0.333	mg/kg wet	3.333		108	40-140	7	30	
Di-n-octylphthalate	3.00	0.333	mg/kg wet	3.333		90	40-140	4	30	
Fluoranthene	3.32	0.333	mg/kg wet	3.333		99	40-140	5	30	
Fluorene	3.15	0.333	mg/kg wet	3.333		94	40-140	3	30	
Hexachlorobenzene	2.87	0.333	mg/kg wet	3.333		86	40-140	5	30	
Hexachlorocyclopentadiene	1.20	1.67	mg/kg wet	3.333		36	40-140	1	30	B-

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308110

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch CH31223 - 3546										
Indeno(1,2,3-cd)Pyrene	2.93	0.333	mg/kg wet	3.333		88	40-140	7	30	
Naphthalene	3.08	0.333	mg/kg wet	3.333		92	40-140	3	30	
Phenanthrene	3.36	0.333	mg/kg wet	3.333		101	40-140	7	30	
Phenol	3.21	0.333	mg/kg wet	3.333		96	30-130	14	30	
Pyrene	3.17	0.333	mg/kg wet	3.333		95	40-140	0.3	30	
Surrogate: 1,2-Dichlorobenzene-d4	*2.80*		mg/kg wet	*3.333*		*84*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*3.80*		mg/kg wet	*5.000*		*76*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*4.26*		mg/kg wet	*5.000*		*85*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*3.05*		mg/kg wet	*3.333*		*92*	*30-130*			
Surrogate: 2-Fluorophenol	*4.34*		mg/kg wet	*5.000*		*87*	*30-130*			
Surrogate: Nitrobenzene-d5	*3.32*		mg/kg wet	*3.333*		*100*	*30-130*			
Surrogate: Phenol-d6	*4.42*		mg/kg wet	*5.000*		*88*	*30-130*			
Surrogate: p-Terphenyl-d14	*3.06*		mg/kg wet	*3.333*		*92*	*30-130*			
8270D(SIM) Polynuclear Aromatic Hydrocarbons										
Batch CH31001 - 3541										
Blank										
2-Methylnaphthalene	ND	0.008	mg/kg wet							
Acenaphthene	ND	0.008	mg/kg wet							
Acenaphthylene	ND	0.008	mg/kg wet							
Anthracene	ND	0.008	mg/kg wet							
Benzo(a)anthracene	ND	0.008	mg/kg wet							
Benzo(a)pyrene	ND	0.008	mg/kg wet							
Benzo(b)fluoranthene	ND	0.008	mg/kg wet							
Benzo(g,h,i)perylene	ND	0.008	mg/kg wet							
Benzo(k)fluoranthene	ND	0.008	mg/kg wet							
Chrysene	ND	0.008	mg/kg wet							
Dibenzo(a,h)Anthracene	ND	0.008	mg/kg wet							
Fluoranthene	ND	0.008	mg/kg wet							
Fluorene	ND	0.008	mg/kg wet							
Indeno(1,2,3-cd)Pyrene	ND	0.008	mg/kg wet							
Naphthalene	ND	0.008	mg/kg wet							
Phenanthrene	ND	0.008	mg/kg wet							
Pyrene	ND	0.008	mg/kg wet							
Surrogate: 1,2-Dichlorobenzene-d4	*0.202*		mg/kg wet	*0.3333*		*61*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*0.193*		mg/kg wet	*0.3333*		*58*	*30-130*			
Surrogate: Nitrobenzene-d5	*0.217*		mg/kg wet	*0.3333*		*65*	*30-130*			
Surrogate: p-Terphenyl-d14	*0.268*		mg/kg wet	*0.3333*		*80*	*30-130*			
LCS Dup										
2-Methylnaphthalene	0.210	0.017	mg/kg wet	0.2667		79	40-140	200	30	
Acenaphthene	0.193	0.017	mg/kg wet	0.2667		72	40-140	200	30	
Acenaphthylene	0.174	0.017	mg/kg wet	0.2667		65	40-140	200	30	
Anthracene	0.204	0.017	mg/kg wet	0.2667		77	40-140	200	30	
Benzo(a)anthracene	0.209	0.017	mg/kg wet	0.2667		78	40-140	200	30	
Benzo(a)pyrene	0.188	0.017	mg/kg wet	0.2667		70	40-140	200	30	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308110

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D(SIM) Polynuclear Aromatic Hydrocarbons										
Batch CH31001 - 3541										
Benzo(b)fluoranthene	0.193	0.017	mg/kg wet	0.2667		72	40-140	200	30	
Benzo(g,h,i)perylene	0.167	0.017	mg/kg wet	0.2667		63	40-140	200	30	
Benzo(k)fluoranthene	0.199	0.017	mg/kg wet	0.2667		75	40-140	200	30	
Chrysene	0.204	0.017	mg/kg wet	0.2667		77	40-140	200	30	
Dibenzo(a,h)Anthracene	0.210	0.017	mg/kg wet	0.2667		79	40-140	200	30	
Fluoranthene	0.187	0.017	mg/kg wet	0.2667		70	40-140	200	30	
Fluorene	0.199	0.017	mg/kg wet	0.2667		75	40-140	200	30	
Indeno(1,2,3-cd)Pyrene	0.183	0.017	mg/kg wet	0.2667		69	40-140	200	30	
Naphthalene	0.190	0.017	mg/kg wet	0.2667		71	40-140	200	30	
Phenanthrene	0.201	0.017	mg/kg wet	0.2667		75	40-140	200	30	
Pyrene	0.206	0.017	mg/kg wet	0.2667		77	40-140	200	30	
Surrogate: 1,2-Dichlorobenzene-d4	*0.233*		mg/kg wet	*0.3333*		*70*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*0.223*		mg/kg wet	*0.3333*		*67*	*30-130*			
Surrogate: Nitrobenzene-d5	*0.238*		mg/kg wet	*0.3333*		*71*	*30-130*			
Surrogate: p-Terphenyl-d14	*0.320*		mg/kg wet	*0.3333*		*96*	*30-130*			
MADEP-EPH Extractable Petroleum Hydrocarbons										
Batch CH31208 - 3546										
Blank										
C19-C36 Aliphatics1	ND	15.0	mg/kg wet							
C9-C18 Aliphatics1	ND	15.0	mg/kg wet							
Decane (C10)	ND	0.5	mg/kg wet							
Docosane (C22)	ND	0.5	mg/kg wet							
Dodecane (C12)	ND	0.5	mg/kg wet							
Eicosane (C20)	ND	0.5	mg/kg wet							
Hexacosane (C26)	ND	0.5	mg/kg wet							
Hexadecane (C16)	ND	0.5	mg/kg wet							
Hexatriacontane (C36)	ND	0.5	mg/kg wet							
Nonadecane (C19)	ND	0.5	mg/kg wet							
Nonane (C9)	ND	0.5	mg/kg wet							
Octacosane (C28)	ND	0.5	mg/kg wet							
Octadecane (C18)	ND	0.5	mg/kg wet							
Tetracosane (C24)	ND	0.5	mg/kg wet							
Tetradecane (C14)	ND	0.5	mg/kg wet							
Triacontane (C30)	ND	0.5	mg/kg wet							
Surrogate: 1-Chlorooctadecane	*1.52*		mg/kg wet	*2.000*		*76*	*40-140*			
Blank										
2-Methylnaphthalene	ND	0.20	mg/kg wet							
Acenaphthene	ND	0.40	mg/kg wet							
Acenaphthylene	ND	0.20	mg/kg wet							
Anthracene	ND	0.40	mg/kg wet							
Benzo(a)anthracene	ND	0.40	mg/kg wet							
Benzo(a)pyrene	ND	0.40	mg/kg wet							
Benzo(b)fluoranthene	ND	0.40	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
MADEP-EPH Extractable Petroleum Hydrocarbons										
Batch CH31208 - 3546										
Benzo(g,h,i)perylene	ND	0.40	mg/kg wet							
Benzo(k)fluoranthene	ND	0.40	mg/kg wet							
C11-C22 Unadjusted Aromatics1	ND	15.0	mg/kg wet							
Chrysene	ND	0.40	mg/kg wet							
Dibenzo(a,h)Anthracene	ND	0.20	mg/kg wet							
Fluoranthene	ND	0.40	mg/kg wet							
Fluorene	ND	0.40	mg/kg wet							
Indeno(1,2,3-cd)Pyrene	ND	0.40	mg/kg wet							
Naphthalene	ND	0.40	mg/kg wet							
Phenanthrene	ND	0.40	mg/kg wet							
Pyrene	ND	0.40	mg/kg wet							
Surrogate: 2-Bromonaphthalene	*1.72*		mg/kg wet	*2.000*		*86*	*40-140*			
Surrogate: 2-Fluorobiphenyl	*1.63*		mg/kg wet	*2.000*		*82*	*40-140*			
Surrogate: O-Terphenyl	*1.46*		mg/kg wet	*2.000*		*73*	*40-140*			
LCS										
C19-C36 Aliphatics1	18.7	15.0	mg/kg wet	16.00		117	40-140			
C9-C18 Aliphatics1	9.7	15.0	mg/kg wet	12.00		81	40-140			
Decane (C10)	0.9	0.5	mg/kg wet	2.000		44	40-140			
Docosane (C22)	1.8	0.5	mg/kg wet	2.000		90	40-140			
Dodecane (C12)	1.1	0.5	mg/kg wet	2.000		53	40-140			
Eicosane (C20)	1.7	0.5	mg/kg wet	2.000		86	40-140			
Hexacosane (C26)	1.8	0.5	mg/kg wet	2.000		89	40-140			
Hexadecane (C16)	1.6	0.5	mg/kg wet	2.000		78	40-140			
Hexatriacontane (C36)	1.7	0.5	mg/kg wet	2.000		87	40-140			
Nonadecane (C19)	1.7	0.5	mg/kg wet	2.000		85	40-140			
Nonane (C9)	0.6	0.5	mg/kg wet	2.000		32	30-140			
Octacosane (C28)	1.8	0.5	mg/kg wet	2.000		89	40-140			
Octadecane (C18)	1.7	0.5	mg/kg wet	2.000		84	40-140			
Tetracosane (C24)	1.8	0.5	mg/kg wet	2.000		89	40-140			
Tetradecane (C14)	1.3	0.5	mg/kg wet	2.000		67	40-140			
Triacontane (C30)	1.8	0.5	mg/kg wet	2.000		88	40-140			
Surrogate: 1-Chlorooctadecane	*1.74*		mg/kg wet	*2.000*		*87*	*40-140*			
LCS										
2-Methylnaphthalene	0.93	0.20	mg/kg wet	2.000		47	40-140			
Acenaphthene	1.16	0.40	mg/kg wet	2.000		58	40-140			
Acenaphthylene	0.99	0.20	mg/kg wet	2.000		50	40-140			
Anthracene	1.13	0.40	mg/kg wet	2.000		57	40-140			
Benzo(a)anthracene	1.22	0.40	mg/kg wet	2.000		61	40-140			
Benzo(a)pyrene	1.38	0.40	mg/kg wet	2.000		69	40-140			
Benzo(b)fluoranthene	1.42	0.40	mg/kg wet	2.000		71	40-140			
Benzo(g,h,i)perylene	1.29	0.40	mg/kg wet	2.000		65	40-140			
Benzo(k)fluoranthene	1.34	0.40	mg/kg wet	2.000		67	40-140			
C11-C22 Unadjusted Aromatics1	27.0	15.0	mg/kg wet	34.00		80	40-140			
Chrysene	1.36	0.40	mg/kg wet	2.000		68	40-140			

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Client Name: GZA GeoEnvironmental, Inc.
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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
MADEP-EPH Extractable Petroleum Hydrocarbons										
Batch CH31208 - 3546										
Dibenzo(a,h)Anthracene	1.33	0.20	mg/kg wet	2.000		67	40-140			
Fluoranthene	1.17	0.40	mg/kg wet	2.000		58	40-140			
Fluorene	1.07	0.40	mg/kg wet	2.000		54	40-140			
Indeno(1,2,3-cd)Pyrene	1.09	0.40	mg/kg wet	2.000		54	40-140			
Naphthalene	0.85	0.40	mg/kg wet	2.000		43	40-140			
Phenanthrene	1.20	0.40	mg/kg wet	2.000		60	40-140			
Pyrene	1.19	0.40	mg/kg wet	2.000		60	40-140			
Surrogate: 2-Bromonaphthalene	*1.57*		mg/kg wet	*2.000*		*79*	*40-140*			
Surrogate: 2-Fluorobiphenyl	*1.64*		mg/kg wet	*2.000*		*82*	*40-140*			
Surrogate: O-Terphenyl	*1.56*		mg/kg wet	*2.000*		*78*	*40-140*			
LCS										
2-Methylnaphthalene Breakthrough	0.0		%				0-5			
Naphthalene Breakthrough	0.0		%				0-5			
LCS Dup										
C19-C36 Aliphatics1	16.1	15.0	mg/kg wet	16.00		101	40-140	15	25	
C9-C18 Aliphatics1	9.1	15.0	mg/kg wet	12.00		76	40-140	6	25	
Decane (C10)	0.9	0.5	mg/kg wet	2.000		44	40-140	2	25	
Docosane (C22)	1.7	0.5	mg/kg wet	2.000		85	40-140	5	25	
Dodecane (C12)	1.1	0.5	mg/kg wet	2.000		53	40-140	0.2	25	
Eicosane (C20)	1.7	0.5	mg/kg wet	2.000		83	40-140	4	25	
Hexacosane (C26)	1.7	0.5	mg/kg wet	2.000		85	40-140	4	25	
Hexadecane (C16)	1.5	0.5	mg/kg wet	2.000		77	40-140	2	25	
Hexatriacontane (C36)	1.7	0.5	mg/kg wet	2.000		83	40-140	4	25	
Nonadecane (C19)	1.7	0.5	mg/kg wet	2.000		83	40-140	3	25	
Nonane (C9)	0.6	0.5	mg/kg wet	2.000		32	30-140	0.3	25	
Octacosane (C28)	1.7	0.5	mg/kg wet	2.000		85	40-140	4	25	
Octadecane (C18)	1.6	0.5	mg/kg wet	2.000		82	40-140	3	25	
Tetracosane (C24)	1.7	0.5	mg/kg wet	2.000		84	40-140	5	25	
Tetradecane (C14)	1.3	0.5	mg/kg wet	2.000		67	40-140	0.09	25	
Triacontane (C30)	1.7	0.5	mg/kg wet	2.000		85	40-140	4	25	
Surrogate: 1-Chlorooctadecane	*1.72*		mg/kg wet	*2.000*		*86*	*40-140*			
LCS Dup										
2-Methylnaphthalene	0.89	0.20	mg/kg wet	2.000		44	40-140	5	20	
Acenaphthene	1.04	0.40	mg/kg wet	2.000		52	40-140	11	20	
Acenaphthylene	0.90	0.20	mg/kg wet	2.000		45	40-140	10	20	
Anthracene	1.09	0.40	mg/kg wet	2.000		54	40-140	4	20	
Benzo(a)anthracene	1.18	0.40	mg/kg wet	2.000		59	40-140	3	20	
Benzo(a)pyrene	1.31	0.40	mg/kg wet	2.000		66	40-140	5	20	
Benzo(b)fluoranthene	1.29	0.40	mg/kg wet	2.000		65	40-140	9	20	
Benzo(g,h,i)perylene	1.20	0.40	mg/kg wet	2.000		60	40-140	7	20	
Benzo(k)fluoranthene	1.30	0.40	mg/kg wet	2.000		65	40-140	3	20	
C11-C22 Unadjusted Aromatics1	23.6	15.0	mg/kg wet	34.00		69	40-140	13	25	
Chrysene	1.31	0.40	mg/kg wet	2.000		65	40-140	4	20	

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
MADEP-EPH Extractable Petroleum Hydrocarbons										
Batch CH31208 - 3546										
Dibenzo(a,h)Anthracene	1.25	0.20	mg/kg wet	2.000		62	40-140	7	20	
Fluoranthene	1.14	0.40	mg/kg wet	2.000		57	40-140	3	20	
Fluorene	0.98	0.40	mg/kg wet	2.000		49	40-140	9	20	
Indeno(1,2,3-cd)Pyrene	1.01	0.40	mg/kg wet	2.000		50	40-140	8	20	
Naphthalene	0.80	0.40	mg/kg wet	2.000		40	40-140	6	20	
Phenanthrene	1.11	0.40	mg/kg wet	2.000		56	40-140	8	20	
Pyrene	1.14	0.40	mg/kg wet	2.000		57	40-140	5	20	
Surrogate: 2-Bromonaphthalene	*1.51*		mg/kg wet	*2.000*		*76*	*40-140*			
Surrogate: 2-Fluorobiphenyl	*1.55*		mg/kg wet	*2.000*		*78*	*40-140*			
Surrogate: O-Terphenyl	*1.48*		mg/kg wet	*2.000*		*74*	*40-140*			
LCS Dup										
2-Methylnaphthalene Breakthrough	0.0		%				0-5		200	
Naphthalene Breakthrough	0.0		%				0-5		200	
Batch CH31405 - 3546										
Blank										
C19-C36 Aliphatics1	ND	15.0	mg/kg wet							
C9-C18 Aliphatics1	ND	15.0	mg/kg wet							
Decane (C10)	ND	0.5	mg/kg wet							
Docosane (C22)	ND	0.5	mg/kg wet							
Dodecane (C12)	ND	0.5	mg/kg wet							
Eicosane (C20)	ND	0.5	mg/kg wet							
Hexacosane (C26)	ND	0.5	mg/kg wet							
Hexadecane (C16)	ND	0.5	mg/kg wet							
Hexatriacontane (C36)	ND	0.5	mg/kg wet							
Nonadecane (C19)	ND	0.5	mg/kg wet							
Nonane (C9)	ND	0.5	mg/kg wet							
Octacosane (C28)	ND	0.5	mg/kg wet							
Octadecane (C18)	ND	0.5	mg/kg wet							
Tetracosane (C24)	ND	0.5	mg/kg wet							
Tetradecane (C14)	ND	0.5	mg/kg wet							
Triacontane (C30)	ND	0.5	mg/kg wet							
Surrogate: 1-Chlorooctadecane	*1.47*		mg/kg wet	*2.000*		*74*	*40-140*			
Blank										
2-Methylnaphthalene	ND	0.20	mg/kg wet							
Acenaphthene	ND	0.40	mg/kg wet							
Acenaphthylene	ND	0.20	mg/kg wet							
Anthracene	ND	0.40	mg/kg wet							
Benzo(a)anthracene	ND	0.40	mg/kg wet							
Benzo(a)pyrene	ND	0.40	mg/kg wet							
Benzo(b)fluoranthene	ND	0.40	mg/kg wet							
Benzo(g,h,i)perylene	ND	0.40	mg/kg wet							
Benzo(k)fluoranthene	ND	0.40	mg/kg wet							
C11-C22 Unadjusted Aromatics1	ND	15.0	mg/kg wet							

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
MADEP-EPH Extractable Petroleum Hydrocarbons										
Batch CH31405 - 3546										
Chrysene	ND	0.40	mg/kg wet							
Dibenzo(a,h)Anthracene	ND	0.20	mg/kg wet							
Fluoranthene	ND	0.40	mg/kg wet							
Fluorene	ND	0.40	mg/kg wet							
Indeno(1,2,3-cd)Pyrene	ND	0.40	mg/kg wet							
Naphthalene	ND	0.40	mg/kg wet							
Phenanthrene	ND	0.40	mg/kg wet							
Pyrene	ND	0.40	mg/kg wet							
Surrogate: 2-Bromonaphthalene	*1.71*		mg/kg wet	*2.000*		*86*	*40-140*			
Surrogate: 2-Fluorobiphenyl	*1.63*		mg/kg wet	*2.000*		*81*	*40-140*			
Surrogate: O-Terphenyl	*1.53*		mg/kg wet	*2.000*		*77*	*40-140*			
LCS										
C19-C36 Aliphatics1	14.0	15.0	mg/kg wet	16.00		88	40-140			
C9-C18 Aliphatics1	9.0	15.0	mg/kg wet	12.00		75	40-140			
Decane (C10)	1.0	0.5	mg/kg wet	2.000		49	40-140			
Docosane (C22)	1.5	0.5	mg/kg wet	2.000		74	40-140			
Dodecane (C12)	1.1	0.5	mg/kg wet	2.000		55	40-140			
Eicosane (C20)	1.4	0.5	mg/kg wet	2.000		71	40-140			
Hexacosane (C26)	1.5	0.5	mg/kg wet	2.000		73	40-140			
Hexadecane (C16)	1.4	0.5	mg/kg wet	2.000		68	40-140			
Hexatriacontane (C36)	1.5	0.5	mg/kg wet	2.000		76	40-140			
Nonadecane (C19)	1.4	0.5	mg/kg wet	2.000		71	40-140			
Nonane (C9)	0.8	0.5	mg/kg wet	2.000		38	30-140			
Octacosane (C28)	1.5	0.5	mg/kg wet	2.000		74	40-140			
Octadecane (C18)	1.4	0.5	mg/kg wet	2.000		70	40-140			
Tetracosane (C24)	1.5	0.5	mg/kg wet	2.000		73	40-140			
Tetradecane (C14)	1.3	0.5	mg/kg wet	2.000		63	40-140			
Triacontane (C30)	1.5	0.5	mg/kg wet	2.000		74	40-140			
Surrogate: 1-Chlorooctadecane	*1.53*		mg/kg wet	*2.000*		*76*	*40-140*			
LCS										
2-Methylnaphthalene	0.98	0.20	mg/kg wet	2.000		49	40-140			
Acenaphthene	1.13	0.40	mg/kg wet	2.000		56	40-140			
Acenaphthylene	0.97	0.20	mg/kg wet	2.000		48	40-140			
Anthracene	1.03	0.40	mg/kg wet	2.000		52	40-140			
Benzo(a)anthracene	1.11	0.40	mg/kg wet	2.000		56	40-140			
Benzo(a)pyrene	1.25	0.40	mg/kg wet	2.000		62	40-140			
Benzo(b)fluoranthene	1.22	0.40	mg/kg wet	2.000		61	40-140			
Benzo(g,h,i)perylene	1.06	0.40	mg/kg wet	2.000		53	40-140			
Benzo(k)fluoranthene	1.23	0.40	mg/kg wet	2.000		61	40-140			
C11-C22 Unadjusted Aromatics1	23.5	15.0	mg/kg wet	34.00		69	40-140			
Chrysene	1.22	0.40	mg/kg wet	2.000		61	40-140			
Dibenzo(a,h)Anthracene	1.15	0.20	mg/kg wet	2.000		57	40-140			
Fluoranthene	1.08	0.40	mg/kg wet	2.000		54	40-140			
Fluorene	1.01	0.40	mg/kg wet	2.000		50	40-140			

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Client Name: GZA GeoEnvironmental, Inc.
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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
MADEP-EPH Extractable Petroleum Hydrocarbons										
Batch CH31405 - 3546										
Indeno(1,2,3-cd)Pyrene	0.93	0.40	mg/kg wet	2.000		47	40-140			
Naphthalene	0.91	0.40	mg/kg wet	2.000		45	40-140			
Phenanthrene	1.07	0.40	mg/kg wet	2.000		54	40-140			
Pyrene	1.08	0.40	mg/kg wet	2.000		54	40-140			
Surrogate: 2-Bromonaphthalene	*1.52*		mg/kg wet	*2.000*		*76*	*40-140*			
Surrogate: 2-Fluorobiphenyl	*1.52*		mg/kg wet	*2.000*		*76*	*40-140*			
Surrogate: O-Terphenyl	*1.46*		mg/kg wet	*2.000*		*73*	*40-140*			
LCS										
2-Methylnaphthalene Breakthrough	0.0		%				0-5			
Naphthalene Breakthrough	0.0		%				0-5			
LCS Dup										
C19-C36 Aliphatics1	14.3	15.0	mg/kg wet	16.00		90	40-140	2	25	
C9-C18 Aliphatics1	9.5	15.0	mg/kg wet	12.00		79	40-140	5	25	
Decane (C10)	1.0	0.5	mg/kg wet	2.000		51	40-140	4	25	
Docosane (C22)	1.5	0.5	mg/kg wet	2.000		76	40-140	3	25	
Dodecane (C12)	1.2	0.5	mg/kg wet	2.000		58	40-140	4	25	
Eicosane (C20)	1.5	0.5	mg/kg wet	2.000		74	40-140	4	25	
Hexacosane (C26)	1.5	0.5	mg/kg wet	2.000		74	40-140	2	25	
Hexadecane (C16)	1.4	0.5	mg/kg wet	2.000		69	40-140	2	25	
Hexatriacontane (C36)	1.5	0.5	mg/kg wet	2.000		74	40-140	3	25	
Nonadecane (C19)	1.5	0.5	mg/kg wet	2.000		73	40-140	3	25	
Nonane (C9)	0.8	0.5	mg/kg wet	2.000		39	30-140	3	25	
Octacosane (C28)	1.5	0.5	mg/kg wet	2.000		75	40-140	1	25	
Octadecane (C18)	1.4	0.5	mg/kg wet	2.000		72	40-140	3	25	
Tetracosane (C24)	1.5	0.5	mg/kg wet	2.000		74	40-140	2	25	
Tetradecane (C14)	1.3	0.5	mg/kg wet	2.000		64	40-140	3	25	
Triacontane (C30)	1.5	0.5	mg/kg wet	2.000		74	40-140	0.3	25	
Surrogate: 1-Chlorooctadecane	*1.53*		mg/kg wet	*2.000*		*77*	*40-140*			
LCS Dup										
2-Methylnaphthalene	0.91	0.20	mg/kg wet	2.000		46	40-140	7	20	
Acenaphthene	1.02	0.40	mg/kg wet	2.000		51	40-140	10	20	
Acenaphthylene	0.89	0.20	mg/kg wet	2.000		44	40-140	9	20	
Anthracene	0.99	0.40	mg/kg wet	2.000		50	40-140	4	20	
Benzo(a)anthracene	1.12	0.40	mg/kg wet	2.000		56	40-140	0.3	20	
Benzo(a)pyrene	1.26	0.40	mg/kg wet	2.000		63	40-140	0.6	20	
Benzo(b)fluoranthene	1.22	0.40	mg/kg wet	2.000		61	40-140	0.3	20	
Benzo(g,h,i)perylene	1.08	0.40	mg/kg wet	2.000		54	40-140	1	20	
Benzo(k)fluoranthene	1.24	0.40	mg/kg wet	2.000		62	40-140	1	20	
C11-C22 Unadjusted Aromatics1	22.9	15.0	mg/kg wet	34.00		67	40-140	3	25	
Chrysene	1.21	0.40	mg/kg wet	2.000		61	40-140	0.6	20	
Dibenzo(a,h)Anthracene	1.15	0.20	mg/kg wet	2.000		58	40-140	0.3	20	
Fluoranthene	1.06	0.40	mg/kg wet	2.000		53	40-140	2	20	
Fluorene	0.92	0.40	mg/kg wet	2.000		46	40-140	9	20	

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
MADEP-EPH Extractable Petroleum Hydrocarbons										
Batch CH31405 - 3546										
Indeno(1,2,3-cd)Pyrene	0.94	0.40	mg/kg wet	2.000		47	40-140	0.7	20	
Naphthalene	0.85	0.40	mg/kg wet	2.000		43	40-140	6	20	
Phenanthrene	1.02	0.40	mg/kg wet	2.000		51	40-140	5	20	
Pyrene	1.06	0.40	mg/kg wet	2.000		53	40-140	1	20	
Surrogate: 2-Bromonaphthalene	*1.32*		mg/kg wet	*2.000*		*66*	*40-140*			
Surrogate: 2-Fluorobiphenyl	*1.39*		mg/kg wet	*2.000*		*70*	*40-140*			
Surrogate: O-Terphenyl	*1.38*		mg/kg wet	*2.000*		*69*	*40-140*			
LCS Dup										
2-Methylnaphthalene Breakthrough	0.0		%				0-5		200	
Naphthalene Breakthrough	0.0		%				0-5		200	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308110

Notes and Definitions

U	Analyte included in the analysis, but not detected
Q	Calibration required quadratic regression (Q).
PT	Pentachlorophenol tailing factor > 2.
ICV-	Initial Calibration Verification recovery is below lower control limit (ICV-).
ICV	Initial Calibration Verification recovery is outside of control limit (ICV).
D	Diluted.
C+	Continuing Calibration recovery is above upper control limit (C+).
C-	Continuing Calibration recovery is below lower control limit (C-).
B-	Blank Spike recovery is below lower control limit (B-).
ND	Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
I/V	Initial Volume
F/V	Final Volume
§	Subcontracted analysis; see attached report
1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of target analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.
Avg	Results reported as a mathematical average.
NR	No Recovery
[CALC]	Calculated Analyte
SUB	Subcontracted analysis; see attached report

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308110

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Department of Defense (DoD) Environmental Laboratory Accreditation Program (ELAP)
A2LA Accredited: Testing Cert# 2864.01
http://www.a2la.org/scopepdf/2864-01.pdf

Rhode Island Potable and Non Potable Water: LAI00179
http://www.health.ri.gov/labs/waterlabs-instate.php

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750
http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutofStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI0002
http://www.maine.gov/dep/blwq/topic/vessel/lab_list.pdf

Massachusetts Potable and Non Potable Water: M-RI002
http://public.dep.state.ma.us/labcert/labcert.aspx

New Hampshire (NELAP accredited) Potable and Non PotableWater, Solid and Hazardous Waste: 2424
http://www4.egov.nh.gov/des/nhelap/namesearch.asp

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313
http://www.wadsworth.org/labcert/elap/comm.html

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006
http://datamine2.state.nj.us/dep/DEP_OPRA/

United States Department of Agriculture Soil Permit: S-54210

Maryland Potable Water: 301
http://www.mde.state.md.us/assets/document/WSP_labs-2009apr20.pdf

CHEMISTRY

A2LA Accredited: Testing Cert # 2864.01
Lead in Paint, Phthalates, Lead in Children's Metals Products (Including Jewelry)
http://www.A2LA.org/dirsearchnew/newsearch.cfm

CPSC ID# 1141
Lead Paint, Lead in Children's Metals Jewelry
http://www.cpsc.gov/cgi-bin/labapplist.aspx

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING



ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Burlington
30 Community Drive
Suite 11
South Burlington, VT 05403
Tel: (802)660-1990

TestAmerica Job ID: 200-17862-4
TestAmerica Sample Delivery Group: 200-17862-4
Client Project/Site: Soil Analysis

For:
ESS Laboratory
185 Frances Ave.
Cranston, Rhode Island 02910

Attn: Ms. Christine Taylor

Authorized for release by:
8/19/2013 4:51:39 PM

Kathryn Kelly, Project Manager I
kathryn.kelly@testamericainc.com

LINKS
Review your project results through TotalAccess
Have a Question? Ask The Expert
Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Qualifiers

General Chemistry

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Job ID: 200-17862-4

Laboratory: TestAmerica Burlington

Narrative

CASE NARRATIVE

Client: ESS Laboratory

Project: Soil Analysis

Report Number: 200-17862-4

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The samples were received on 08/09/2013; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 1.4 C.

TOTAL ORGANIC CARBON

Samples 1308110-2, 1308110-5, 1308110-6, 1308110-9 and 1308110-12 were analyzed for total organic carbon in accordance with Lloyd Kahn Method. The samples were analyzed on 08/14/2013.

TOC Result 2 was detected in method blank MB 200-59843/31 at a level exceeding the reporting limit. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. Refer to the QC report for details.

No other difficulties were encountered during the TOC analysis.

All other quality control parameters were within the acceptance limits.

Detection Summary

Client: ESS Laboratory
Project/Site: Soil Analysis

TestAmerica Job ID: 200-17862-4
SDG: 200-17862-4

Client Sample ID: 1308110-2 — Lab Sample ID: 200-17862-29

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	160000		6210	6210	mg/Kg	1	☼	Lloyd Kahn	Total/NA

Client Sample ID: 1308110-5 — Lab Sample ID: 200-17862-30

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	163000		6340	6340	mg/Kg	1	☼	Lloyd Kahn	Total/NA

Client Sample ID: 1308110-6 — Lab Sample ID: 200-17862-31

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	105000		4310	4310	mg/Kg	1	☼	Lloyd Kahn	Total/NA

Client Sample ID: 1308110-9 — Lab Sample ID: 200-17862-32

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	145000		6320	6320	mg/Kg	1	☼	Lloyd Kahn	Total/NA

Client Sample ID: 1308110-12 — Lab Sample ID: 200-17862-33

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	111000		3970	3970	mg/Kg	1	☼	Lloyd Kahn	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: 1308110-2

Lab Sample ID: 200-17862-29
Date Collected: 08/05/13 00:00
Matrix: Sediment
Date Received: 08/09/13 10:00
Percent Solids: 16.1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	160000		6210	6210	mg/Kg	☼		08/14/13 17:47	1
Percent Solids	16.1		0.25	0.25	%			08/12/13 15:49	1

Client Sample ID: 1308110-5

Lab Sample ID: 200-17862-30
Date Collected: 08/05/13 00:00
Matrix: Sediment
Date Received: 08/09/13 10:00
Percent Solids: 15.8

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	163000		6340	6340	mg/Kg	☼		08/14/13 17:54	1
Percent Solids	15.8		0.25	0.25	%			08/12/13 15:49	1

Client Sample ID: 1308110-6

Lab Sample ID: 200-17862-31
Date Collected: 08/05/13 00:00
Matrix: Sediment
Date Received: 08/09/13 10:00
Percent Solids: 23.2

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	105000		4310	4310	mg/Kg	☼		08/14/13 18:02	1
Percent Solids	23.2		0.25	0.25	%			08/12/13 15:49	1

Client Sample ID: 1308110-9

Lab Sample ID: 200-17862-32
Date Collected: 08/05/13 00:00
Matrix: Sediment
Date Received: 08/09/13 10:00
Percent Solids: 15.8

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	145000		6320	6320	mg/Kg	☼		08/14/13 18:09	1
Percent Solids	15.8		0.25	0.25	%			08/12/13 15:49	1

Client Sample ID: 1308110-12

Lab Sample ID: 200-17862-33
Date Collected: 08/05/13 00:00
Matrix: Sediment
Date Received: 08/09/13 10:00
Percent Solids: 25.2

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	111000		3970	3970	mg/Kg	☼		08/14/13 18:17	1
Percent Solids	25.2		0.25	0.25	%			08/12/13 15:49	1

Method: Lloyd Kahn - Organic Carbon, Total (TOC)

Lab Sample ID: MB 200-59843/31
Matrix: Sediment
Analysis Batch: 59843

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	1000	U	1000	1000	mg/Kg			08/14/13 16:18	1

Lab Sample ID: MB 200-59843/5
Matrix: Sediment
Analysis Batch: 59843

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	1000	U	1000	1000	mg/Kg			08/14/13 12:45	1

Lab Sample ID: LCS 200-59843/32
Matrix: Sediment
Analysis Batch: 59843

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	20100	22010		mg/Kg		110	75 - 125

Lab Sample ID: LCS 200-59843/6
Matrix: Sediment
Analysis Batch: 59843

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	20100	20500		mg/Kg		102	75 - 125

QC Association Summary

Client: ESS Laboratory
Project/Site: Soil Analysis

TestAmerica Job ID: 200-17862-4
SDG: 200-17862-4

General Chemistry

Analysis Batch: 59672

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
200-17862-29	1308110-2	Total/NA	Sediment	Moisture	
200-17862-30	1308110-5	Total/NA	Sediment	Moisture	
200-17862-31	1308110-6	Total/NA	Sediment	Moisture	
200-17862-32	1308110-9	Total/NA	Sediment	Moisture	
200-17862-33	1308110-12	Total/NA	Sediment	Moisture	

Analysis Batch: 59843

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
200-17862-29	1308110-2	Total/NA	Sediment	Lloyd Kahn	
200-17862-30	1308110-5	Total/NA	Sediment	Lloyd Kahn	
200-17862-31	1308110-6	Total/NA	Sediment	Lloyd Kahn	
200-17862-32	1308110-9	Total/NA	Sediment	Lloyd Kahn	
200-17862-33	1308110-12	Total/NA	Sediment	Lloyd Kahn	
LCS 200-59843/32	Lab Control Sample	Total/NA	Sediment	Lloyd Kahn	
LCS 200-59843/6	Lab Control Sample	Total/NA	Sediment	Lloyd Kahn	
MB 200-59843/31	Method Blank	Total/NA	Sediment	Lloyd Kahn	
MB 200-59843/5	Method Blank	Total/NA	Sediment	Lloyd Kahn	

Lab Chronicle

Client: ESS Laboratory
Project/Site: Soil Analysis

TestAmerica Job ID: 200-17862-4
SDG: 200-17862-4

Client Sample ID: 1308110-2

Lab Sample ID: 200-17862-29
Date Collected: 08/05/13 00:00
Matrix: Sediment
Date Received: 08/09/13 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	59672	08/12/13 15:49	VTP	TAL BUR
Total/NA	Analysis	Lloyd Kahn		1	59843	08/14/13 17:47	VTP	TAL BUR

Client Sample ID: 1308110-5

Lab Sample ID: 200-17862-30
Date Collected: 08/05/13 00:00
Matrix: Sediment
Date Received: 08/09/13 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	59672	08/12/13 15:49	VTP	TAL BUR
Total/NA	Analysis	Lloyd Kahn		1	59843	08/14/13 17:54	VTP	TAL BUR

Client Sample ID: 1308110-6

Lab Sample ID: 200-17862-31
Date Collected: 08/05/13 00:00
Matrix: Sediment
Date Received: 08/09/13 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	59672	08/12/13 15:49	VTP	TAL BUR
Total/NA	Analysis	Lloyd Kahn		1	59843	08/14/13 18:02	VTP	TAL BUR

Client Sample ID: 1308110-9

Lab Sample ID: 200-17862-32
Date Collected: 08/05/13 00:00
Matrix: Sediment
Date Received: 08/09/13 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	59672	08/12/13 15:49	VTP	TAL BUR
Total/NA	Analysis	Lloyd Kahn		1	59843	08/14/13 18:09	VTP	TAL BUR

Client Sample ID: 1308110-12

Lab Sample ID: 200-17862-33
Date Collected: 08/05/13 00:00
Matrix: Sediment
Date Received: 08/09/13 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	59672	08/12/13 15:49	VTP	TAL BUR
Total/NA	Analysis	Lloyd Kahn		1	59843	08/14/13 18:17	VTP	TAL BUR

Laboratory References:

TAL BUR = TestAmerica Burlington, 30 Community Drive, Suite 11, South Burlington, VT 05403, TEL (802)660-1990

Certification Summary

Client: ESS Laboratory
Project/Site: Soil Analysis

TestAmerica Job ID: 200-17862-4
SDG: 200-17862-4

Laboratory: TestAmerica Burlington

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Connecticut	State Program	1	PH-0751	09-30-13
DE Haz. Subst. Cleanup Act (HSCA)	State Program	3	NA	02-13-15
Florida	NELAP	4	E87467	06-30-14
L-A-B	DoD ELAP		L2336	10-26-13
Louisiana	NELAP	6	176292	06-30-14
Maine	State Program	1	VT00008	04-17-15
Minnesota	NELAP	5	050-999-436	12-31-13
New Hampshire	NELAP	1	2006	12-18-13
New Jersey	NELAP	2	VT972	06-30-14
New York	NELAP	2	10391	04-01-14
Pennsylvania	NELAP	3	68-00489	04-30-14
Rhode Island	State Program	1	LAO00298	12-30-13
US Fish & Wildlife	Federal		LE-058448-0	02-28-14
USDA	Federal		P330-11-00093	02-17-14
Vermont	State Program	1	VT-4000	12-31-13
Virginia	NELAP	3	460209	12-14-13

Method Summary

Client: ESS Laboratory
Project/Site: Soil Analysis

TestAmerica Job ID: 200-17862-4
SDG: 200-17862-4

Method	Method Description	Protocol	Laboratory
Lloyd Kahn	Organic Carbon, Total (TOC)	EPA	TAL BUR
Moisture	Percent Moisture	EPA	TAL BUR

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

TAL BUR = TestAmerica Burlington, 30 Community Drive, Suite 11, South Burlington, VT 05403, TEL (802)660-1990

Sample Summary

Client: ESS Laboratory
Project/Site: Soil Analysis

TestAmerica Job ID: 200-17862-4
SDG: 200-17862-4

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
200-17862-29	1308110-2	Sediment	08/05/13 00:00	08/09/13 10:00
200-17862-30	1308110-5	Sediment	08/05/13 00:00	08/09/13 10:00
200-17862-31	1308110-6	Sediment	08/05/13 00:00	08/09/13 10:00
200-17862-32	1308110-9	Sediment	08/05/13 00:00	08/09/13 10:00
200-17862-33	1308110-12	Sediment	08/05/13 00:00	08/09/13 10:00

ESS Laboratory

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

Page _____ of _____

Turn Time ___ Standard Other 4 day
If faster than 5 days, prior approval by laboratory is required # _____

State where samples were collected from:
(MA) RI CT NH NJ NY ME Other _____

Is this project for any of the following:
(MA-MCP) Navy USACE Other _____

Reporting Limits | ESS LAB PROJECT ID

Electronic Deliverable Yes ✓ No ___
Format: Excel __ Access __ PDF __ Other ✓

Co. Name: ESS | Project #: 1308108 | Project Name (20 Char. or less):

Contact Person: Christine Taylor | Address:

City | State | Zip | PO#: 1308108

Telephone # | Fax # | Email Address: ctaylor@thielsch.com

Write Required Analysis: TOC Lloyd Kahn

ESS LAB Sample #	Date	Collection Time	COMP	GRAB	MATRIX	Sample Identification (20 Char. or less)	Pres Code	Number of Containers	Type of Containers
	8/6			✓	Sed	1308108-1	1	1	6
	8/2					-2			
	8/2					-4			
	8/6					-5			
	8/5					-9			
	8/5					-12			
	8/6					-13			
	8/5					-16			
	8/2					-18			
	8/2								

200-17862 COC

Container Type: P-Poly G-Glass S-Sterile V-VOA | Matrix: S-Soil SD-Solid D-Sludge WW-Waste Water GW-Ground Water SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filters

Cooler Present ___ Yes ___ No | Internal Use Only
Seals Intact ___ Yes ___ No NA: ___ | [ ] Pickup
Cooler Temp: _____ | [ ] Technicians _____

Preservation Code 1- NP, 2- HCl, 3- H_2SO_4, 4- HNO_3, 5- NaOH, 6- MeOH, 7- Asorbic Acid, 8- ZnAct, 9- _____

Sampled by:

Comments:

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
	8/9/13 1800						
		Stephanie Parker	8/9/13 1000				

*By circling MA-MCP, client acknowledges samples were collected in accordance with MADEP CAM VII A

Please fax all changes to Chain of Custody in writing.

1 (White) Lab Copy 2 (Yellow) Client Receipt

10/26/04 A

ESS Laboratory

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

Page_____ of_____

Turn Time ___ Standard Other 4 day
If faster than 5 days, prior approval by laboratory is required #

State where samples were collected from:
(MA) RI CT NH NJ NY ME Other _____

Is this project for any of the following:
(MA-MCP) Navy USACE Other _____

Reporting Limits

ESS LAB PROJECT ID

Electronic Deliverable Yes ___ No ___
Format: Excel __ Access __ PDF ✓ Other _____

Co. Name: ESS	Project #: 1308109	Project Name (20 Char. or less):	
Contact Person: C. Taylor	Address:		
City:	State:	Zip:	PO#: 1308109
Telephone #:	Fax #:	Email Address: ctaylor@thielsch.com	

ESS LAB Sample #	Date	Collection Time	COMP	GRAB	MATRIX	Sample Identification (20 Char. or less)	Pres Code	Number of Containers	Type of Containers	HC Hexyl Hexan	Write Required Analysis
	8/5			✓	Sed	1308109-1	1	1	6	X	
	8/5					-3					
	8/5					-6					
	8/6					-7					
	8/6					8/5 -8 -9					
	8/6					-11					
	8/5					-12					
	8/5					-14					
	8/5					-17					
	8/5					-20					

Container Type: P-Poly G-Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Waste Water GW-Ground Water SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filters

Cooler Present ___ Yes ___ No Internal Use Only

Seals Intact ___ Yes ___ No NA: ___ [ ] Pickup

Cooler Temp: _____ [ ] Technicians _____

Preservation Code 1- NP, 2- HCl, 3- H_2SO_4, 4- HNO_3, 5- NaOH, 6- MeOH, 7- Asorbic Acid, 8- ZnAct, 9-_____

Sampled by:

Comments:

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
	3/8/15 1800	Fed ex					
			8/9/13 1000				

*By circling MA-MCP, client acknowledges samples were collected in accordance with MADEP CAM VII A

Please fax all changes to Chain of Custody in writing.

1 (White) Lab Copy 2 (Yellow) Client Receipt

10/26/04 A

ESS Laboratory

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

Page ____ of ____

Turn Time: Standard (5-7 days) Other 4 day
If faster than 5 days, prior approval by laboratory is required #

State where samples were collected from: MA RI CT NH NJ NY ME Other

Is this project for any of the following: MA-MCP Navy USACE Other

Reporting Limits

ESS LAB PROJECT ID

Electronic Deliverable Yes ✓ No

Format: Excel Access PDF ✓ Other

Co. Name	Project #	Project Name (20 Char. or less)
ESS	1308110	

Contact Person	Address
C Taylor	

City	State	Zip	PO#

Telephone #	Fax #	Email Address
		ctaylor@thielsch.com

ESS LAB Sample #	Date	Collection Time	COMP	GRAB	MATRIX	Sample Identification (20 Char. or less)	Pres Code	Number of Containers	Type of Containers	Write Required Analysis: BC (Cyc/Kan)
	8/5			✓	Sed	1308110-2	1	1	6	X
	8/5					-5				
	8/5					-6				
	8/5					-9				
	8/5					-12				

Container Type: P-Poly G-Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Waste Water GW-Ground Water SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filters

Cooler Present ___ Yes ___ No Internal Use Only

Seals Intact ___ Yes ___ No NA: ___ [ ] Pickup

Cooler Temp: ___ [ ] Technicians ___

Preservation Code 1- NP, 2- HCl, 3- H_2SO_4, 4- HNO_3, 5- NaOH, 6- MeOH, 7- Asorbic Acid, 8- ZnAct, 9- ___

Sampled by:

Comments:

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
	8/8/13 1800	Fed ex					
		Mark Fuller	8/9/13 1000				

*By circling MA-MCP, client acknowledges samples were collected in accordance with MADEP CAM VII A

Please fax all changes to Chain of Custody in writing.

1 (White) Lab Copy 2 (Yellow) Client Receipt

10/26/04 A

ESS Laboratory

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

Page_____ of_____

Turn Time ___ Standard Other 4 day
If faster than 5 days, prior approval by laboratory is required # ____

State where samples were collected from:
(MA) RI CT NH NJ NY ME Other ____

Is this project for any of the following:
(MA-MCP) Navy USACE Other ____

Reporting Limits | ESS LAB PROJECT ID

Electronic Deliverable Yes ✓ No ___
Format: Excel __ Access __ PDF ✓ Other ____

Co. Name	Project #	Project Name (20 Char. or less)
ESS	1308107	

Contact Person	Address
Christine Taylor	

City	State	Zip	PO#

Telephone #	Fax #	Email Address
		ctaylor@thielsch.com

ESS LAB Sample #	Date	Collection Time	COMP	GRAB	MATRIX	Sample Identification (20 Char. or less)	Pres Code	Number of Containers	Type of Containers	Write Required Analysis: TOC (Lloyd Kahn)
	8/6	0837		✓	Sed	1308107-4	1	1	6	X
	8/1	1443				-6				
	8/2	1232				-9				
	8/2	1232				-10				
	8/5	1250				-12				
		1250				-13				
		1250				-16				
		1350				-18				
				✓	✓					

Container Type: P-Poly G-Glass S-Sterile V-VOA | Matrix: S-Soil SD-Solid D-Sludge WW-Waste Water GW-Ground Water SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filters

Cooler Present ___ Yes ___ No | Internal Use Only
Seals Intact ___ Yes ___ No NA: ___ [ ] Pickup
Cooler Temp: ____ [ ] Technicians ____

Preservation Code 1- NP, 2- HCl, 3- H_2SO_4, 4- HNO_3, 5- NaOH, 6- MeOH, 7- Asorbic Acid, 8- ZnAct, 9- ____
Sampled by:
Comments:

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
[signature]	8/8/13 1800	Fed Ex	8/8/13	[signature]			
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
		[signature]	8/9/13 1000				

*By circling MA-MCP, client acknowledges samples were collected in accordance with MADEP CAM VII A

Please fax all changes to Chain of Custody in writing.

1 (White) Lab Copy 2 (Yellow) Client Receipt

10/26/04 A

From: (401) 467-6454
Sample Receiving
ESS Lab
185 Frances Ave

Cranston, RI 02910

Origin ID: PVDA

FedEx Express

J13201306260326

Ship Date: 08AUG13
ActWgt: 47.0 LB
CAD: 105103550/INET3430

Delivery Address Bar Code

SHIP TO: (802) 660-1990 BILL SENDER

Sample Receiving
Test America
30 Community Dr
Ste 11
S BURLINGTON, VT 05403

Ref #
Invoice #
PO #
Dept #

FRI - 09 AUG 10:30A
PRIORITY OVERNIGHT

TRK# 0201 7964 2397 6923

EK BTVA

05403
VT-US
BTV

51AG1/09B9/1A9E

After printing this label:
1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.
Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com.FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery,misdelivery,or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim.Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental,consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss.Maximum for items of extraordinary value is $1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our ServiceGuide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

Login Sample Receipt Checklist

Client: ESS Laboratory

Job Number: 200-17862-4
SDG Number: 200-17862-4

Login Number: 17862
List Number: 1
Creator: Marion, Greg T

List Source: TestAmerica Burlington

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.4ºC IR GUN ID 181/CF=-0.2
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	False	Refer to Job Narrative for details.
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	Received extra samples not listed on COC.
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	False	Refer to Job Narrative for details.
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	N/A	
Residual Chlorine Checked.	N/A	

Sample and Cooler Receipt Checklist

Client: GZA GeoEnvironmental, Inc.
Client Project ID: _____
Shipped/Delivered Via: ESS Courier

ESS Project ID: 13080110
Date Project Due: 8/13/13
Days For Project: 4 Day

Items to be checked upon receipt:

1. Air Bill Manifest Present?	* No	10. Are the samples properly preserved?	Yes
Air No.:		11. Proper sample containers used?	Yes
2. Were Custody Seals Present?	No	12. Any air bubbles in the VOA vials?	N/A
3. Were Custody Seals Intact?	N/A	13. Holding times exceeded?	No
4. Is Radiation count < 100 CPM?	Yes	14. Sufficient sample volumes?	Yes
5. Is a cooler present?	Yes	15. Any Subcontracting needed?	* Yes
Cooler Temp: **4.1**		16. Are ESS labels on correct containers?	**Yes|No**
Iced With: **Ice**		17. Were samples received intact?	**Yes|No**
6. Was COC included with samples?	Yes	ESS Sample IDs: 1,3,6,7,9,11,12,14,18,no	
7. Was COC signed and dated by client?	Yes	Sub Lab: ~~Stuliy~~ NA	
8. Does the COC match the sample	Yes	Analysis: TOC	
9. Is COC complete and correct?	Yes	TAT: 4 day	

18. Was there need to call project manager to discuss status? If yes, please explain.

_____

_____

_____

Who was called?:_____ By whom? _____

Sample Number	Properly Preserved	Container Type	# of Containers	Preservative
1	Yes	4 oz Soil Jar	1	NP
1	Yes	8 oz Soil Jar	1	NP
2	Yes	2 oz Soil Jar	1	NP
2	Yes	4 oz Soil Jar	1	NP
2	Yes	8 oz Soil Jar	1	NP
3	Yes	4 oz Soil Jar	1	NP
3	Yes	8 oz Soil Jar	1	NP
4	Yes	4 oz Soil Jar	1	NP
4	Yes	8 oz Soil Jar	1	NP
5	Yes	2 oz Soil Jar	1	NP
5	Yes	4 oz Soil Jar	1	NP
5	Yes	8 oz Soil Jar	1	NP
6	Yes	2 oz Soil Jar	1	NP
6	Yes	4 oz Soil Jar	1	NP
6	Yes	8 oz Soil Jar	1	NP
7	Yes	4 oz Soil Jar	1	NP
7	Yes	8 oz Soil Jar	1	NP
8	Yes	4 oz Soil Jar	1	NP
8	Yes	8 oz Soil Jar	1	NP
9	Yes	2 oz Soil Jar	1	NP
9	Yes	4 oz Soil Jar	1	NP
9	Yes	8 oz Soil Jar	1	NP
10	Yes	4 oz Soil Jar	1	NP
10	Yes	8 oz Soil Jar	1	NP
11	Yes	4 oz Soil Jar	1	NP

Sample and Cooler Receipt Checklist

Client: GZA GeoEnvironmental, Inc. ESS Project ID: 13080110

11	Yes	8 oz Soil Jar	1	NP
12	Yes	2 oz Soil Jar	1	NP
12	Yes	4 oz Soil Jar	1	NP
12	Yes	8 oz Soil Jar	1	NP
13	Yes	4 oz Soil Jar	1	NP
13	Yes	8 oz Soil Jar	1	NP

Completed By: _____ Date/Time: 8/8/13 11:55

Reviewed By: _____ Date/Time: 8/8/13 1155

1 of 2

ESS Laboratory

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www.esslaboratory.com

CHAIN OF CUSTODY

ESS LAB PROJECT ID: 1308110

Turn Time ___x___Standard Rush_____ Approved By: _____

Reporting Limits - see prev. email correspondence

State where samples were collected: MA RI CT NH NJ NY ME Other_____

Is this project for any of the following: (please circle)
MA-MCP CT-RCP RGP DOD Other_____

Electonic Deliverable Yes__x__ No____
Format: Excel_x__ Access___ PDF___ Other_____

GZA Project Manager: David E. Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Avenue
Norwood, MA 02062
(781) 278-3700
PRESUMPTIVE CERTAINTY REQUIRED

Project # 171521.02
Project Name: Former Everett Staging Yard
Contract Pricing _____
Special Pricing WO#: _____

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	MCP 14 metals	B/N Phthalates Esters 8270	PAH 8270 SIM	EPH Fractions	PCBs	TOC by Lloyd Kahn					Comment #
						Analysis											
1	8/5/13	15:05	G	Sed	GZ-LC6 2-4'	2	X	X	X	X	X						
2	8/5/13	15:15	G	Sed	GZ-LC7 0-0.5'	2	X	X	X	X	X	X					
3	8/5/13	15:15	G	Sed	GZ-LC7 2-4'	2	X	X	X	X	X						
4	8/5/13	15:15	G	Sed	GZ-LC7 4-5'4"	2	X	X	X	X	X						
5	8/5/13	15:25	G	Sed	GZ-LC8 0-0.5'	2	X	X	X	X	X	X					
6	8/5/13	15:25	G	Sed	GZ-LC8 2-4'	2	X	X	X	X	X	X					
7	8/5/13	15:25	G	Sed	GZ-LC8 4-6'	2	X	X	X	X	X						
8	8/5/13	15:25	G	Sed	GZ-LC8 6-7'3"	2	X	X	X	X	X						
9	8/5/13	15:35	G	Sed	GZ-LC9 0-0.5'	2	X	X	X	X	X	X					
10 (DUP 8/7/13)	8/5/13	15:35	G	Sed	GZ-LC9 2-4'	2	X	X	X	X	X						
Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-_____																	
Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA							AG	AG	AG	AG	AG	AG					

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present ✓ Yes ____ No
Seals Intact ✓ Yes ____ No NA: BD
Cooler Temperature: 4.1 3 6 4.8 3 2 2.6

Sampled by : Dan Scanlon

Comments: Contract Price - 10%

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Walk-in	8/6/13 20:0	Bill Rocan 8/7/13 0530	Bill Rocan 8/7/13	1120	8/7/13 1300
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)

Please E-mail all changes to Chain of Custody in writing.

Page 15 of 16

ESS Laboratory
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185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS LAB PROJECT ID: 1308110

Turn Time ___x___ Standard Rush _____ Approved By: _____

Reporting Limits - see prev. email correspondence

State where samples were collected: MA RI CT NH NJ NY ME Other_____

Is this project for any of the following: (please circle)
MA-MCP CT-RCP RGP DOD Other_____

Electonic Deliverable Yes__x__ No____
Format: Excel_x__ Access___ PDF___ Other_____

GZA Project Manager: David E. Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Avenue
Norwood, MA 02062
(781) 278-3700
PRESUMPTIVE CERTAINTY REQUIRED

Project # 171521.02
Project Name: Former Everett Staging Yard
Contract Pricing _____
Special Pricing WO#: _____

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	MCP 14 metals	B/N Phthalates Esters 8270	PAH 8270 SIM	EPH Fractions	PCBs	TOC by Lloyd Kahn					Comment #
11	8/5/13	15:35	G	Sed	GZ-LC9 4-5'2"	2	X	X	X	X	X						
12	8/5/13	15:45	G	Sed	GZ-LC10 0-0.5'	2	X	X	X	X	X	X					
13	8/5/13	15:45	G	Sed	GZ-LC10 2-4'	2	X	X	X	X	X						

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-_____

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA — AG AG AG AG AG AG

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present ___Yes ___No
Seals Intact ___Yes ___No NA: BP
Cooler Temperature: 4-13.6 4.8 3226
5 coolers

Sampled by : Dan Scanlon
Comments: Contract Price - 10%

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
	5/6/13 0210	Bud Bedrosian 8/7/13 1030	Bud Bedrosian 8/7/13	1120	8/7/13 1800

Please E-mail all changes to Chain of Custody in writing.

CERTIFICATE OF ANALYSIS

David E Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Avenue
Norwood, MA 02062

RE: Everett (01.0171521.02)
ESS Laboratory Work Order Number: 1308242

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director

REVIEWED
By ESS Laboratory at 4:51 pm, Aug 16, 2013

Analytical Summary
The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with NELAC Standards, A2LA and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibratins, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308242

SAMPLE RECEIPT

The following samples were received on August 14, 2013 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has performed and reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Data Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

For EPH soil samples, the aromatic range results have been corrected for identified cartridge contaminant in accordance with the CAM protocol.

These samples were originally received on 7/31/13 as ESS Laboratory Sample IDs 1308004-03 & 1308004-04.

Lab Number	SampleName	Matrix	Analysis
1308242-01	Comp GZ-15 17 18	Soil	1311, 1311/7470A
1308242-02	Comp GZ-4 5B 6	Soil	1311, 1311/6010B

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308242

PROJECT NARRATIVE

No unusual observations noted.

End of Project Narrative.

DATA USABILITY LINKS

Definitions of Quality Control Parameters

Semivolatile Organics Internal Standard Information

Semivolatile Organics Surrogate Information

Volatile Organics Internal Standard Information

Volatile Organics Surrogate Information

EPH and VPH Alkane Lists

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308242

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

1010A - Flashpoint
6010C - ICP
6020A - ICP MS
7010 - Graphite Furnace
7196A - Hexavalent Chromium
7470A - Aqueous Mercury
7471B - Solid Mercury
8011 - EDB/DBCP/TCP
8015C - GRO/DRO
8081B - Pesticides
8082A - PCB
8100M - TPH
8151A - Herbicides
8260B - VOA
8270D - SVOA
8270D SIM - SVOA Low Level
9014 - Cyanide
9038 - Sulfate
9040C - Aqueous pH
9045D - Solid pH (Corrosivity)
9050A - Specific Conductance
9056A - Anions (IC)
9060A - TOC
9095B - Paint Filter
MADEP 04-1.1 - EPH / VPH

Prep Methods

3005A - Aqueous ICP Digestion
3020A - Aqueous Graphite Furnace / ICP MS Digestion
3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
3060A - Solid Hexavalent Chromium Digestion
3510C - Separatory Funnel Extraction
3520C - Liquid / Liquid Extraction
3540C - Manual Soxhlet Extraction
3541 - Automated Soxhlet Extraction
3580A - Waste Dilution
5030B - Aqueous Purge and Trap
5035 - Solid Purge and Trap

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: Comp GZ-15 17 18
Date Sampled: 07/31/13 13:53
Percent Solids: N/A

ESS Laboratory Work Order: 1308242
ESS Laboratory Sample ID: 1308242-01
Sample Matrix: Soil
Units: mg/L

Extraction Method: 245.1/7470A

TCLP Extraction Date: 8/5/13 17:15

1311 TCLP Metals

Analyte	Results (MRL)	MDL	Method	TCLP Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Mercury	ND (0.00050)		1311/7470A	0.2	1	KJK	08/15/13 13:03	20	40	CH31412

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: Comp GZ-15 17 18
Date Sampled: 07/31/13 13:53
Percent Solids: N/A
Initial Volume: 100
Final Volume: 2000
Extraction Method: 1311

ESS Laboratory Work Order: 1308242
ESS Laboratory Sample ID: 1308242-01
Sample Matrix: Soil
Units: °C
Analyst: BJV
Prepared: 8/5/13 17:15

TCLP Extraction by 1311

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Batch
Temperature (Min C)	**21.5** (N/A)		1311		1	BJV	08/06/13 9:22	CH30535
Temperature (Max C)	**23.5** (N/A)		1311		1	BJV	08/06/13 9:22	CH30535
Temperature (Range)	**Temperature is within 23 +/-2 ºC.** (N/A)							

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: Comp GZ-4 5B 6
Date Sampled: 07/31/13 09:04
Percent Solids: N/A

ESS Laboratory Work Order: 1308242
ESS Laboratory Sample ID: 1308242-02
Sample Matrix: Soil
Units: mg/L

Extraction Method: 3005A TCLP

TCLP Extraction Date: 8/5/13 17:15

1311 TCLP Metals

Analyte	Results (MRL)	MDL	Method	TCLP Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Arsenic	**0.207** (0.050)		1311/6010B	5	1	SVD	08/06/13 23:17	50	50	CH30625

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: Comp GZ-4 5B 6
Date Sampled: 07/31/13 09:04
Percent Solids: N/A
Initial Volume: 100
Final Volume: 2000
Extraction Method: 1311

ESS Laboratory Work Order: 1308242
ESS Laboratory Sample ID: 1308242-02
Sample Matrix: Soil
Units: °C
Analyst: BJV
Prepared: 8/5/13 17:15

TCLP Extraction by 1311

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Batch
Temperature (Min C)	**21.5** (N/A)		1311		1	BJV	08/06/13 9:22	CH30535
Temperature (Max C)	**23.5** (N/A)		1311		1	BJV	08/06/13 9:22	CH30535
Temperature (Range)	**Temperature is within 23 +/-2 ºC.** (N/A)							

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308242

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
1311 TCLP Metals										
Batch CH30625 - 3005A_TCLP										
Blank										
Arsenic	ND	0.050	mg/L							
LCS										
Arsenic	0.466	0.050	mg/L	0.5000		93	80-120			
LCS Dup										
Arsenic	0.476	0.050	mg/L	0.5000		95	80-120	2	20	
Batch CH31412 - 245.1/7470A										
Blank										
Mercury	ND	0.00050	mg/L							
Blank										
Mercury	ND	0.00050	mg/L							
LCS										
Mercury	0.00560	0.00050	mg/L	0.006000		93	80-120			
LCS Dup										
Mercury	0.00541	0.00050	mg/L	0.006000		90	80-120	4	20	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308242

Notes and Definitions

Z17	Temperature is within 23 +/-2 ºC.
U	Analyte included in the analysis, but not detected
ND	Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
I/V	Initial Volume
F/V	Final Volume
§	Subcontracted analysis; see attached report
1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of target analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.
Avg	Results reported as a mathematical average.
NR	No Recovery
[CALC]	Calculated Analyte
SUB	Subcontracted analysis; see attached report

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308242

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Department of Defense (DoD) Environmental Laboratory Accreditation Program (ELAP)
A2LA Accredited: Testing Cert# 2864.01
http://www.a2la.org/scopepdf/2864-01.pdf

Rhode Island Potable and Non Potable Water: LAI00179
http://www.health.ri.gov/labs/waterlabs-instate.php

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750
http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutofStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI0002
http://www.maine.gov/dep/blwq/topic/vessel/lab_list.pdf

Massachusetts Potable and Non Potable Water: M-RI002
http://public.dep.state.ma.us/labcert/labcert.aspx

New Hampshire (NELAP accredited) Potable and Non PotableWater, Solid and Hazardous Waste: 2424
http://www4.egov.nh.gov/des/nhelap/namesearch.asp

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313
http://www.wadsworth.org/labcert/elap/comm.html

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006
http://datamine2.state.nj.us/dep/DEP_OPRA/

United States Department of Agriculture Soil Permit: S-54210

Maryland Potable Water: 301
http://www.mde.state.md.us/assets/document/WSP_labs-2009apr20.pdf

CHEMISTRY

A2LA Accredited: Testing Cert # 2864.01
Lead in Paint, Phthalates, Lead in Children's Metals Products (Including Jewelry)
http://www.A2LA.org/dirsearchnew/newsearch.cfm

CPSC ID# 1141
Lead Paint, Lead in Children's Metals Jewelry
http://www.cpsc.gov/cgi-bin/labapplist.aspx

Sample and Cooler Receipt Checklist

Client: GZA GeoEnvironmental, Inc.
Client Project ID: _____
Shipped/Delivered Via: Client

ESS Project ID: 13080242
Date Project Due: 8/16/13
Days For Project: 2 Day

Items to be checked upon receipt:

1. Air Bill Manifest Present?	* No	10. Are the samples properly preserved?	Yes
Air No.:		11. Proper sample containers used?	Yes
2. Were Custody Seals Present?	No	12. Any air bubbles in the VOA vials?	N/A
3. Were Custody Seals Intact?	N/A	13. Holding times exceeded?	No
4. Is Radiation count < 100 CPM?	Yes	14. Sufficient sample volumes?	Yes
5. Is a cooler present?	Yes	15. Any Subcontracting needed?	No
Cooler Temp: **1.3**		16. Are ESS labels on correct containers?	(Yes) No
Iced With: **Ice**		17. Were samples received intact?	(Yes) No
6. Was COC included with samples?	Yes	ESS Sample IDs:	
7. Was COC signed and dated by client?	Yes	Sub Lab:	
8. Does the COC match the sample	Yes	Analysis:	
9. Is COC complete and correct?	Yes	TAT:	

18. Was there need to call project manager to discuss status? If yes, please explain.

Relog of B8004-03 + -04 cas 8/14/13

Who was called?:_____ By whom? _____

Sample Number	Properly Preserved	Container Type	# of Containers	Preservative
1	Yes	8 oz Soil Jar	1	NP
2	Yes	8 oz Soil Jar	1	NP

Completed By: _____ Date/Time: 8/14/13 1245
Reviewed By: _____ Date/Time: 8/14/13 13:10.

013080004-3
Preservative: NP
0100000000543291

013080004-4
Preservative: NP
0100000000543296

1308242

ESS Laboratory

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

1308004 2 3 Page 3 of 3 CCJ 8/1/13

Turn Time X Standard Other ____
If faster than 5 days, prior approval by laboratory is required # ____

State where samples were collected from:
MA RI CT NH NJ NY ME Other ____

Is this project for any of the following:
MA-MCP Navy USACE Other ____

Reporting Limits: Detection limits on GZA-ESS Emails

ESS LAB PROJECT ID: ~~1308002~~ 1308004 CCJ 8/1/13

Electronic Deliverable Yes ___ No ___ OT 8/2/13
Format Excel Access PDF Other ____

Co. Name	Project #	Project Name (20 Char. or less)
GZA GeoEnvironmental, Inc.	01.0171521.02	Everett

Contract Person	Address
Jason Chrzanowski Josh Zall David Cleone	249 Vanderbilt

City	State	Zip	PO#
Norwood	MA	02062	

Telephone #	Fax #	Email Address
781-278-3700		Joshua.Zall@gza.com David.Cleone@gza.com

ESS LAB Sample #	Date	Collection Time	COMP	GRAB	MATRIX	Sample Identification (20 Char. or less)	Pres Code	Number of Containers	Type of Containers	~~Semivolatiles~~	TCLP Hg	TCLP As	Write Required Analysis
1) 22(8)	7-31-13	1353	X		SOIL	Comp G2-15, 17, 18	1	8	6	X	X		
2) 22(9)	↓	0904	↓		↓	Comp G2-4, 5B, 6	↓	↓	↓	↓		X	
23(5)	↓	0955	↓		↓	~~Comp G2-1, 2, 3B~~	↓	↓	↓	↓			
24(6)	7-31-13	1147	X		SOIL	~~Comp G2-7, 9, 12~~	1	8	6	X			
~~8/1/13~~	7-31-13												
						Relog per client request 8/14/13 OT 2 DAY TAT							Relog

Container Type: P-Poly G-Glass S-Sterile V-VOA | Matrix: S-Soil SD-Solid D-Sludge WW-Waste Water GW-Ground Water SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filters

Cooler Present ✓ Yes ___ No Internal Use Only
Seals Intact ___ Yes ___ No NA: ___ [ ] Pickup
Cooler Temp: ✓ 1.3 & 4.8 ice [ ] Technicians ____

Preservation Code 1- NP, 2- HCl, 3- H_2SO_4, 4- HNO_3, 5- NaOH, 6- MeOH, 7- Asorbic Acid, 8- ZnAct, 9- ____

Sampled by: J. Chrzanowski, D. Scanlon

Comments: LL's frozen 0956 8/1/13 CCJ

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
Jason Chrzanowski GZA	7-31-13 1745		7/31/13 1820				
	7/31/13 1925		7/31/13 1932				

*By circling MA-MCP, client acknowledges samples were collected in accordance with MADEP CAM VII A

Please fax all changes to Chain of Custody in writing.

1 (White) Lab Copy 2 (Yellow) Client Receipt

10/26/04 A

CERTIFICATE OF ANALYSIS

David E Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Avenue
Norwood, MA 02062

RE: Everett (01.0171521.02)
ESS Laboratory Work Order Number: 1308485

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director

REVIEWED
By ESS Laboratory at 9:33 am, Aug 30, 2013

Analytical Summary
The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with NELAC Standards, A2LA and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibratins, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308485

SAMPLE RECEIPT

The following samples were received on August 22, 2013 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has performed and reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Data Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

For EPH soil samples, the aromatic range results have been corrected for identified cartridge contaminant in accordance with the CAM protocol.

Sample 1308485-01 was originally received on August 7, 2013 as ESS Laboratory Sample ID 1308098-12. Samples 1308485-02 and 1308485-03 were originally received on August 7, 2013 as ESS Laboratory Sample IDs 1308105-01 and 1308105-07. Sample 1308485-04 was originally received on August 7, 2013 as ESS Laboratory Sample ID 1308106-17. Samples 1308485-05 and 1308485-06 were originally received on August 7, 2013 as ESS Laboratory Sample IDs 1308108-05 and 1308108-13. Samples 1308485-07, 1308485-08 and 1308485-09 were originally received on August 7, 2013 as ESS Laboratory Sample IDs 1308109-07, 1308109-09 and 1308109-09.

Question I: All samples for SVOA were analyzed for a subset of the required MCP list per the client's request.

Lab Number	SampleName	Matrix	Analysis
1308485-01	GZ-104T 0-0.5ft	Soil	8081B
1308485-02	GZ-114T 0-0.5ft	Soil	8081B
1308485-03	GZ-116T 0-0.5ft	Soil	8081B
1308485-04	GZ-126T 0-0.5ft	Soil	8081B
1308485-05	GZ-135T 0-0.5ft	Soil	8081B, 8082A, 8270D, EPH8270, MADEP-EPH
1308485-06	GZ-137T 0-0.5ft	Soil	8081B
1308485-07	GZ-LC1 T 0-0.5ft	Soil	8081B
1308485-08	GZ-LC2 T 0-0.5ft	Soil	8081B
1308485-09	GZ-LC3 T 0-0.5ft	Soil	8081B

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308485

PROJECT NARRATIVE

8081A Organochlorine Pesticides

1308485-01	**Estimated value. Sample hold times were exceeded (H).**
1308485-01	**Lower value is used due to matrix interferences (LC).**
	4,4′-DDE [2C] , 4,4′-DDT , Endrin Ketone
1308485-01	**Percent difference between primary and confirmation results exceeds 40% (P).**
	4,4′-DDE [2C] , 4,4′-DDT , Endrin Ketone
1308485-02	**Estimated value. Sample hold times were exceeded (H).**
1308485-02	**Lower value is used due to matrix interferences (LC).**
	4,4′-DDE [2C] , 4,4′-DDT , Endrin Ketone
1308485-02	**Percent difference between primary and confirmation results exceeds 40% (P).**
	4,4′-DDE [2C] , 4,4′-DDT , Endrin Ketone
1308485-03	**Estimated value. Sample hold times were exceeded (H).**
1308485-03	**Lower value is used due to matrix interferences (LC).**
	4,4′-DDE [2C] , 4,4′-DDT , Endrin Ketone
1308485-03	**Percent difference between primary and confirmation results exceeds 40% (P).**
	4,4′-DDE [2C] , 4,4′-DDT , Endrin Ketone
1308485-04	**Estimated value. Sample hold times were exceeded (H).**
1308485-05	**Estimated value. Sample hold times were exceeded (H).**
1308485-06	**Estimated value. Sample hold times were exceeded (H).**
1308485-06	**Lower value is used due to matrix interferences (LC).**
	4,4′-DDE [2C] , 4,4′-DDT , Endrin Ketone
1308485-06	**Percent difference between primary and confirmation results exceeds 40% (P).**
	4,4′-DDE [2C] , 4,4′-DDT , Endrin Ketone
1308485-07	**Estimated value. Sample hold times were exceeded (H).**
1308485-07	**Lower value is used due to matrix interferences (LC).**
	4,4′-DDE [2C] , 4,4′-DDT , Endrin Ketone
1308485-07	**Percent difference between primary and confirmation results exceeds 40% (P).**
	4,4′-DDE [2C] , 4,4′-DDT , Endrin Ketone
1308485-07	**Surrogate recovery(ies) outside of criteria due to matrix (UCM/coelution/matrix is present) (SM).**
	Decachlorobiphenyl (206% @ 30-150%), Decachlorobiphenyl [2C] (236% @ 30-150%)
1308485-08	**Estimated value. Sample hold times were exceeded (H).**
1308485-08	**Lower value is used due to matrix interferences (LC).**
	4,4′-DDD [2C] , 4,4′-DDT , Endosulfan II , Endosulfan Sulfate , Heptachlor
1308485-08	**Percent difference between primary and confirmation results exceeds 40% (P).**
	4,4′-DDD [2C] , 4,4′-DDT , Endosulfan II , Endosulfan Sulfate , Heptachlor
1308485-08	**Surrogate recovery(ies) outside of criteria due to matrix (UCM/coelution/matrix is present) (SM).**
	Decachlorobiphenyl (1950% @ 30-150%), Decachlorobiphenyl [2C] (4310% @ 30-150%)
1308485-09	**Estimated value. Sample hold times were exceeded (H).**
1308485-09	**Lower value is used due to matrix interferences (LC).**
	4,4′-DDE [2C] , 4,4′-DDT , Endosulfan II , Endosulfan Sulfate , Endrin Ketone
1308485-09	**Percent difference between primary and confirmation results exceeds 40% (P).**

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett ESS Laboratory Work Order: 1308485

4,4′-DDE [2C] , 4,4′-DDT , Endosulfan II , Endosulfan Sulfate , Endrin Ketone

1308485-09 **Surrogate recovery(ies) outside of criteria due to matrix (UCM/coelution/matrix is present) (SM).**
Decachlorobiphenyl (177% @ 30-150%), Decachlorobiphenyl [2C] (203% @ 30-150%)

CWH0375-CCV5 **Continuing Calibration recovery is above upper control limit (C+).**
4,4′-DDT [2C] (130% @ 80-120%), Methoxychlor (127% @ 80-120%), Methoxychlor [2C] (128% @ 80-120%)

8270D Semi-Volatile Organic Compounds

1308485-05 **Estimated value. Sample hold times were exceeded (H).**

CWH0311-CCV1 **Calibration required quadratic regression (Q).**
Benzoic Acid (110% @ 70-130%), Hexachlorocyclopentadiene (91% @ 70-130%), Pentachlorophenol (111% @ 80-120%)

CWH0311-CCV1 **Initial Calibration Verification recovery is outside of control limit (ICV).**
Benzidine , Benzoic Acid

8270D(SIM) Polynuclear Aromatic Hydrocarbons

1308485-05 **Elevated Method Reporting Limits due to sample matrix (EL).**

1308485-05 **Estimated value. Sample hold times were exceeded (H).**

CH32307-BSD1 **Relative percent difference for duplicate is outside of criteria (D+).**
Benzo(b)fluoranthene (32%), Benzo(g,h,i)perylene (32%), Fluoranthene (31%)

MADEP-EPH Extractable Petroleum Hydrocarbons

1308485-05 **Estimated value. Sample hold times were exceeded (H).**

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

Definitions of Quality Control Parameters

Semivolatile Organics Internal Standard Information

Semivolatile Organics Surrogate Information

Volatile Organics Internal Standard Information

Volatile Organics Surrogate Information

EPH and VPH Alkane Lists

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308485

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

1010A - Flashpoint
6010C - ICP
6020A - ICP MS
7010 - Graphite Furnace
7196A - Hexavalent Chromium
7470A - Aqueous Mercury
7471B - Solid Mercury
8011 - EDB/DBCP/TCP
8015C - GRO/DRO
8081B - Pesticides
8082A - PCB
8100M - TPH
8151A - Herbicides
8260B - VOA
8270D - SVOA
8270D SIM - SVOA Low Level
9014 - Cyanide
9038 - Sulfate
9040C - Aqueous pH
9045D - Solid pH (Corrosivity)
9050A - Specific Conductance
9056A - Anions (IC)
9060A - TOC
9095B - Paint Filter
MADEP 04-1.1 - EPH / VPH

Prep Methods

3005A - Aqueous ICP Digestion
3020A - Aqueous Graphite Furnace / ICP MS Digestion
3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
3060A - Solid Hexavalent Chromium Digestion
3510C - Separatory Funnel Extraction
3520C - Liquid / Liquid Extraction
3540C - Manual Soxhlet Extraction
3541 - Automated Soxhlet Extraction
3580A - Waste Dilution
5030B - Aqueous Purge and Trap
5035 - Solid Purge and Trap

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308485

MassDEP Analytical Protocol Certification Form

MADEP RTN: _____

This form provides certification for the following data set: **1308485-01 through 1308485-09**

Matrices: ( ) Ground Water/Surface Water (X) Soil/Sediment ( ) Drinking Water ( ) Air ( ) Other:_____

CAM Protocol (check all that apply below):

( ) 8260 VOC CAM II A	( ) 7470/7471 Hg CAM III B	( ) MassDEP VPH CAM IV A	(X) 8081 Pesticides CAM V B	( ) 7196 Hex Cr CAM VI B	( ) MassDEP APH CAM IX A
(X) 8270 SVOC CAM II B	( ) 7010 Metals CAM III C	(X) MassDEP EPH CAM IV B	( ) 8151 Herbicides CAM V C	( ) 8330 Explosives CAM VIII A	( ) TO-15 VOC CAM IX B
( ) 6010 Metals CAM III A	( ) 6020 Metals CAM III D	(X) 8082 PCB CAM V A	( ) 6860 Perchlorate CAM VIII B	( ) 9014 Total Cyanide/PAC CAM VI A	

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	Yes ( ) No (X)
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	Yes (X) No ( )
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	Yes (X) No ( )
D	Does the laboratory report comply with all the reporting requirements specified in the CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	Yes (X) No ( )
E	a. VPH, EPH, APH and TO-15 only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	Yes (X) No ( )
	b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	Yes ( ) No ( )
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	Yes (X) No ( )

Responses to Questions G, H and I below are required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocols(s)?	Yes (X) No ( )*
	***Data User Note:* Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.**	
H	Were **all** QC performance standards specified in the CAM protocol(s) achieved?	Yes ( ) No (X)*
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	Yes ( ) No (X)*

***All negative responses must be addressed in an attached laboratory narrative.**

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: _____ Date: August 30, 2013

Printed Name: Laurel Stoddard Position: Laboratory Director

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-104T 0-0.5ft
Date Sampled: 08/06/13 09:12
Percent Solids: 43
Initial Volume: 19.8
Final Volume: 5
Extraction Method: 3546

ESS Laboratory Work Order: 1308485
ESS Laboratory Sample ID: 1308485-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 8/23/13 10:45

8081A Organochlorine Pesticides

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
4,4´-DDD	ND (0.0058)		8081B		1	08/27/13 15:30	CWH0348	CH32304
4,4´-DDE [2C]	**LC, P 0.0101** (0.0058)		8081B		1	08/27/13 15:30	CWH0348	CH32304
4,4´-DDT	**LC, P 0.0082** (0.0058)		8081B		1	08/27/13 15:30	CWH0348	CH32304
Aldrin	ND (0.0058)		8081B		1	08/27/13 15:30	CWH0348	CH32304
alpha-BHC	ND (0.0058)		8081B		1	08/27/13 15:30	CWH0348	CH32304
alpha-Chlordane [2C]	ND (0.0058)		8081B		1	08/27/13 15:30	CWH0348	CH32304
beta-BHC	ND (0.0058)		8081B		1	08/27/13 15:30	CWH0348	CH32304
Chlordane (Total)	ND (0.0465)		8081B		1	08/27/13 15:30	CWH0348	CH32304
delta-BHC	ND (0.0058)		8081B		1	08/27/13 15:30	CWH0348	CH32304
Dieldrin	ND (0.0058)		8081B		1	08/27/13 15:30	CWH0348	CH32304
Endosulfan I	ND (0.0058)		8081B		1	08/27/13 15:30	CWH0348	CH32304
Endosulfan II	ND (0.0058)		8081B		1	08/27/13 15:30	CWH0348	CH32304
Endosulfan Sulfate	ND (0.0058)		8081B		1	08/27/13 15:30	CWH0348	CH32304
Endrin	ND (0.0058)		8081B		1	08/27/13 15:30	CWH0348	CH32304
Endrin Ketone	**LC, P 0.0089** (0.0058)		8081B		1	08/27/13 15:30	CWH0348	CH32304
gamma-BHC (Lindane)	ND (0.0035)		8081B		1	08/27/13 15:30	CWH0348	CH32304
gamma-Chlordane	ND (0.0058)		8081B		1	08/27/13 15:30	CWH0348	CH32304
Heptachlor	ND (0.0058)		8081B		1	08/27/13 15:30	CWH0348	CH32304
Heptachlor Epoxide	ND (0.0058)		8081B		1	08/27/13 15:30	CWH0348	CH32304
Hexachlorobenzene	ND (0.0058)		8081B		1	08/27/13 15:30	CWH0348	CH32304
Methoxychlor	ND (0.0058)		8081B		1	08/27/13 15:30	CWH0348	CH32304
Toxaphene	ND (0.291)		8081B		1	08/27/13 15:30	CWH0348	CH32304
Toxaphene [2C]	ND (0.291)		8081B		1	08/27/13 15:30	CWH0348	CH32304

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*103 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*119 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*80 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*82 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-114T 0-0.5ft
Date Sampled: 08/06/13 09:55
Percent Solids: 31
Initial Volume: 19.7
Final Volume: 5
Extraction Method: 3546

ESS Laboratory Work Order: 1308485
ESS Laboratory Sample ID: 1308485-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 8/23/13 10:45

8081A Organochlorine Pesticides

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
4,4´-DDD	**0.0172** (0.0082)		8081B		1	08/27/13 16:00	CWH0348	CH32304
4,4´-DDE [2C]	**LC, P 0.0098** (0.0082)		8081B		1	08/27/13 16:00	CWH0348	CH32304
4,4´-DDT	**LC, P 0.0124** (0.0082)		8081B		1	08/27/13 16:00	CWH0348	CH32304
Aldrin	ND (0.0082)		8081B		1	08/27/13 16:00	CWH0348	CH32304
alpha-BHC	ND (0.0082)		8081B		1	08/27/13 16:00	CWH0348	CH32304
alpha-Chlordane	ND (0.0082)		8081B		1	08/27/13 16:00	CWH0348	CH32304
beta-BHC	ND (0.0082)		8081B		1	08/27/13 16:00	CWH0348	CH32304
Chlordane (Total)	ND (0.0658)		8081B		1	08/27/13 16:00	CWH0348	CH32304
delta-BHC	ND (0.0082)		8081B		1	08/27/13 16:00	CWH0348	CH32304
Dieldrin [2C]	ND (0.0082)		8081B		1	08/27/13 16:00	CWH0348	CH32304
Endosulfan I	ND (0.0082)		8081B		1	08/27/13 16:00	CWH0348	CH32304
Endosulfan II	ND (0.0082)		8081B		1	08/27/13 16:00	CWH0348	CH32304
Endosulfan Sulfate	ND (0.0082)		8081B		1	08/27/13 16:00	CWH0348	CH32304
Endrin	ND (0.0082)		8081B		1	08/27/13 16:00	CWH0348	CH32304
Endrin Ketone	**LC, P 0.0105** (0.0082)		8081B		1	08/27/13 16:00	CWH0348	CH32304
gamma-BHC (Lindane)	ND (0.0049)		8081B		1	08/27/13 16:00	CWH0348	CH32304
gamma-Chlordane	ND (0.0082)		8081B		1	08/27/13 16:00	CWH0348	CH32304
Heptachlor	ND (0.0082)		8081B		1	08/27/13 16:00	CWH0348	CH32304
Heptachlor Epoxide	ND (0.0082)		8081B		1	08/27/13 16:00	CWH0348	CH32304
Hexachlorobenzene	ND (0.0082)		8081B		1	08/27/13 16:00	CWH0348	CH32304
Methoxychlor	ND (0.0082)		8081B		1	08/27/13 16:00	CWH0348	CH32304
Toxaphene	ND (0.411)		8081B		1	08/27/13 16:00	CWH0348	CH32304
Toxaphene [2C]	ND (0.411)		8081B		1	08/27/13 16:00	CWH0348	CH32304

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*102 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*135 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*79 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*83 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-116T 0-0.5ft
Date Sampled: 08/06/13 10:55
Percent Solids: 49
Initial Volume: 20.3
Final Volume: 5
Extraction Method: 3546

ESS Laboratory Work Order: 1308485
ESS Laboratory Sample ID: 1308485-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 8/23/13 10:45

8081A Organochlorine Pesticides

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
4,4´-DDD	ND (0.0050)		8081B		1	08/27/13 16:30	CWH0348	CH32304
4,4´-DDE [2C]	**LC, P 0.0093** (0.0050)		8081B		1	08/27/13 16:30	CWH0348	CH32304
4,4´-DDT	**LC, P 0.0235** (0.0050)		8081B		1	08/27/13 16:30	CWH0348	CH32304
Aldrin	ND (0.0050)		8081B		1	08/27/13 16:30	CWH0348	CH32304
alpha-BHC	ND (0.0050)		8081B		1	08/27/13 16:30	CWH0348	CH32304
alpha-Chlordane	ND (0.0050)		8081B		1	08/27/13 16:30	CWH0348	CH32304
beta-BHC	ND (0.0050)		8081B		1	08/27/13 16:30	CWH0348	CH32304
Chlordane (Total)	ND (0.0401)		8081B		1	08/27/13 16:30	CWH0348	CH32304
delta-BHC	ND (0.0050)		8081B		1	08/27/13 16:30	CWH0348	CH32304
Dieldrin	ND (0.0050)		8081B		1	08/27/13 16:30	CWH0348	CH32304
Endosulfan I	ND (0.0050)		8081B		1	08/27/13 16:30	CWH0348	CH32304
Endosulfan II	ND (0.0050)		8081B		1	08/27/13 16:30	CWH0348	CH32304
Endosulfan Sulfate	ND (0.0050)		8081B		1	08/27/13 16:30	CWH0348	CH32304
Endrin	ND (0.0050)		8081B		1	08/27/13 16:30	CWH0348	CH32304
Endrin Ketone	**LC, P 0.0072** (0.0050)		8081B		1	08/27/13 16:30	CWH0348	CH32304
gamma-BHC (Lindane)	ND (0.0030)		8081B		1	08/27/13 16:30	CWH0348	CH32304
gamma-Chlordane	ND (0.0050)		8081B		1	08/27/13 16:30	CWH0348	CH32304
Heptachlor	**0.0100** (0.0050)		8081B		1	08/27/13 16:30	CWH0348	CH32304
Heptachlor Epoxide	ND (0.0050)		8081B		1	08/27/13 16:30	CWH0348	CH32304
Hexachlorobenzene	ND (0.0050)		8081B		1	08/27/13 16:30	CWH0348	CH32304
Methoxychlor	ND (0.0050)		8081B		1	08/27/13 16:30	CWH0348	CH32304
Toxaphene	ND (0.251)		8081B		1	08/27/13 16:30	CWH0348	CH32304
Toxaphene [2C]	ND (0.251)		8081B		1	08/27/13 16:30	CWH0348	CH32304

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*105 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*134 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*83 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*85 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-126T 0-0.5ft
Date Sampled: 08/06/13 10:15
Percent Solids: 67
Initial Volume: 19.9
Final Volume: 5
Extraction Method: 3546

ESS Laboratory Work Order: 1308485
ESS Laboratory Sample ID: 1308485-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 8/23/13 10:45

8081A Organochlorine Pesticides

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
4,4´-DDD	ND (0.0038)		8081B		1	08/27/13 17:01	CWH0348	CH32304
4,4´-DDE	ND (0.0038)		8081B		1	08/27/13 17:01	CWH0348	CH32304
4,4´-DDT	ND (0.0038)		8081B		1	08/27/13 17:01	CWH0348	CH32304
Aldrin	ND (0.0038)		8081B		1	08/27/13 17:01	CWH0348	CH32304
alpha-BHC	ND (0.0038)		8081B		1	08/27/13 17:01	CWH0348	CH32304
alpha-Chlordane	ND (0.0038)		8081B		1	08/27/13 17:01	CWH0348	CH32304
beta-BHC	ND (0.0038)		8081B		1	08/27/13 17:01	CWH0348	CH32304
Chlordane (Total)	ND (0.0300)		8081B		1	08/27/13 17:01	CWH0348	CH32304
delta-BHC	ND (0.0038)		8081B		1	08/27/13 17:01	CWH0348	CH32304
Dieldrin	ND (0.0038)		8081B		1	08/27/13 17:01	CWH0348	CH32304
Endosulfan I	ND (0.0038)		8081B		1	08/27/13 17:01	CWH0348	CH32304
Endosulfan II	ND (0.0038)		8081B		1	08/27/13 17:01	CWH0348	CH32304
Endosulfan Sulfate	ND (0.0038)		8081B		1	08/27/13 17:01	CWH0348	CH32304
Endrin	ND (0.0038)		8081B		1	08/27/13 17:01	CWH0348	CH32304
Endrin Ketone	ND (0.0038)		8081B		1	08/27/13 17:01	CWH0348	CH32304
gamma-BHC (Lindane)	ND (0.0023)		8081B		1	08/27/13 17:01	CWH0348	CH32304
gamma-Chlordane	ND (0.0038)		8081B		1	08/27/13 17:01	CWH0348	CH32304
Heptachlor	ND (0.0038)		8081B		1	08/27/13 17:01	CWH0348	CH32304
Heptachlor Epoxide	ND (0.0038)		8081B		1	08/27/13 17:01	CWH0348	CH32304
Hexachlorobenzene	ND (0.0038)		8081B		1	08/27/13 17:01	CWH0348	CH32304
Methoxychlor	ND (0.0038)		8081B		1	08/27/13 17:01	CWH0348	CH32304
Toxaphene	ND (0.188)		8081B		1	08/27/13 17:01	CWH0348	CH32304
Toxaphene [2C]	ND (0.188)		8081B		1	08/27/13 17:01	CWH0348	CH32304

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*100 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*106 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*80 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*72 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-135T 0-0.5ft
Date Sampled: 08/06/13 08:23
Percent Solids: 66
Initial Volume: 20.5
Final Volume: 5
Extraction Method: 3546

ESS Laboratory Work Order: 1308485
ESS Laboratory Sample ID: 1308485-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: SEP
Prepared: 8/23/13 10:45

8081A Organochlorine Pesticides

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
4,4´-DDD	ND (0.0037)		8081B		1	08/26/13 3:34	CWH0327	CH32304
4,4´-DDE [2C]	ND (0.0037)		8081B		1	08/26/13 3:34	CWH0327	CH32304
4,4´-DDT	ND (0.0037)		8081B		1	08/26/13 3:34	CWH0327	CH32304
Aldrin	ND (0.0037)		8081B		1	08/26/13 3:34	CWH0327	CH32304
alpha-BHC	ND (0.0037)		8081B		1	08/26/13 3:34	CWH0327	CH32304
alpha-Chlordane	ND (0.0037)		8081B		1	08/26/13 3:34	CWH0327	CH32304
beta-BHC	ND (0.0037)		8081B		1	08/26/13 3:34	CWH0327	CH32304
Chlordane (Total)	ND (0.0295)		8081B		1	08/26/13 3:34	CWH0327	CH32304
delta-BHC	ND (0.0037)		8081B		1	08/26/13 3:34	CWH0327	CH32304
Dieldrin	ND (0.0037)		8081B		1	08/26/13 3:34	CWH0327	CH32304
Endosulfan I	ND (0.0037)		8081B		1	08/26/13 3:34	CWH0327	CH32304
Endosulfan II	ND (0.0037)		8081B		1	08/26/13 3:34	CWH0327	CH32304
Endosulfan Sulfate	ND (0.0037)		8081B		1	08/26/13 3:34	CWH0327	CH32304
Endrin	ND (0.0037)		8081B		1	08/26/13 3:34	CWH0327	CH32304
Endrin Ketone	ND (0.0037)		8081B		1	08/26/13 3:34	CWH0327	CH32304
gamma-BHC (Lindane)	ND (0.0022)		8081B		1	08/26/13 3:34	CWH0327	CH32304
gamma-Chlordane	ND (0.0037)		8081B		1	08/26/13 3:34	CWH0327	CH32304
Heptachlor	ND (0.0037)		8081B		1	08/26/13 3:34	CWH0327	CH32304
Heptachlor Epoxide	ND (0.0037)		8081B		1	08/26/13 3:34	CWH0327	CH32304
Hexachlorobenzene	ND (0.0037)		8081B		1	08/26/13 3:34	CWH0327	CH32304
Methoxychlor	ND (0.0037)		8081B		1	08/26/13 3:34	CWH0327	CH32304
Toxaphene	ND (0.185)		8081B		1	08/26/13 3:34	CWH0327	CH32304
Toxaphene [2C]	ND (0.185)		8081B		1	08/26/13 3:34	CWH0327	CH32304

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*95 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*95 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*74 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*72 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-135T 0-0.5ft
Date Sampled: 08/06/13 08:23
Percent Solids: 66
Initial Volume: 19.5
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1308485
ESS Laboratory Sample ID: 1308485-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 8/23/13 18:00
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0776)		8082A		1	08/29/13 13:44		CH32939
Aroclor 1221	ND (0.0776)		8082A		1	08/29/13 13:44		CH32939
Aroclor 1232	ND (0.0776)		8082A		1	08/29/13 13:44		CH32939
Aroclor 1242	ND (0.0776)		8082A		1	08/29/13 13:44		CH32939
Aroclor 1248	**0.107** (0.0776)		8082A		1	08/29/13 13:44		CH32939
Aroclor 1254	**0.170** (0.0776)		8082A		1	08/29/13 13:44		CH32939
Aroclor 1260	**0.0862** (0.0776)		8082A		1	08/29/13 13:44		CH32939
Aroclor 1262	ND (0.0776)		8082A		1	08/29/13 13:44		CH32939
Aroclor 1268	ND (0.0776)		8082A		1	08/29/13 13:44		CH32939

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*104 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*104 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*94 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*106 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-135T 0-0.5ft
Date Sampled: 08/06/13 08:23
Percent Solids: 66
Initial Volume: 15.5
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308485
ESS Laboratory Sample ID: 1308485-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/23/13 8:50

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.488)		8270D		1	08/23/13 11:47	CWH0311	CH32305
1,2-Dichlorobenzene	ND (0.488)		8270D		1	08/23/13 11:47	CWH0311	CH32305
1,3-Dichlorobenzene	ND (0.488)		8270D		1	08/23/13 11:47	CWH0311	CH32305
1,4-Dichlorobenzene	ND (0.488)		8270D		1	08/23/13 11:47	CWH0311	CH32305
2-Methylnaphthalene	ND (0.488)		8270D		1	08/23/13 11:47	CWH0311	CH32305
2-Methylphenol	ND (0.488)		8270D		1	08/23/13 11:47	CWH0311	CH32305
Acenaphthene	ND (0.488)		8270D		1	08/23/13 11:47	CWH0311	CH32305
Acenaphthylene	ND (0.488)		8270D		1	08/23/13 11:47	CWH0311	CH32305
Anthracene	ND (0.488)		8270D		1	08/23/13 11:47	CWH0311	CH32305
Benzo(a)anthracene	ND (0.488)		8270D		1	08/23/13 11:47	CWH0311	CH32305
Benzo(a)pyrene	ND (0.245)		8270D		1	08/23/13 11:47	CWH0311	CH32305
Benzo(b)fluoranthene	ND (0.488)		8270D		1	08/23/13 11:47	CWH0311	CH32305
Benzo(g,h,i)perylene	ND (0.488)		8270D		1	08/23/13 11:47	CWH0311	CH32305
Benzo(k)fluoranthene	ND (0.488)		8270D		1	08/23/13 11:47	CWH0311	CH32305
bis(2-Ethylhexyl)phthalate	**0.506** (0.488)		8270D		1	08/23/13 11:47	CWH0311	CH32305
Butylbenzylphthalate	ND (0.488)		8270D		1	08/23/13 11:47	CWH0311	CH32305
Carbazole	ND (0.488)		8270D		1	08/23/13 11:47	CWH0311	CH32305
Chrysene	ND (0.245)		8270D		1	08/23/13 11:47	CWH0311	CH32305
Dibenzo(a,h)Anthracene	ND (0.245)		8270D		1	08/23/13 11:47	CWH0311	CH32305
Dibenzofuran	ND (0.488)		8270D		1	08/23/13 11:47	CWH0311	CH32305
Diethylphthalate	ND (0.488)		8270D		1	08/23/13 11:47	CWH0311	CH32305
Dimethylphthalate	ND (0.488)		8270D		1	08/23/13 11:47	CWH0311	CH32305
Di-n-butylphthalate	ND (0.488)		8270D		1	08/23/13 11:47	CWH0311	CH32305
Di-n-octylphthalate	ND (0.488)		8270D		1	08/23/13 11:47	CWH0311	CH32305
Fluoranthene	ND (0.488)		8270D		1	08/23/13 11:47	CWH0311	CH32305
Fluorene	ND (0.488)		8270D		1	08/23/13 11:47	CWH0311	CH32305
Hexachlorobenzene	ND (0.488)		8270D		1	08/23/13 11:47	CWH0311	CH32305
Hexachlorocyclopentadiene	ND (2.45)		8270D		1	08/23/13 11:47	CWH0311	CH32305
Indeno(1,2,3-cd)Pyrene	ND (0.488)		8270D		1	08/23/13 11:47	CWH0311	CH32305
Naphthalene	ND (0.488)		8270D		1	08/23/13 11:47	CWH0311	CH32305
Phenanthrene	ND (0.488)		8270D		1	08/23/13 11:47	CWH0311	CH32305

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-135T 0-0.5ft
Date Sampled: 08/06/13 08:23
Percent Solids: 66
Initial Volume: 15.5
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1308485
ESS Laboratory Sample ID: 1308485-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/23/13 8:50

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Phenol	ND (0.488)		8270D		1	08/23/13 11:47	CWH0311	CH32305
Pyrene	ND (0.488)		8270D		1	08/23/13 11:47	CWH0311	CH32305

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*58 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*86 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*60 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*69 %*		*30-130*
Surrogate: 2-Fluorophenol	*57 %*		*30-130*
Surrogate: Nitrobenzene-d5	*61 %*		*30-130*
Surrogate: Phenol-d6	*61 %*		*30-130*
Surrogate: p-Terphenyl-d14	*83 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-135T 0-0.5ft
Date Sampled: 08/06/13 08:23
Percent Solids: 66
Initial Volume: 15
Final Volume: 0.5
Extraction Method: 3510C

ESS Laboratory Work Order: 1308485
ESS Laboratory Sample ID: 1308485-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/23/13 9:00

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.063)		8270D		5	08/26/13 10:27	CWH0331	CH32307
Acenaphthene	ND (0.063)		8270D		5	08/26/13 10:27	CWH0331	CH32307
Acenaphthylene	ND (0.063)		8270D		5	08/26/13 10:27	CWH0331	CH32307
Anthracene	ND (0.063)		8270D		5	08/26/13 10:27	CWH0331	CH32307
Benzo(a)anthracene	**0.114** (0.063)		8270D		5	08/26/13 10:27	CWH0331	CH32307
Benzo(a)pyrene	**0.124** (0.063)		8270D		5	08/26/13 10:27	CWH0331	CH32307
Benzo(b)fluoranthene	**0.202** (0.063)		8270D		5	08/26/13 10:27	CWH0331	CH32307
Benzo(g,h,i)perylene	**0.101** (0.063)		8270D		5	08/26/13 10:27	CWH0331	CH32307
Benzo(k)fluoranthene	**0.071** (0.063)		8270D		5	08/26/13 10:27	CWH0331	CH32307
Chrysene	**0.154** (0.063)		8270D		5	08/26/13 10:27	CWH0331	CH32307
Dibenzo(a,h)Anthracene	ND (0.063)		8270D		5	08/26/13 10:27	CWH0331	CH32307
Fluoranthene	**0.237** (0.063)		8270D		5	08/26/13 10:27	CWH0331	CH32307
Fluorene	ND (0.063)		8270D		5	08/26/13 10:27	CWH0331	CH32307
Indeno(1,2,3-cd)Pyrene	**0.116** (0.063)		8270D		5	08/26/13 10:27	CWH0331	CH32307
Naphthalene	ND (0.063)		8270D		5	08/26/13 10:27	CWH0331	CH32307
Phenanthrene	**0.093** (0.063)		8270D		5	08/26/13 10:27	CWH0331	CH32307
Pyrene	**0.212** (0.063)		8270D		5	08/26/13 10:27	CWH0331	CH32307

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*52 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*68 %*		*30-130*
Surrogate: Nitrobenzene-d5	*56 %*		*30-130*
Surrogate: p-Terphenyl-d14	*84 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-135T 0-0.5ft
Date Sampled: 08/06/13 08:23
Percent Solids: 66
Initial Volume: 24.8
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1308485
ESS Laboratory Sample ID: 1308485-05
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 8/23/13 9:30

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	ND (22.9)		MADEP-EPH		1	TAJ	08/23/13 17:29	CWH0314	CH32306
C19-C36 Aliphatics1	ND (22.9)		MADEP-EPH		1	TAJ	08/23/13 17:29	CWH0314	CH32306
C11-C22 Unadjusted Aromatics1	ND (22.9)		EPH8270		1	VSC	08/23/13 17:01	CWH0313	CH32306
C11-C22 Aromatics1,2	ND (22.9)		EPH8270			VSC	08/23/13 17:01		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*72 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*55 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*75 %*		*40-140*
Surrogate: O-Terphenyl	*72 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-137T 0-0.5ft
Date Sampled: 08/06/13 08:30
Percent Solids: 49
Initial Volume: 20
Final Volume: 5
Extraction Method: 3546

ESS Laboratory Work Order: 1308485
ESS Laboratory Sample ID: 1308485-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 8/23/13 10:45

8081A Organochlorine Pesticides

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
4,4´-DDD	ND (0.0051)		8081B		1	08/27/13 17:31	CWH0348	CH32304
4,4´-DDE [2C]	**LC, P 0.0129** (0.0051)		8081B		1	08/27/13 17:31	CWH0348	CH32304
4,4´-DDT	**LC, P 0.0121** (0.0051)		8081B		1	08/27/13 17:31	CWH0348	CH32304
Aldrin	ND (0.0051)		8081B		1	08/27/13 17:31	CWH0348	CH32304
alpha-BHC	ND (0.0051)		8081B		1	08/27/13 17:31	CWH0348	CH32304
alpha-Chlordane	**0.0075** (0.0051)		8081B		1	08/27/13 17:31	CWH0348	CH32304
beta-BHC	ND (0.0051)		8081B		1	08/27/13 17:31	CWH0348	CH32304
Chlordane (Total)	ND (0.0408)		8081B		1	08/27/13 17:31	CWH0348	CH32304
delta-BHC	ND (0.0051)		8081B		1	08/27/13 17:31	CWH0348	CH32304
Dieldrin	ND (0.0051)		8081B		1	08/27/13 17:31	CWH0348	CH32304
Endosulfan I	ND (0.0051)		8081B		1	08/27/13 17:31	CWH0348	CH32304
Endosulfan II	ND (0.0051)		8081B		1	08/27/13 17:31	CWH0348	CH32304
Endosulfan Sulfate	ND (0.0051)		8081B		1	08/27/13 17:31	CWH0348	CH32304
Endrin	ND (0.0051)		8081B		1	08/27/13 17:31	CWH0348	CH32304
Endrin Ketone	**LC, P 0.0134** (0.0051)		8081B		1	08/27/13 17:31	CWH0348	CH32304
gamma-BHC (Lindane)	ND (0.0031)		8081B		1	08/27/13 17:31	CWH0348	CH32304
gamma-Chlordane	ND (0.0051)		8081B		1	08/27/13 17:31	CWH0348	CH32304
Heptachlor	ND (0.0051)		8081B		1	08/27/13 17:31	CWH0348	CH32304
Heptachlor Epoxide	ND (0.0051)		8081B		1	08/27/13 17:31	CWH0348	CH32304
Hexachlorobenzene [2C]	ND (0.0051)		8081B		1	08/27/13 17:31	CWH0348	CH32304
Methoxychlor	ND (0.0051)		8081B		1	08/27/13 17:31	CWH0348	CH32304
Toxaphene	ND (0.255)		8081B		1	08/27/13 17:31	CWH0348	CH32304
Toxaphene [2C]	ND (0.255)		8081B		1	08/27/13 17:31	CWH0348	CH32304

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*114 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*138 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*84 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*87 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC1 T 0-0.5ft
Date Sampled: 08/06/13 11:20
Percent Solids: 56
Initial Volume: 20.3
Final Volume: 5
Extraction Method: 3546

ESS Laboratory Work Order: 1308485
ESS Laboratory Sample ID: 1308485-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 8/23/13 10:45

8081A Organochlorine Pesticides

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
4,4´-DDD	ND (0.0044)		8081B		1	08/29/13 9:50	CWH0375	CH32304
4,4´-DDE [2C]	**LC, P 0.0123** (0.0044)		8081B		1	08/29/13 9:50	CWH0375	CH32304
4,4´-DDT	**LC, P 0.0085** (0.0044)		8081B		1	08/29/13 9:50	CWH0375	CH32304
Aldrin	ND (0.0044)		8081B		1	08/29/13 9:50	CWH0375	CH32304
alpha-BHC	ND (0.0044)		8081B		1	08/29/13 9:50	CWH0375	CH32304
alpha-Chlordane	ND (0.0044)		8081B		1	08/29/13 9:50	CWH0375	CH32304
beta-BHC	ND (0.0044)		8081B		1	08/29/13 9:50	CWH0375	CH32304
Chlordane (Total)	ND (0.0351)		8081B		1	08/29/13 9:50	CWH0375	CH32304
delta-BHC	ND (0.0044)		8081B		1	08/29/13 9:50	CWH0375	CH32304
Dieldrin	ND (0.0044)		8081B		1	08/29/13 9:50	CWH0375	CH32304
Endosulfan I	ND (0.0044)		8081B		1	08/29/13 9:50	CWH0375	CH32304
Endosulfan II	ND (0.0044)		8081B		1	08/29/13 9:50	CWH0375	CH32304
Endosulfan Sulfate	ND (0.0044)		8081B		1	08/29/13 9:50	CWH0375	CH32304
Endrin	ND (0.0044)		8081B		1	08/29/13 9:50	CWH0375	CH32304
Endrin Ketone	**LC, P 0.0053** (0.0044)		8081B		1	08/29/13 9:50	CWH0375	CH32304
gamma-BHC (Lindane)	ND (0.0026)		8081B		1	08/29/13 9:50	CWH0375	CH32304
gamma-Chlordane	ND (0.0044)		8081B		1	08/29/13 9:50	CWH0375	CH32304
Heptachlor	ND (0.0044)		8081B		1	08/29/13 9:50	CWH0375	CH32304
Heptachlor Epoxide	ND (0.0044)		8081B		1	08/29/13 9:50	CWH0375	CH32304
Hexachlorobenzene	ND (0.0044)		8081B		1	08/29/13 9:50	CWH0375	CH32304
Methoxychlor	ND (0.0044)		8081B		1	08/29/13 9:50	CWH0375	CH32304
Toxaphene	ND (0.219)		8081B		1	08/29/13 9:50	CWH0375	CH32304
Toxaphene [2C]	ND (0.219)		8081B		1	08/29/13 9:50	CWH0375	CH32304

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*206 %*	*SM*	*30-150*
Surrogate: Decachlorobiphenyl [2C]	*236 %*	*SM*	*30-150*
Surrogate: Tetrachloro-m-xylene	*133 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*143 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC2 T 0-0.5ft
Date Sampled: 08/06/13 11:26
Percent Solids: 26
Initial Volume: 19.6
Final Volume: 5
Extraction Method: 3546

ESS Laboratory Work Order: 1308485
ESS Laboratory Sample ID: 1308485-08
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 8/23/13 10:45

8081A Organochlorine Pesticides

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
4,4´-DDD [2C]	**LC, P 0.0446** (0.0097)		8081B		1	08/29/13 9:20	CWH0375	CH32304
4,4´-DDE	ND (0.0097)		8081B		1	08/29/13 9:20	CWH0375	CH32304
4,4´-DDT	**LC, P 0.261** (0.0484)		8081B		5	08/29/13 15:51	CWH0375	CH32304
Aldrin	ND (0.0097)		8081B		1	08/29/13 9:20	CWH0375	CH32304
alpha-BHC	ND (0.0097)		8081B		1	08/29/13 9:20	CWH0375	CH32304
alpha-Chlordane [2C]	ND (0.0097)		8081B		1	08/29/13 9:20	CWH0375	CH32304
beta-BHC	ND (0.0097)		8081B		1	08/29/13 9:20	CWH0375	CH32304
Chlordane (Total)	ND (0.0774)		8081B		1	08/29/13 9:20	CWH0375	CH32304
delta-BHC	ND (0.0097)		8081B		1	08/29/13 9:20	CWH0375	CH32304
Dieldrin	ND (0.0097)		8081B		1	08/29/13 9:20	CWH0375	CH32304
Endosulfan I	ND (0.0097)		8081B		1	08/29/13 9:20	CWH0375	CH32304
Endosulfan II	**LC, P 0.143** (0.0484)		8081B		5	08/29/13 15:51	CWH0375	CH32304
Endosulfan Sulfate	**LC, P 0.0324** (0.0097)		8081B		1	08/29/13 9:20	CWH0375	CH32304
Endrin	ND (0.0097)		8081B		1	08/29/13 9:20	CWH0375	CH32304
Endrin Ketone	ND (0.0097)		8081B		1	08/29/13 9:20	CWH0375	CH32304
gamma-BHC (Lindane)	ND (0.0058)		8081B		1	08/29/13 9:20	CWH0375	CH32304
gamma-Chlordane	ND (0.0097)		8081B		1	08/29/13 9:20	CWH0375	CH32304
Heptachlor	**LC, P 0.0435** (0.0097)		8081B		1	08/29/13 9:20	CWH0375	CH32304
Heptachlor Epoxide	ND (0.0097)		8081B		1	08/29/13 9:20	CWH0375	CH32304
Hexachlorobenzene	**0.0097** (0.0097)		8081B		1	08/29/13 9:20	CWH0375	CH32304
Methoxychlor	ND (0.0097)		8081B		1	08/29/13 9:20	CWH0375	CH32304
Toxaphene	ND (0.484)		8081B		1	08/29/13 9:20	CWH0375	CH32304
Toxaphene [2C]	ND (0.484)		8081B		1	08/29/13 9:20	CWH0375	CH32304

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*1950 %*	*SM*	*30-150*
Surrogate: Decachlorobiphenyl [2C]	*4310 %*	*SM*	*30-150*
Surrogate: Tetrachloro-m-xylene	*113 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*118 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett
Client Sample ID: GZ-LC3 T 0-0.5ft
Date Sampled: 08/06/13 11:36
Percent Solids: 55
Initial Volume: 20.1
Final Volume: 5
Extraction Method: 3546

ESS Laboratory Work Order: 1308485
ESS Laboratory Sample ID: 1308485-09
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 8/23/13 10:45

8081A Organochlorine Pesticides

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
4,4´-DDD	ND (0.0045)		8081B		1	08/29/13 14:21	CWH0375	CH32304
4,4´-DDE [2C]	**LC, P 0.0101** (0.0045)		8081B		1	08/29/13 14:21	CWH0375	CH32304
4,4´-DDT	**LC, P 0.0147** (0.0045)		8081B		1	08/29/13 14:21	CWH0375	CH32304
Aldrin	ND (0.0045)		8081B		1	08/29/13 14:21	CWH0375	CH32304
alpha-BHC	ND (0.0045)		8081B		1	08/29/13 14:21	CWH0375	CH32304
alpha-Chlordane	**0.0058** (0.0045)		8081B		1	08/29/13 14:21	CWH0375	CH32304
beta-BHC	ND (0.0045)		8081B		1	08/29/13 14:21	CWH0375	CH32304
Chlordane (Total)	ND (0.0360)		8081B		1	08/29/13 14:21	CWH0375	CH32304
delta-BHC	ND (0.0045)		8081B		1	08/29/13 14:21	CWH0375	CH32304
Dieldrin	ND (0.0045)		8081B		1	08/29/13 14:21	CWH0375	CH32304
Endosulfan I	ND (0.0045)		8081B		1	08/29/13 14:21	CWH0375	CH32304
Endosulfan II	**LC, P 0.0050** (0.0045)		8081B		1	08/29/13 14:21	CWH0375	CH32304
Endosulfan Sulfate	**LC, P** ND (0.0045)		8081B		1	08/29/13 14:21	CWH0375	CH32304
Endrin	ND (0.0045)		8081B		1	08/29/13 14:21	CWH0375	CH32304
Endrin Ketone	**LC, P 0.0093** (0.0045)		8081B		1	08/29/13 14:21	CWH0375	CH32304
gamma-BHC (Lindane)	ND (0.0027)		8081B		1	08/29/13 14:21	CWH0375	CH32304
gamma-Chlordane	ND (0.0045)		8081B		1	08/29/13 14:21	CWH0375	CH32304
Heptachlor	ND (0.0045)		8081B		1	08/29/13 14:21	CWH0375	CH32304
Heptachlor Epoxide	ND (0.0045)		8081B		1	08/29/13 14:21	CWH0375	CH32304
Hexachlorobenzene	ND (0.0045)		8081B		1	08/29/13 14:21	CWH0375	CH32304
Methoxychlor	ND (0.0045)		8081B		1	08/29/13 14:21	CWH0375	CH32304
Toxaphene	ND (0.225)		8081B		1	08/29/13 14:21	CWH0375	CH32304
Toxaphene [2C]	ND (0.225)		8081B		1	08/29/13 14:21	CWH0375	CH32304

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*177 %*	*SM*	*30-150*
Surrogate: Decachlorobiphenyl [2C]	*203 %*	*SM*	*30-150*
Surrogate: Tetrachloro-m-xylene	*119 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*120 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308485

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8081A Organochlorine Pesticides										
Batch CH32304 - 3546										
Blank										
4,4´-DDD	ND	0.0025	mg/kg wet							
4,4´-DDD [2C]	ND	0.0025	mg/kg wet							
4,4´-DDE	ND	0.0025	mg/kg wet							
4,4´-DDE [2C]	ND	0.0025	mg/kg wet							
4,4´-DDT	ND	0.0025	mg/kg wet							
4,4´-DDT [2C]	ND	0.0025	mg/kg wet							
Aldrin	ND	0.0025	mg/kg wet							
Aldrin [2C]	ND	0.0025	mg/kg wet							
alpha-BHC	ND	0.0025	mg/kg wet							
alpha-BHC [2C]	ND	0.0025	mg/kg wet							
alpha-Chlordane	ND	0.0025	mg/kg wet							
alpha-Chlordane [2C]	ND	0.0025	mg/kg wet							
beta-BHC	ND	0.0025	mg/kg wet							
beta-BHC [2C]	ND	0.0025	mg/kg wet							
Chlordane (Total)	ND	0.0200	mg/kg wet							
Chlordane (Total) [2C]	ND	0.0200	mg/kg wet							
delta-BHC	ND	0.0025	mg/kg wet							
delta-BHC [2C]	ND	0.0025	mg/kg wet							
Dieldrin	ND	0.0025	mg/kg wet							
Dieldrin [2C]	ND	0.0025	mg/kg wet							
Endosulfan I	ND	0.0025	mg/kg wet							
Endosulfan I [2C]	ND	0.0025	mg/kg wet							
Endosulfan II	ND	0.0025	mg/kg wet							
Endosulfan II [2C]	ND	0.0025	mg/kg wet							
Endosulfan Sulfate	ND	0.0025	mg/kg wet							
Endosulfan Sulfate [2C]	ND	0.0025	mg/kg wet							
Endrin	ND	0.0025	mg/kg wet							
Endrin [2C]	ND	0.0025	mg/kg wet							
Endrin Ketone	ND	0.0025	mg/kg wet							
Endrin Ketone [2C]	ND	0.0025	mg/kg wet							
gamma-BHC (Lindane)	ND	0.0015	mg/kg wet							
gamma-BHC (Lindane) [2C]	ND	0.0015	mg/kg wet							
gamma-Chlordane	ND	0.0025	mg/kg wet							
gamma-Chlordane [2C]	ND	0.0025	mg/kg wet							
Heptachlor	ND	0.0025	mg/kg wet							
Heptachlor [2C]	ND	0.0025	mg/kg wet							
Heptachlor Epoxide	ND	0.0025	mg/kg wet							
Heptachlor Epoxide [2C]	ND	0.0025	mg/kg wet							
Hexachlorobenzene	ND	0.0025	mg/kg wet							
Hexachlorobenzene [2C]	ND	0.0025	mg/kg wet							
Methoxychlor	ND	0.0025	mg/kg wet							
Methoxychlor [2C]	ND	0.0025	mg/kg wet							
Toxaphene	ND	0.125	mg/kg wet							
Toxaphene [2C]	ND	0.125	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308485

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8081A Organochlorine Pesticides										
Batch CH32304 - 3546										
Surrogate: Decachlorobiphenyl	*0.0121*		mg/kg wet	*0.01250*		*96*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0116*		mg/kg wet	*0.01250*		*93*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0107*		mg/kg wet	*0.01250*		*85*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0108*		mg/kg wet	*0.01250*		*87*	*30-150*			
LCS										
4,4´-DDD	0.0124	0.0025	mg/kg wet	0.01250		100	40-140			
4,4´-DDD [2C]	0.0124	0.0025	mg/kg wet	0.01250		99	40-140			
4,4´-DDE	0.0126	0.0025	mg/kg wet	0.01250		101	40-140			
4,4´-DDE [2C]	0.0129	0.0025	mg/kg wet	0.01250		103	40-140			
4,4´-DDT	0.0145	0.0025	mg/kg wet	0.01250		116	40-140			
4,4´-DDT [2C]	0.0149	0.0025	mg/kg wet	0.01250		119	40-140			
Aldrin	0.0127	0.0025	mg/kg wet	0.01250		102	40-140			
Aldrin [2C]	0.0130	0.0025	mg/kg wet	0.01250		104	40-140			
alpha-BHC	0.0123	0.0025	mg/kg wet	0.01250		98	40-140			
alpha-BHC [2C]	0.0125	0.0025	mg/kg wet	0.01250		100	40-140			
alpha-Chlordane	0.0123	0.0025	mg/kg wet	0.01250		99	40-140			
alpha-Chlordane [2C]	0.0129	0.0025	mg/kg wet	0.01250		103	40-140			
beta-BHC	0.0125	0.0025	mg/kg wet	0.01250		100	40-140			
beta-BHC [2C]	0.0127	0.0025	mg/kg wet	0.01250		101	40-140			
Chlordane (Total) [2C]	ND	0.0200	mg/kg wet				0-200			
delta-BHC	0.0125	0.0025	mg/kg wet	0.01250		100	40-140			
delta-BHC [2C]	0.0128	0.0025	mg/kg wet	0.01250		102	40-140			
Dieldrin	0.0129	0.0025	mg/kg wet	0.01250		103	40-140			
Dieldrin [2C]	0.0130	0.0025	mg/kg wet	0.01250		104	40-140			
Endosulfan I	0.0124	0.0025	mg/kg wet	0.01250		99	40-140			
Endosulfan I [2C]	0.0127	0.0025	mg/kg wet	0.01250		101	40-140			
Endosulfan II	0.0121	0.0025	mg/kg wet	0.01250		97	40-140			
Endosulfan II [2C]	0.0123	0.0025	mg/kg wet	0.01250		98	40-140			
Endosulfan Sulfate	0.0119	0.0025	mg/kg wet	0.01250		95	40-140			
Endosulfan Sulfate [2C]	0.0120	0.0025	mg/kg wet	0.01250		96	40-140			
Endrin	0.0145	0.0025	mg/kg wet	0.01250		116	40-140			
Endrin [2C]	0.0147	0.0025	mg/kg wet	0.01250		117	40-140			
Endrin Ketone	0.0125	0.0025	mg/kg wet	0.01250		100	40-140			
Endrin Ketone [2C]	0.0119	0.0025	mg/kg wet	0.01250		95	40-140			
gamma-BHC (Lindane)	0.0126	0.0015	mg/kg wet	0.01250		101	40-140			
gamma-BHC (Lindane) [2C]	0.0128	0.0015	mg/kg wet	0.01250		103	40-140			
gamma-Chlordane	0.0127	0.0025	mg/kg wet	0.01250		101	40-140			
gamma-Chlordane [2C]	0.0130	0.0025	mg/kg wet	0.01250		104	40-140			
Heptachlor	0.0122	0.0025	mg/kg wet	0.01250		98	40-140			
Heptachlor [2C]	0.0126	0.0025	mg/kg wet	0.01250		101	40-140			
Heptachlor Epoxide	0.0125	0.0025	mg/kg wet	0.01250		100	40-140			
Heptachlor Epoxide [2C]	0.0128	0.0025	mg/kg wet	0.01250		102	40-140			
Hexachlorobenzene	0.0116	0.0025	mg/kg wet	0.01250		93	40-140			
Hexachlorobenzene [2C]	0.0118	0.0025	mg/kg wet	0.01250		94	40-140			

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Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8081A Organochlorine Pesticides										
Batch CH32304 - 3546										
Methoxychlor	0.0133	0.0025	mg/kg wet	0.01250		107	40-140			
Methoxychlor [2C]	0.0137	0.0025	mg/kg wet	0.01250		109	40-140			
Surrogate: Decachlorobiphenyl	*0.0148*		mg/kg wet	*0.01250*		*118*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0140*		mg/kg wet	*0.01250*		*112*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0118*		mg/kg wet	*0.01250*		*95*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0121*		mg/kg wet	*0.01250*		*97*	*30-150*			
LCS Dup										
4,4´-DDD	0.0137	0.0025	mg/kg wet	0.01250		110	40-140	10	30	
4,4´-DDD [2C]	0.0136	0.0025	mg/kg wet	0.01250		108	40-140	9	30	
4,4´-DDE	0.0135	0.0025	mg/kg wet	0.01250		108	40-140	7	30	
4,4´-DDE [2C]	0.0137	0.0025	mg/kg wet	0.01250		110	40-140	6	30	
4,4´-DDT	0.0161	0.0025	mg/kg wet	0.01250		129	40-140	10	30	
4,4´-DDT [2C]	0.0166	0.0025	mg/kg wet	0.01250		133	40-140	11	30	
Aldrin	0.0129	0.0025	mg/kg wet	0.01250		103	40-140	1	30	
Aldrin [2C]	0.0131	0.0025	mg/kg wet	0.01250		105	40-140	1	30	
alpha-BHC	0.0125	0.0025	mg/kg wet	0.01250		100	40-140	2	30	
alpha-BHC [2C]	0.0128	0.0025	mg/kg wet	0.01250		103	40-140	2	30	
alpha-Chlordane	0.0122	0.0025	mg/kg wet	0.01250		98	40-140	1	30	
alpha-Chlordane [2C]	0.0128	0.0025	mg/kg wet	0.01250		103	40-140	0.3	30	
beta-BHC	0.0129	0.0025	mg/kg wet	0.01250		103	40-140	3	30	
beta-BHC [2C]	0.0130	0.0025	mg/kg wet	0.01250		104	40-140	3	30	
Chlordane (Total) [2C]	ND	0.0200	mg/kg wet				0-200		200	
delta-BHC	0.0131	0.0025	mg/kg wet	0.01250		104	40-140	4	30	
delta-BHC [2C]	0.0133	0.0025	mg/kg wet	0.01250		106	40-140	4	30	
Dieldrin	0.0132	0.0025	mg/kg wet	0.01250		106	40-140	2	30	
Dieldrin [2C]	0.0134	0.0025	mg/kg wet	0.01250		107	40-140	3	30	
Endosulfan I	0.0127	0.0025	mg/kg wet	0.01250		101	40-140	2	30	
Endosulfan I [2C]	0.0129	0.0025	mg/kg wet	0.01250		103	40-140	2	30	
Endosulfan II	0.0130	0.0025	mg/kg wet	0.01250		104	40-140	8	30	
Endosulfan II [2C]	0.0132	0.0025	mg/kg wet	0.01250		105	40-140	7	30	
Endosulfan Sulfate	0.0129	0.0025	mg/kg wet	0.01250		103	40-140	8	30	
Endosulfan Sulfate [2C]	0.0132	0.0025	mg/kg wet	0.01250		105	40-140	9	30	
Endrin	0.0151	0.0025	mg/kg wet	0.01250		121	40-140	4	30	
Endrin [2C]	0.0153	0.0025	mg/kg wet	0.01250		123	40-140	4	30	
Endrin Ketone	0.0141	0.0025	mg/kg wet	0.01250		113	40-140	12	30	
Endrin Ketone [2C]	0.0134	0.0025	mg/kg wet	0.01250		107	40-140	12	30	
gamma-BHC (Lindane)	0.0128	0.0015	mg/kg wet	0.01250		103	40-140	2	30	
gamma-BHC (Lindane) [2C]	0.0130	0.0015	mg/kg wet	0.01250		104	40-140	2	30	
gamma-Chlordane	0.0128	0.0025	mg/kg wet	0.01250		103	40-140	1	30	
gamma-Chlordane [2C]	0.0132	0.0025	mg/kg wet	0.01250		105	40-140	1	30	
Heptachlor	0.0125	0.0025	mg/kg wet	0.01250		100	40-140	2	30	
Heptachlor [2C]	0.0128	0.0025	mg/kg wet	0.01250		103	40-140	2	30	
Heptachlor Epoxide	0.0126	0.0025	mg/kg wet	0.01250		101	40-140	1	30	
Heptachlor Epoxide [2C]	0.0129	0.0025	mg/kg wet	0.01250		103	40-140	1	30	

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8081A Organochlorine Pesticides										
Batch CH32304 - 3546										
Hexachlorobenzene	0.0118	0.0025	mg/kg wet	0.01250		94	40-140	2	30	
Hexachlorobenzene [2C]	0.0121	0.0025	mg/kg wet	0.01250		97	40-140	3	30	
Methoxychlor	0.0154	0.0025	mg/kg wet	0.01250		123	40-140	14	30	
Methoxychlor [2C]	0.0156	0.0025	mg/kg wet	0.01250		125	40-140	13	30	
Surrogate: Decachlorobiphenyl	*0.0162*		mg/kg wet	*0.01250*		*129*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0155*		mg/kg wet	*0.01250*		*124*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0118*		mg/kg wet	*0.01250*		*94*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0121*		mg/kg wet	*0.01250*		*97*	*30-150*			
8082A Polychlorinated Biphenyls (PCB)										
Batch CH32939 - 3540										
Blank										
Aroclor 1016	ND	0.0500	mg/kg wet							
Aroclor 1016 (1)	ND	0.0500	mg/kg wet							
Aroclor 1016 (1) [2C]	ND	0.0500	mg/kg wet							
Aroclor 1016 (2)	ND	0.0500	mg/kg wet							
Aroclor 1016 (2) [2C]	ND	0.0500	mg/kg wet							
Aroclor 1016 (3)	ND	0.0500	mg/kg wet							
Aroclor 1016 (3) [2C]	ND	0.0500	mg/kg wet							
Aroclor 1016 (4)	ND	0.0500	mg/kg wet							
Aroclor 1016 (4) [2C]	ND	0.0500	mg/kg wet							
Aroclor 1016 (5)	ND	0.0500	mg/kg wet							
Aroclor 1016 (5) [2C]	ND	0.0500	mg/kg wet							
Aroclor 1221	ND	0.0500	mg/kg wet							
Aroclor 1221 (1)	ND	0.0500	mg/kg wet							
Aroclor 1221 (1) [2C]	ND	0.0500	mg/kg wet							
Aroclor 1221 (2)	ND	0.0500	mg/kg wet							
Aroclor 1221 (2) [2C]	ND	0.0500	mg/kg wet							
Aroclor 1221 (3)	ND	0.0500	mg/kg wet							
Aroclor 1221 (3) [2C]	ND	0.0500	mg/kg wet							
Aroclor 1221 (4)	ND	0.0500	mg/kg wet							
Aroclor 1221 (4) [2C]	ND	0.0500	mg/kg wet							
Aroclor 1221 (5)	ND	0.0500	mg/kg wet							
Aroclor 1221 (5) [2C]	ND	0.0500	mg/kg wet							
Aroclor 1232	ND	0.0500	mg/kg wet							
Aroclor 1232 (1)	ND	0.0500	mg/kg wet							
Aroclor 1232 (1) [2C]	ND	0.0500	mg/kg wet							
Aroclor 1232 (2)	ND	0.0500	mg/kg wet							
Aroclor 1232 (2) [2C]	ND	0.0500	mg/kg wet							
Aroclor 1232 (3)	ND	0.0500	mg/kg wet							
Aroclor 1232 (3) [2C]	ND	0.0500	mg/kg wet							
Aroclor 1232 (4)	ND	0.0500	mg/kg wet							
Aroclor 1232 (4) [2C]	ND	0.0500	mg/kg wet							
Aroclor 1232 (5)	ND	0.0500	mg/kg wet							

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch CH32939 - 3540										
Aroclor 1232 (5) [2C]	ND	0.0500	mg/kg wet							
Aroclor 1242	ND	0.0500	mg/kg wet							
Aroclor 1242 (1)	ND	0.0500	mg/kg wet							
Aroclor 1242 (1) [2C]	ND	0.0500	mg/kg wet							
Aroclor 1242 (2)	ND	0.0500	mg/kg wet							
Aroclor 1242 (2) [2C]	ND	0.0500	mg/kg wet							
Aroclor 1242 (3)	ND	0.0500	mg/kg wet							
Aroclor 1242 (3) [2C]	ND	0.0500	mg/kg wet							
Aroclor 1242 (4)	ND	0.0500	mg/kg wet							
Aroclor 1242 (4) [2C]	ND	0.0500	mg/kg wet							
Aroclor 1242 (5)	ND	0.0500	mg/kg wet							
Aroclor 1242 (5) [2C]	ND	0.0500	mg/kg wet							
Aroclor 1248	ND	0.0500	mg/kg wet							
Aroclor 1248 (1)	ND	0.0500	mg/kg wet							
Aroclor 1248 (1) [2C]	ND	0.0500	mg/kg wet							
Aroclor 1248 (2)	ND	0.0500	mg/kg wet							
Aroclor 1248 (2) [2C]	ND	0.0500	mg/kg wet							
Aroclor 1248 (3)	ND	0.0500	mg/kg wet							
Aroclor 1248 (3) [2C]	ND	0.0500	mg/kg wet							
Aroclor 1248 (4)	ND	0.0500	mg/kg wet							
Aroclor 1248 (4) [2C]	ND	0.0500	mg/kg wet							
Aroclor 1248 (5)	ND	0.0500	mg/kg wet							
Aroclor 1248 (5) [2C]	ND	0.0500	mg/kg wet							
Aroclor 1254	ND	0.0500	mg/kg wet							
Aroclor 1254 (1)	ND	0.0500	mg/kg wet							
Aroclor 1254 (1) [2C]	ND	0.0500	mg/kg wet							
Aroclor 1254 (2)	ND	0.0500	mg/kg wet							
Aroclor 1254 (2) [2C]	ND	0.0500	mg/kg wet							
Aroclor 1254 (3)	ND	0.0500	mg/kg wet							
Aroclor 1254 (3) [2C]	ND	0.0500	mg/kg wet							
Aroclor 1254 (4)	ND	0.0500	mg/kg wet							
Aroclor 1254 (4) [2C]	ND	0.0500	mg/kg wet							
Aroclor 1254 (5)	ND	0.0500	mg/kg wet							
Aroclor 1254 (5) [2C]	ND	0.0500	mg/kg wet							
Aroclor 1260	ND	0.0500	mg/kg wet							
Aroclor 1260 (1)	ND	0.0500	mg/kg wet							
Aroclor 1260 (1) [2C]	ND	0.0500	mg/kg wet							
Aroclor 1260 (2)	ND	0.0500	mg/kg wet							
Aroclor 1260 (2) [2C]	ND	0.0500	mg/kg wet							
Aroclor 1260 (3)	ND	0.0500	mg/kg wet							
Aroclor 1260 (3) [2C]	ND	0.0500	mg/kg wet							
Aroclor 1260 (4)	ND	0.0500	mg/kg wet							
Aroclor 1260 (4) [2C]	ND	0.0500	mg/kg wet							
Aroclor 1260 (5)	ND	0.0500	mg/kg wet							
Aroclor 1260 (5) [2C]	ND	0.0500	mg/kg wet							

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch CH32939 - 3540										
Aroclor 1262	ND	0.0500	mg/kg wet							
Aroclor 1262 (1)	ND	0.0500	mg/kg wet							
Aroclor 1262 (1) [2C]	ND	0.0500	mg/kg wet							
Aroclor 1262 (2)	ND	0.0500	mg/kg wet							
Aroclor 1262 (2) [2C]	ND	0.0500	mg/kg wet							
Aroclor 1262 (3)	ND	0.0500	mg/kg wet							
Aroclor 1262 (3) [2C]	ND	0.0500	mg/kg wet							
Aroclor 1262 (4)	ND	0.0500	mg/kg wet							
Aroclor 1262 (4) [2C]	ND	0.0500	mg/kg wet							
Aroclor 1262 (5)	ND	0.0500	mg/kg wet							
Aroclor 1262 (5) [2C]	ND	0.0500	mg/kg wet							
Aroclor 1268	ND	0.0500	mg/kg wet							
Aroclor 1268 (1)	ND	0.0500	mg/kg wet							
Aroclor 1268 (1) [2C]	ND	0.0500	mg/kg wet							
Aroclor 1268 (2)	ND	0.0500	mg/kg wet							
Aroclor 1268 (2) [2C]	ND	0.0500	mg/kg wet							
Aroclor 1268 (3)	ND	0.0500	mg/kg wet							
Aroclor 1268 (3) [2C]	ND	0.0500	mg/kg wet							
Aroclor 1268 (4)	ND	0.0500	mg/kg wet							
Aroclor 1268 (4) [2C]	ND	0.0500	mg/kg wet							
Aroclor 1268 (5)	ND	0.0500	mg/kg wet							
Aroclor 1268 (5) [2C]	ND	0.0500	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0266*		mg/kg wet	*0.02500*		*107*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0253*		mg/kg wet	*0.02500*		*101*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0215*		mg/kg wet	*0.02500*		*86*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0254*		mg/kg wet	*0.02500*		*102*	*30-150*			
LCS										
Aroclor 1016	0.557	0.0500	mg/kg wet	0.5000		111	40-140			
Aroclor 1260	0.554	0.0500	mg/kg wet	0.5000		111	40-140			
Surrogate: Decachlorobiphenyl	*0.0277*		mg/kg wet	*0.02500*		*111*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0264*		mg/kg wet	*0.02500*		*106*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0230*		mg/kg wet	*0.02500*		*92*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0263*		mg/kg wet	*0.02500*		*105*	*30-150*			
LCS Dup										
Aroclor 1016	0.541	0.0500	mg/kg wet	0.5000		108	40-140	3	30	
Aroclor 1260	0.556	0.0500	mg/kg wet	0.5000		111	40-140	0.3	30	
Surrogate: Decachlorobiphenyl	*0.0274*		mg/kg wet	*0.02500*		*110*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0261*		mg/kg wet	*0.02500*		*104*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0211*		mg/kg wet	*0.02500*		*84*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0237*		mg/kg wet	*0.02500*		*95*	*30-150*			
8270D Semi-Volatile Organic Compounds										
Batch CH32305 - 3546										

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Client Name: GZA GeoEnvironmental, Inc.
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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch CH32305 - 3546										
Blank										
1,2,4-Trichlorobenzene	ND	0.333	mg/kg wet							
1,2-Dichlorobenzene	ND	0.333	mg/kg wet							
1,3-Dichlorobenzene	ND	0.333	mg/kg wet							
1,4-Dichlorobenzene	ND	0.333	mg/kg wet							
2-Methylnaphthalene	ND	0.333	mg/kg wet							
2-Methylphenol	ND	0.333	mg/kg wet							
Acenaphthene	ND	0.333	mg/kg wet							
Acenaphthylene	ND	0.333	mg/kg wet							
Anthracene	ND	0.333	mg/kg wet							
Benzo(a)anthracene	ND	0.333	mg/kg wet							
Benzo(a)pyrene	ND	0.167	mg/kg wet							
Benzo(b)fluoranthene	ND	0.333	mg/kg wet							
Benzo(g,h,i)perylene	ND	0.333	mg/kg wet							
Benzo(k)fluoranthene	ND	0.333	mg/kg wet							
bis(2-Ethylhexyl)phthalate	ND	0.333	mg/kg wet							
Butylbenzylphthalate	ND	0.333	mg/kg wet							
Carbazole	ND	0.333	mg/kg wet							
Chrysene	ND	0.167	mg/kg wet							
Dibenzo(a,h)Anthracene	ND	0.167	mg/kg wet							
Dibenzofuran	ND	0.333	mg/kg wet							
Diethylphthalate	ND	0.333	mg/kg wet							
Dimethylphthalate	ND	0.333	mg/kg wet							
Di-n-butylphthalate	ND	0.333	mg/kg wet							
Di-n-octylphthalate	ND	0.333	mg/kg wet							
Fluoranthene	ND	0.333	mg/kg wet							
Fluorene	ND	0.333	mg/kg wet							
Hexachlorobenzene	ND	0.333	mg/kg wet							
Hexachlorocyclopentadiene	ND	1.67	mg/kg wet							
Indeno(1,2,3-cd)Pyrene	ND	0.333	mg/kg wet							
Naphthalene	ND	0.333	mg/kg wet							
Phenanthrene	ND	0.333	mg/kg wet							
Phenol	ND	0.333	mg/kg wet							
Pyrene	ND	0.333	mg/kg wet							
Surrogate: 1,2-Dichlorobenzene-d4	*2.55*		mg/kg wet	*3.333*		*77*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*3.92*		mg/kg wet	*5.000*		*78*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*3.84*		mg/kg wet	*5.000*		*77*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*2.62*		mg/kg wet	*3.333*		*79*	*30-130*			
Surrogate: 2-Fluorophenol	*3.74*		mg/kg wet	*5.000*		*75*	*30-130*			
Surrogate: Nitrobenzene-d5	*2.55*		mg/kg wet	*3.333*		*77*	*30-130*			
Surrogate: Phenol-d6	*3.96*		mg/kg wet	*5.000*		*79*	*30-130*			
Surrogate: p-Terphenyl-d14	*3.08*		mg/kg wet	*3.333*		*92*	*30-130*			
LCS										
1,2,4-Trichlorobenzene	2.36	0.333	mg/kg wet	3.333		71	40-140			
1,2-Dichlorobenzene	2.17	0.333	mg/kg wet	3.333		65	40-140			

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch CH32305 - 3546										
1,3-Dichlorobenzene	2.16	0.333	mg/kg wet	3.333		65	40-140			
1,4-Dichlorobenzene	2.20	0.333	mg/kg wet	3.333		66	40-140			
2-Methylnaphthalene	2.49	0.333	mg/kg wet	3.333		75	40-140			
2-Methylphenol	2.23	0.333	mg/kg wet	3.333		67	30-130			
Acenaphthene	2.51	0.333	mg/kg wet	3.333		75	40-140			
Acenaphthylene	2.29	0.333	mg/kg wet	3.333		69	40-140			
Anthracene	2.82	0.333	mg/kg wet	3.333		84	40-140			
Benzo(a)anthracene	2.78	0.333	mg/kg wet	3.333		84	40-140			
Benzo(a)pyrene	2.68	0.167	mg/kg wet	3.333		81	40-140			
Benzo(b)fluoranthene	2.67	0.333	mg/kg wet	3.333		80	40-140			
Benzo(g,h,i)perylene	2.77	0.333	mg/kg wet	3.333		83	40-140			
Benzo(k)fluoranthene	2.99	0.333	mg/kg wet	3.333		90	40-140			
bis(2-Ethylhexyl)phthalate	2.63	0.333	mg/kg wet	3.333		79	40-140			
Butylbenzylphthalate	2.85	0.333	mg/kg wet	3.333		85	40-140			
Carbazole	2.77	0.333	mg/kg wet	3.333		83	40-140			
Chrysene	2.87	0.167	mg/kg wet	3.333		86	40-140			
Dibenzo(a,h)Anthracene	2.73	0.167	mg/kg wet	3.333		82	40-140			
Dibenzofuran	2.50	0.333	mg/kg wet	3.333		75	40-140			
Diethylphthalate	2.64	0.333	mg/kg wet	3.333		79	40-140			
Dimethylphthalate	2.55	0.333	mg/kg wet	3.333		76	40-140			
Di-n-butylphthalate	2.81	0.333	mg/kg wet	3.333		84	40-140			
Di-n-octylphthalate	2.79	0.333	mg/kg wet	3.333		84	40-140			
Fluoranthene	2.81	0.333	mg/kg wet	3.333		84	40-140			
Fluorene	2.60	0.333	mg/kg wet	3.333		78	40-140			
Hexachlorobenzene	2.76	0.333	mg/kg wet	3.333		83	40-140			
Hexachlorocyclopentadiene	1.58	1.67	mg/kg wet	3.333		47	40-140			
Indeno(1,2,3-cd)Pyrene	2.79	0.333	mg/kg wet	3.333		84	40-140			
Naphthalene	2.42	0.333	mg/kg wet	3.333		73	40-140			
Phenanthrene	2.83	0.333	mg/kg wet	3.333		85	40-140			
Phenol	2.20	0.333	mg/kg wet	3.333		66	30-130			
Pyrene	3.01	0.333	mg/kg wet	3.333		90	40-140			
Surrogate: 1,2-Dichlorobenzene-d4	*2.41*		mg/kg wet	*3.333*		*72*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*4.73*		mg/kg wet	*5.000*		*95*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*3.59*		mg/kg wet	*5.000*		*72*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*2.67*		mg/kg wet	*3.333*		*80*	*30-130*			
Surrogate: 2-Fluorophenol	*3.51*		mg/kg wet	*5.000*		*70*	*30-130*			
Surrogate: Nitrobenzene-d5	*2.53*		mg/kg wet	*3.333*		*76*	*30-130*			
Surrogate: Phenol-d6	*3.72*		mg/kg wet	*5.000*		*74*	*30-130*			
Surrogate: p-Terphenyl-d14	*2.92*		mg/kg wet	*3.333*		*87*	*30-130*			
LCS Dup										
1,2,4-Trichlorobenzene	2.13	0.333	mg/kg wet	3.333		64	40-140	10	30	
1,2-Dichlorobenzene	2.00	0.333	mg/kg wet	3.333		60	40-140	8	30	
1,3-Dichlorobenzene	1.98	0.333	mg/kg wet	3.333		59	40-140	9	30	
1,4-Dichlorobenzene	2.04	0.333	mg/kg wet	3.333		61	40-140	8	30	
2-Methylnaphthalene	2.35	0.333	mg/kg wet	3.333		71	40-140	6	30	

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Client Name: GZA GeoEnvironmental, Inc.
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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch CH32305 - 3546										
2-Methylphenol	1.99	0.333	mg/kg wet	3.333		60	30-130	11	30	
Acenaphthene	2.34	0.333	mg/kg wet	3.333		70	40-140	7	30	
Acenaphthylene	2.16	0.333	mg/kg wet	3.333		65	40-140	6	30	
Anthracene	2.81	0.333	mg/kg wet	3.333		84	40-140	0.2	30	
Benzo(a)anthracene	2.87	0.333	mg/kg wet	3.333		86	40-140	3	30	
Benzo(a)pyrene	2.52	0.167	mg/kg wet	3.333		76	40-140	6	30	
Benzo(b)fluoranthene	2.79	0.333	mg/kg wet	3.333		84	40-140	5	30	
Benzo(g,h,i)perylene	2.73	0.333	mg/kg wet	3.333		82	40-140	1	30	
Benzo(k)fluoranthene	2.70	0.333	mg/kg wet	3.333		81	40-140	10	30	
bis(2-Ethylhexyl)phthalate	2.57	0.333	mg/kg wet	3.333		77	40-140	2	30	
Butylbenzylphthalate	2.73	0.333	mg/kg wet	3.333		82	40-140	4	30	
Carbazole	3.05	0.333	mg/kg wet	3.333		91	40-140	10	30	
Chrysene	2.82	0.167	mg/kg wet	3.333		85	40-140	2	30	
Dibenzo(a,h)Anthracene	2.64	0.167	mg/kg wet	3.333		79	40-140	4	30	
Dibenzofuran	2.36	0.333	mg/kg wet	3.333		71	40-140	6	30	
Diethylphthalate	2.59	0.333	mg/kg wet	3.333		78	40-140	2	30	
Dimethylphthalate	2.49	0.333	mg/kg wet	3.333		75	40-140	2	30	
Di-n-butylphthalate	3.02	0.333	mg/kg wet	3.333		91	40-140	7	30	
Di-n-octylphthalate	2.68	0.333	mg/kg wet	3.333		81	40-140	4	30	
Fluoranthene	3.10	0.333	mg/kg wet	3.333		93	40-140	10	30	
Fluorene	2.48	0.333	mg/kg wet	3.333		75	40-140	5	30	
Hexachlorobenzene	3.06	0.333	mg/kg wet	3.333		92	40-140	10	30	
Hexachlorocyclopentadiene	1.40	1.67	mg/kg wet	3.333		42	40-140	12	30	
Indeno(1,2,3-cd)Pyrene	2.81	0.333	mg/kg wet	3.333		84	40-140	0.5	30	
Naphthalene	2.18	0.333	mg/kg wet	3.333		65	40-140	10	30	
Phenanthrene	2.76	0.333	mg/kg wet	3.333		83	40-140	2	30	
Phenol	2.00	0.333	mg/kg wet	3.333		60	30-130	9	30	
Pyrene	2.76	0.333	mg/kg wet	3.333		83	40-140	9	30	
Surrogate: 1,2-Dichlorobenzene-d4	*2.12*		mg/kg wet	*3.333*		*64*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*4.94*		mg/kg wet	*5.000*		*99*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*3.16*		mg/kg wet	*5.000*		*63*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*2.11*		mg/kg wet	*3.333*		*63*	*30-130*			
Surrogate: 2-Fluorophenol	*2.97*		mg/kg wet	*5.000*		*59*	*30-130*			
Surrogate: Nitrobenzene-d5	*2.34*		mg/kg wet	*3.333*		*70*	*30-130*			
Surrogate: Phenol-d6	*3.22*		mg/kg wet	*5.000*		*64*	*30-130*			
Surrogate: p-Terphenyl-d14	*2.80*		mg/kg wet	*3.333*		*84*	*30-130*			
8270D(SIM) Polynuclear Aromatic Hydrocarbons										
Batch CH32307 - 3510C										
Blank										
2-Methylnaphthalene	ND	0.017	mg/kg wet							
Acenaphthene	ND	0.017	mg/kg wet							
Acenaphthylene	ND	0.017	mg/kg wet							
Anthracene	ND	0.017	mg/kg wet							
Benzo(a)anthracene	ND	0.017	mg/kg wet							

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D(SIM) Polynuclear Aromatic Hydrocarbons										
Batch CH32307 - 3510C										
Benzo(a)pyrene	ND	0.017	mg/kg wet							
Benzo(b)fluoranthene	ND	0.017	mg/kg wet							
Benzo(g,h,i)perylene	ND	0.017	mg/kg wet							
Benzo(k)fluoranthene	ND	0.017	mg/kg wet							
Chrysene	ND	0.017	mg/kg wet							
Dibenzo(a,h)Anthracene	ND	0.017	mg/kg wet							
Fluoranthene	ND	0.017	mg/kg wet							
Fluorene	ND	0.017	mg/kg wet							
Indeno(1,2,3-cd)Pyrene	ND	0.017	mg/kg wet							
Naphthalene	ND	0.017	mg/kg wet							
Phenanthrene	ND	0.017	mg/kg wet							
Pyrene	ND	0.017	mg/kg wet							
Surrogate: 1,2-Dichlorobenzene-d4	*0.199*		mg/kg wet	*0.3333*		*60*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*0.243*		mg/kg wet	*0.3333*		*73*	*30-130*			
Surrogate: Nitrobenzene-d5	*0.211*		mg/kg wet	*0.3333*		*63*	*30-130*			
Surrogate: p-Terphenyl-d14	*0.309*		mg/kg wet	*0.3333*		*93*	*30-130*			
LCS										
2-Methylnaphthalene	0.195	0.017	mg/kg wet	0.2667		73	40-140			
Acenaphthene	0.206	0.017	mg/kg wet	0.2667		77	40-140			
Acenaphthylene	0.194	0.017	mg/kg wet	0.2667		73	40-140			
Anthracene	0.222	0.017	mg/kg wet	0.2667		83	40-140			
Benzo(a)anthracene	0.223	0.017	mg/kg wet	0.2667		84	40-140			
Benzo(a)pyrene	0.224	0.017	mg/kg wet	0.2667		84	40-140			
Benzo(b)fluoranthene	0.243	0.017	mg/kg wet	0.2667		91	40-140			
Benzo(g,h,i)perylene	0.240	0.017	mg/kg wet	0.2667		90	40-140			
Benzo(k)fluoranthene	0.234	0.017	mg/kg wet	0.2667		88	40-140			
Chrysene	0.234	0.017	mg/kg wet	0.2667		88	40-140			
Dibenzo(a,h)Anthracene	0.258	0.017	mg/kg wet	0.2667		97	40-140			
Fluoranthene	0.235	0.017	mg/kg wet	0.2667		88	40-140			
Fluorene	0.214	0.017	mg/kg wet	0.2667		80	40-140			
Indeno(1,2,3-cd)Pyrene	0.242	0.017	mg/kg wet	0.2667		91	40-140			
Naphthalene	0.186	0.017	mg/kg wet	0.2667		70	40-140			
Phenanthrene	0.218	0.017	mg/kg wet	0.2667		82	40-140			
Pyrene	0.234	0.017	mg/kg wet	0.2667		88	40-140			
Surrogate: 1,2-Dichlorobenzene-d4	*0.224*		mg/kg wet	*0.3333*		*67*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*0.272*		mg/kg wet	*0.3333*		*82*	*30-130*			
Surrogate: Nitrobenzene-d5	*0.242*		mg/kg wet	*0.3333*		*73*	*30-130*			
Surrogate: p-Terphenyl-d14	*0.322*		mg/kg wet	*0.3333*		*97*	*30-130*			
LCS Dup										
2-Methylnaphthalene	0.148	0.017	mg/kg wet	0.2667		56	40-140	27	30	
Acenaphthene	0.159	0.017	mg/kg wet	0.2667		60	40-140	25	30	
Acenaphthylene	0.149	0.017	mg/kg wet	0.2667		56	40-140	26	30	
Anthracene	0.175	0.017	mg/kg wet	0.2667		66	40-140	24	30	
Benzo(a)anthracene	0.168	0.017	mg/kg wet	0.2667		63	40-140	28	30	
Benzo(a)pyrene	0.165	0.017	mg/kg wet	0.2667		62	40-140	30	30	

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D(SIM) Polynuclear Aromatic Hydrocarbons										
Batch CH32307 - 3510C										
Benzo(b)fluoranthene	0.176	0.017	mg/kg wet	0.2667		66	40-140	32	30	D+
Benzo(g,h,i)perylene	0.174	0.017	mg/kg wet	0.2667		65	40-140	32	30	D+
Benzo(k)fluoranthene	0.181	0.017	mg/kg wet	0.2667		68	40-140	25	30	
Chrysene	0.173	0.017	mg/kg wet	0.2667		65	40-140	30	30	
Dibenzo(a,h)Anthracene	0.190	0.017	mg/kg wet	0.2667		71	40-140	30	30	
Fluoranthene	0.173	0.017	mg/kg wet	0.2667		65	40-140	31	30	D+
Fluorene	0.168	0.017	mg/kg wet	0.2667		63	40-140	24	30	
Indeno(1,2,3-cd)Pyrene	0.182	0.017	mg/kg wet	0.2667		68	40-140	28	30	
Naphthalene	0.141	0.017	mg/kg wet	0.2667		53	40-140	27	30	
Phenanthrene	0.170	0.017	mg/kg wet	0.2667		64	40-140	25	30	
Pyrene	0.176	0.017	mg/kg wet	0.2667		66	40-140	28	30	
Surrogate: 1,2-Dichlorobenzene-d4	*0.158*		mg/kg wet	*0.3333*		*47*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*0.197*		mg/kg wet	*0.3333*		*59*	*30-130*			
Surrogate: Nitrobenzene-d5	*0.174*		mg/kg wet	*0.3333*		*52*	*30-130*			
Surrogate: p-Terphenyl-d14	*0.233*		mg/kg wet	*0.3333*		*70*	*30-130*			
MADEP-EPH Extractable Petroleum Hydrocarbons										
Batch CH32306 - 3546										
Blank										
C19-C36 Aliphatics1	ND	15.0	mg/kg wet							
C9-C18 Aliphatics1	ND	15.0	mg/kg wet							
Decane (C10)	ND	0.5	mg/kg wet							
Docosane (C22)	ND	0.5	mg/kg wet							
Dodecane (C12)	ND	0.5	mg/kg wet							
Eicosane (C20)	ND	0.5	mg/kg wet							
Hexacosane (C26)	ND	0.5	mg/kg wet							
Hexadecane (C16)	ND	0.5	mg/kg wet							
Hexatriacontane (C36)	ND	0.5	mg/kg wet							
Nonadecane (C19)	ND	0.5	mg/kg wet							
Nonane (C9)	ND	0.5	mg/kg wet							
Octacosane (C28)	ND	0.5	mg/kg wet							
Octadecane (C18)	ND	0.5	mg/kg wet							
Tetracosane (C24)	ND	0.5	mg/kg wet							
Tetradecane (C14)	ND	0.5	mg/kg wet							
Triacontane (C30)	ND	0.5	mg/kg wet							
Surrogate: 1-Chlorooctadecane	*1.33*		mg/kg wet	*2.000*		*67*	*40-140*			
Blank										
2-Methylnaphthalene	ND	0.20	mg/kg wet							
Acenaphthene	ND	0.40	mg/kg wet							
Acenaphthylene	ND	0.20	mg/kg wet							
Anthracene	ND	0.40	mg/kg wet							
Benzo(a)anthracene	ND	0.40	mg/kg wet							
Benzo(a)pyrene	ND	0.40	mg/kg wet							
Benzo(b)fluoranthene	ND	0.40	mg/kg wet							

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
MADEP-EPH Extractable Petroleum Hydrocarbons										
Batch CH32306 - 3546										
Benzo(g,h,i)perylene	ND	0.40	mg/kg wet							
Benzo(k)fluoranthene	ND	0.40	mg/kg wet							
C11-C22 Unadjusted Aromatics1	ND	15.0	mg/kg wet							
Chrysene	ND	0.40	mg/kg wet							
Dibenzo(a,h)Anthracene	ND	0.20	mg/kg wet							
Fluoranthene	ND	0.40	mg/kg wet							
Fluorene	ND	0.40	mg/kg wet							
Indeno(1,2,3-cd)Pyrene	ND	0.40	mg/kg wet							
Naphthalene	ND	0.40	mg/kg wet							
Phenanthrene	ND	0.40	mg/kg wet							
Pyrene	ND	0.40	mg/kg wet							
Surrogate: 2-Bromonaphthalene	*1.25*		mg/kg wet	*2.000*		*63*	*40-140*			
Surrogate: 2-Fluorobiphenyl	*1.36*		mg/kg wet	*2.000*		*68*	*40-140*			
Surrogate: O-Terphenyl	*1.17*		mg/kg wet	*2.000*		*58*	*40-140*			
LCS										
C19-C36 Aliphatics1	13.2	15.0	mg/kg wet	16.00		83	40-140			
C9-C18 Aliphatics1	8.1	15.0	mg/kg wet	12.00		67	40-140			
Decane (C10)	0.9	0.5	mg/kg wet	2.000		44	40-140			
Docosane (C22)	1.6	0.5	mg/kg wet	2.000		79	40-140			
Dodecane (C12)	1.0	0.5	mg/kg wet	2.000		49	40-140			
Eicosane (C20)	1.5	0.5	mg/kg wet	2.000		77	40-140			
Hexacosane (C26)	1.6	0.5	mg/kg wet	2.000		79	40-140			
Hexadecane (C16)	1.3	0.5	mg/kg wet	2.000		64	40-140			
Hexatriacontane (C36)	1.5	0.5	mg/kg wet	2.000		77	40-140			
Nonadecane (C19)	1.5	0.5	mg/kg wet	2.000		75	40-140			
Nonane (C9)	0.7	0.5	mg/kg wet	2.000		35	30-140			
Octacosane (C28)	1.6	0.5	mg/kg wet	2.000		80	40-140			
Octadecane (C18)	1.4	0.5	mg/kg wet	2.000		72	40-140			
Tetracosane (C24)	1.6	0.5	mg/kg wet	2.000		79	40-140			
Tetradecane (C14)	1.1	0.5	mg/kg wet	2.000		55	40-140			
Triacontane (C30)	1.6	0.5	mg/kg wet	2.000		79	40-140			
Surrogate: 1-Chlorooctadecane	*1.54*		mg/kg wet	*2.000*		*77*	*40-140*			
LCS										
2-Methylnaphthalene	0.99	0.20	mg/kg wet	2.000		49	40-140			
Acenaphthene	1.19	0.40	mg/kg wet	2.000		60	40-140			
Acenaphthylene	1.02	0.20	mg/kg wet	2.000		51	40-140			
Anthracene	1.15	0.40	mg/kg wet	2.000		57	40-140			
Benzo(a)anthracene	1.23	0.40	mg/kg wet	2.000		61	40-140			
Benzo(a)pyrene	1.39	0.40	mg/kg wet	2.000		69	40-140			
Benzo(b)fluoranthene	1.38	0.40	mg/kg wet	2.000		69	40-140			
Benzo(g,h,i)perylene	1.29	0.40	mg/kg wet	2.000		64	40-140			
Benzo(k)fluoranthene	1.39	0.40	mg/kg wet	2.000		69	40-140			
C11-C22 Unadjusted Aromatics1	23.2	15.0	mg/kg wet	34.00		68	40-140			
Chrysene	1.37	0.40	mg/kg wet	2.000		68	40-140			

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
MADEP-EPH Extractable Petroleum Hydrocarbons										
Batch CH32306 - 3546										
Dibenzo(a,h)Anthracene	1.34	0.20	mg/kg wet	2.000		67	40-140			
Fluoranthene	1.22	0.40	mg/kg wet	2.000		61	40-140			
Fluorene	1.09	0.40	mg/kg wet	2.000		54	40-140			
Indeno(1,2,3-cd)Pyrene	1.10	0.40	mg/kg wet	2.000		55	40-140			
Naphthalene	0.87	0.40	mg/kg wet	2.000		43	40-140			
Phenanthrene	1.17	0.40	mg/kg wet	2.000		59	40-140			
Pyrene	1.21	0.40	mg/kg wet	2.000		61	40-140			
Surrogate: 2-Bromonaphthalene	*0.861*		mg/kg wet	*2.000*		*43*	*40-140*			
Surrogate: 2-Fluorobiphenyl	*1.44*		mg/kg wet	*2.000*		*72*	*40-140*			
Surrogate: O-Terphenyl	*1.57*		mg/kg wet	*2.000*		*78*	*40-140*			
LCS										
2-Methylnaphthalene Breakthrough	0.0		%				0-5			
Naphthalene Breakthrough	0.0		%				0-5			
LCS Dup										
C19-C36 Aliphatics1	14.1	15.0	mg/kg wet	16.00		88	40-140	6	25	
C9-C18 Aliphatics1	8.6	15.0	mg/kg wet	12.00		72	40-140	7	25	
Decane (C10)	1.0	0.5	mg/kg wet	2.000		49	40-140	11	25	
Docosane (C22)	1.7	0.5	mg/kg wet	2.000		84	40-140	6	25	
Dodecane (C12)	1.1	0.5	mg/kg wet	2.000		54	40-140	10	25	
Eicosane (C20)	1.6	0.5	mg/kg wet	2.000		82	40-140	6	25	
Hexacosane (C26)	1.7	0.5	mg/kg wet	2.000		85	40-140	7	25	
Hexadecane (C16)	1.4	0.5	mg/kg wet	2.000		69	40-140	8	25	
Hexatriacontane (C36)	1.7	0.5	mg/kg wet	2.000		83	40-140	8	25	
Nonadecane (C19)	1.6	0.5	mg/kg wet	2.000		81	40-140	7	25	
Nonane (C9)	0.8	0.5	mg/kg wet	2.000		39	30-140	11	25	
Octacosane (C28)	1.7	0.5	mg/kg wet	2.000		85	40-140	7	25	
Octadecane (C18)	1.6	0.5	mg/kg wet	2.000		78	40-140	7	25	
Tetracosane (C24)	1.7	0.5	mg/kg wet	2.000		84	40-140	7	25	
Tetradecane (C14)	1.2	0.5	mg/kg wet	2.000		61	40-140	10	25	
Triacontane (C30)	1.7	0.5	mg/kg wet	2.000		85	40-140	7	25	
Surrogate: 1-Chlorooctadecane	*1.56*		mg/kg wet	*2.000*		*78*	*40-140*			
LCS Dup										
2-Methylnaphthalene	1.02	0.20	mg/kg wet	2.000		51	40-140	3	20	
Acenaphthene	1.16	0.40	mg/kg wet	2.000		58	40-140	3	20	
Acenaphthylene	1.01	0.20	mg/kg wet	2.000		50	40-140	1	20	
Anthracene	1.14	0.40	mg/kg wet	2.000		57	40-140	0.7	20	
Benzo(a)anthracene	1.22	0.40	mg/kg wet	2.000		61	40-140	0.7	20	
Benzo(a)pyrene	1.39	0.40	mg/kg wet	2.000		69	40-140	0.03	20	
Benzo(b)fluoranthene	1.36	0.40	mg/kg wet	2.000		68	40-140	1	20	
Benzo(g,h,i)perylene	1.31	0.40	mg/kg wet	2.000		66	40-140	2	20	
Benzo(k)fluoranthene	1.37	0.40	mg/kg wet	2.000		69	40-140	1	20	
C11-C22 Unadjusted Aromatics1	24.2	15.0	mg/kg wet	34.00		71	40-140	4	25	
Chrysene	1.34	0.40	mg/kg wet	2.000		67	40-140	2	20	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308485

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
MADEP-EPH Extractable Petroleum Hydrocarbons										
Batch CH32306 - 3546										
Dibenzo(a,h)Anthracene	1.35	0.20	mg/kg wet	2.000		68	40-140	1	20	
Fluoranthene	1.17	0.40	mg/kg wet	2.000		58	40-140	4	20	
Fluorene	1.06	0.40	mg/kg wet	2.000		53	40-140	3	20	
Indeno(1,2,3-cd)Pyrene	1.11	0.40	mg/kg wet	2.000		55	40-140	0.4	20	
Naphthalene	0.92	0.40	mg/kg wet	2.000		46	40-140	6	20	
Phenanthrene	1.15	0.40	mg/kg wet	2.000		58	40-140	2	20	
Pyrene	1.19	0.40	mg/kg wet	2.000		60	40-140	2	20	
Surrogate: 2-Bromonaphthalene	*1.05*		mg/kg wet	*2.000*		*53*	*40-140*			
Surrogate: 2-Fluorobiphenyl	*1.40*		mg/kg wet	*2.000*		*70*	*40-140*			
Surrogate: O-Terphenyl	*1.43*		mg/kg wet	*2.000*		*71*	*40-140*			
LCS Dup										
2-Methylnaphthalene Breakthrough	0.0		%				0-5		200	
Naphthalene Breakthrough	0.0		%				0-5		200	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308485

Notes and Definitions

U	Analyte included in the analysis, but not detected
SM	Surrogate recovery(ies) outside of criteria due to matrix (UCM/coelution/matrix is present) (SM).
Q	Calibration required quadratic regression (Q).
P	Percent difference between primary and confirmation results exceeds 40% (P).
LC	Lower value is used due to matrix interferences (LC).
ICV	Initial Calibration Verification recovery is outside of control limit (ICV).
H	Estimated value. Sample hold times were exceeded (H).
EL	Elevated Method Reporting Limits due to sample matrix (EL).
D+	Relative percent difference for duplicate is outside of criteria (D+).
D	Diluted.
C+	Continuing Calibration recovery is above upper control limit (C+).
ND	Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
I/V	Initial Volume
F/V	Final Volume
§	Subcontracted analysis; see attached report
1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of target analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.
Avg	Results reported as a mathematical average.
NR	No Recovery
[CALC]	Calculated Analyte
SUB	Subcontracted analysis; see attached report

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Everett

ESS Laboratory Work Order: 1308485

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Department of Defense (DoD) Environmental Laboratory Accreditation Program (ELAP)
A2LA Accredited: Testing Cert# 2864.01
http://www.a2la.org/scopepdf/2864-01.pdf

Rhode Island Potable and Non Potable Water: LAI00179
http://www.health.ri.gov/labs/waterlabs-instate.php

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750
http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutofStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI0002
http://www.maine.gov/dep/blwq/topic/vessel/lab_list.pdf

Massachusetts Potable and Non Potable Water: M-RI002
http://public.dep.state.ma.us/labcert/labcert.aspx

New Hampshire (NELAP accredited) Potable and Non PotableWater, Solid and Hazardous Waste: 2424
http://www4.egov.nh.gov/des/nhelap/namesearch.asp

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313
http://www.wadsworth.org/labcert/elap/comm.html

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006
http://datamine2.state.nj.us/dep/DEP_OPRA/

United States Department of Agriculture Soil Permit: S-54210

Maryland Potable Water: 301
http://www.mde.state.md.us/assets/document/WSP_labs-2009apr20.pdf

CHEMISTRY

A2LA Accredited: Testing Cert # 2864.01
Lead in Paint, Phthalates, Lead in Children's Metals Products (Including Jewelry)
http://www.A2LA.org/dirsearchnew/newsearch.cfm

CPSC ID# 1141
Lead Paint, Lead in Children's Metals Jewelry
http://www.cpsc.gov/cgi-bin/labapplist.aspx

Sample and Cooler Receipt Checklist

Client: GZA GeoEnvironmental, Inc.
Client Project ID: _____
Shipped/Delivered Via: ESS Courier

ESS Project ID: 13080485
Date Project Due: 8/29/13
Days For Project: 5 Day

Items to be checked upon receipt:

1. Air Bill Manifest Present?	* No	10. Are the samples properly preserved?	Yes
Air No.:		11. Proper sample containers used?	Yes
2. Were Custody Seals Present?	No	12. Any air bubbles in the VOA vials?	N/A
3. Were Custody Seals Intact?	N/A	13. Holding times exceeded?	No
4. Is Radiation count < 100 CPM?	Yes	14. Sufficient sample volumes?	Yes
5. Is a cooler present?	Yes	15. Any Subcontracting needed?	No
Cooler Temp: **4.1**		16. Are ESS labels on correct containers?	Yes | No
Iced With: **Ice**		17. Were samples received intact?	Yes | No
6. Was COC included with samples?	Yes	ESS Sample IDs: _____	
7. Was COC signed and dated by client?	Yes	Sub Lab: _____	
8. Does the COC match the sample	Yes	Analysis: _____	
9. Is COC complete and correct?	Yes	TAT: _____	

18. Was there need to call project manager to discuss status? If yes, please explain.
OK to run samples past holdtimes per client. See email relog of 1308098, 1308105, 1308106, 1308108 and 1308109. 8/22/13

Who was called?:_____ By whom? _____

Sample Number	Properly Preserved	Container Type	# of Containers	Preservative
1	Yes	8 oz Soil Jar	1	NP
2	Yes	8 oz Soil Jar	1	NP
3	Yes	8 oz Soil Jar	1	NP
4	Yes	4 oz Soil Jar	1	NP
5	Yes	8 oz Soil Jar	1	NP
6	Yes	8 oz Soil Jar	1	NP
7	Yes	8 oz Soil Jar	1	NP
8	Yes	8 oz Soil Jar	1	NP
9	Yes	8 oz Soil Jar	1	NP

Completed By: _____ Date/Time: 8/22/13 2215
Reviewed By: _____ Date/Time: 8/23/13 1045

1308485 8/6/13 (2a) 2 of 2 (1a) 1-2 1-7

ESS Laboratory

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS LAB PROJECT ID 1308485

Turn Time ___x___ Standard Rush _____ Approved By: _____

Reporting Limits - see prev. email correspondence

State where samples were collected: MA RI CT NH NJ NY ME Other_____

Is this project for any of the following: (please circle)
MA-MCP CT-RCP RGP DOD Other_____

Electonic Deliverable Yes__x__ No____
Format: Excel_x__ Access___ PDF___ Other_____

GZA Project Manager: David E. Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Avenue
Norwood, MA 02062
(781) 278-3700
PRESUMPTIVE CERTAINTY REQUIRED

Project # 171521.02
Project Name: Former Everett Staging Yard
Contract Pricing ____
Special Pricing WO#: _____

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	MCP 14 metals	B/N Phthalates Esters 8270	PAH 8270 SIM	EPH Fractions	PCBs	TOC by Lloyd Kahn	Pesticides					Comment #
					Analysis													
11	8/1/13	9:05	G	Sed	~~GZ-103 6-7'~~	2	X											
12	8/6/13	9:12	G	Sed	GZ-104 T 0-0.5'	2	X	X	X	X	X	X	X					
13	8/1/13	9:50	G	Sed	~~GZ-104 2-4'~~	2	X	X	X	X	X	X						
14	8/1/13	9:50	G	Sed	~~GZ-104 4-6'~~	2	X					X						
15	8/1/13	9:50	G	Sed	~~GZ-104 6-8'~~	2	X											
16	8/1/13	10:06	G	Sed	~~GZ-105 2-4'~~	2	X											
17	8/1/13	10:06	G	Sed	~~GZ-105 4-6'~~	2	X	X	X	X	X	X						
18	8/1/13	10:06	G	Sed	~~GZ-105 8-9'~~	2	X											
19	8/1/13	10:41	G	Sed	~~GZ-106 2-4'~~	2	X					X						
20	8/1/13	10:41	G	Sed	~~GZ-106 4-6'~~	2	X											
					Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-_____		AG	AG	AG	AG	AG	AG						
					Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA													
					Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter													

8/6/13 (1a)

Cooler Present ✓ Yes ____ No
Seals Intact Yes ✓ No NA: ~~BP~~
Cooler Temperature: 4.1-3.6 4.8 2.6 3.2

Sampled by : Dan Scanlon
Comments: Contract Price - 10%

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
[signature]	8/6/13 2000	[signature] 8/7/13 1030	[signature] 1120	8/7/13	[signature] 8/7/13 11:30
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)

Please E-mail all changes to Chain of Custody in writing.

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ESS Laboratory

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Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS LAB PROJECT ID: 1308101

Turn Time __x__ Standard Rush_____ Approved By: _____

Reporting Limits - see prev. email correspondence

State where samples were collected: MA RI CT NH NJ NY ME Other_____

Is this project for any of the following: (please circle)
MA-MCP CT-RCP RGP DOD Other_____

Electonic Deliverable Yes__x__ No____
Format: Excel_x__ Access___ PDF___ Other_____

GZA Project Manager: David E. Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Avenue
Norwood, MA 02062
(781) 278-3700
PRESUMPTIVE CERTAINTY REQUIRED

Project # 171521.02
Project Name: Former Everett Staging Yard
Contract Pricing _____
Special Pricing WO#: _____

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	MCP 14 metals	B/N Phthalates Esters 8270	PAH 8270 SIM	EPH Fractions	PCBs	TOC by Lloyd Kahn	X Pesticides				Comment #
(2) 1	8/6/13	9:55	G	Sed	GZ-114 T 0-0.5'	2	X	X	X	X	X	X	X				
2	8/1/13	12:51	G	Sed	~~GZ-114 2-5~~	2	X	X	X	X	X	X					
3	8/1/13	12:51	G	Sed	~~GZ-114 5-7'~~	2	X										
4	8/6/13	10:09	G	Sed	~~GZ-115 T 0-0.5'~~	2	X					X					
5	8/1/13	13:05	G	Sed	~~GZ-115 2-5'~~	2	X										
6	8/1/13	13:05	G	Sed	~~GZ-115 5-7'~~	2	X										
(3) 7	8/6/13	10:55	G	Sed	GZ-116 T 0-0.5'	2	X	X	X	X	X	X	X				
8	8/2/13	8:28	G	Sed	~~GZ-116 0.5-2'~~	2	X	X	X	X	X	X					
9	8/2/13	8:28	G	Sed	GZ-116 2-4'	2	X	X	X	X	X	X					
10	8/2/13	8:28	G	Sed	~~GZ-116 4-6'~~	2	X										
							AG	AG	AG	AG	AG	AG					

9/6/13 (11)

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-_____

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present ✓ Yes ____ No
Seals Intact ✓ Yes ____ No NA: RR
Cooler Temperature: 4-13-6-4-8-2-6-3-5

Sampled by : Dan Scanlon

Comments: Contract Price - 10%

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
[signature]	8/6/13 22:00	[signature] 8/7/13 1030	[signature] 8/7/13	1120	[signature] 8/7/13 11:30

Please E-mail all changes to Chain of Custody in writing.

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ESS Laboratory

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185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS LAB PROJECT ID: ~~1308106~~ 1308485

Turn Time ___x___ Standard Rush _____ Approved By: _____

Reporting Limits - see prev. email correspondence

State where samples were collected: MA RI CT NH NJ NY ME Other_____

Is this project for any of the following: (please circle)
MA-MCP CT-RCP RGP DOD Other_____

Electonic Deliverable Yes__x__ No____
Format: Excel_x__ Access___ PDF___ Other_____

GZA Project Manager: David E. Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Avenue
Norwood, MA 02062
(781) 278-3700
PRESUMPTIVE CERTAINTY REQUIRED

Project # 171521.02

Project Name: Former Everett Staging Yard

Contract Pricing ____
Special Pricing WO#: _____

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	MCP 14 metals	B/N Phthalates Esters 8270	PAH 8270 SIM	EPH Fractions	PCBs	TOC by Lloyd Kahn	Pesticides					Comment #
					Analysis													
11	8/2/13	11:44	G	Sed	~~GZ-124 0-0.5'~~	2	X					X						
12	8/2/13	11:44	G	Sed	~~GZ-124 2-4~~	2	X											
13	8/5/13	11:10	G	Sed	~~GZ-125A 0-0.5'~~	2	X					X						
14	8/5/13	11:10	G	Sed	~~GZ-125A 2-4'~~	2	X											
15	8/5/13	11:10	G	Sed	~~GZ-125A 4-6'~~	2	X											
16	8/5/13	11:10	G	Sed	~~GZ-125A 8-9'~~	2	X											
(4) 17	8/6/13	10:15	G	Sed	GZ-126 T 0-0.5'	2	X	X	X	X	X	X	X					
18	8/5/13	10:50	G	Sed	~~GZ-126 0.5-2'~~	2	X	X	X	X	X	X						
19	8/5/13	10:50	G	Sed	~~GZ-126 2-4'~~	2	X	X	X	X	X	X						
8/2/13 (11) 20	8/5/13	10:35	G	Sed	~~GZ-127 0-0.5'~~	2	X					X						

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-_____

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

	AG	AG	AG	AG	AG	AG							

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present ___✓___Yes ____No
Leave Dec
Seals Intact ___✓___Yes ____No NA: ~~RB~~
5 Coolers
Cooler Temperature: 4.1 3.6 4.8 2.6 3.2

Sampled by : Dan Scanlon

Comments: Contract Price - 10%

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Walton	8/6/13 23:59	Rick Barron 8/7/13 1030	Bill Barron 8/7/13	H2O	8/7/13 1654
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)

Please E-mail all changes to Chain of Custody in writing.

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ESS Laboratory

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www.esslaboratory.com

CHAIN OF CUSTODY

ESS LAB PROJECT ID: ~~1308108~~

Turn Time ___x___ Standard Rush_____ Approved By: _____

State where samples were collected: MA RI CT NH NJ NY ME Other_____

Is this project for any of the following: (please circle)
MA-MCP CT-RCP RGP DOD Other_____

Reporting Limits - see prev. email correspondence

Electonic Deliverable Yes__x__ No____
Format: Excel_x__ Access___ PDF___ Other_____

GZA Project Manager: David E. Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Avenue
Norwood, MA 02062
(781) 278-3700
PRESUMPTIVE CERTAINTY REQUIRED

Project # 171521.02

Project Name: Former Everett Staging Yard

Contract Pricing____
Special Pricing WO#: _____

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	MCP 14 metals	B/N Phthalates Esters 8270	PAH 8270 SIM	EPH Fractions	PCBs	TOC by Lloyd Kahn	Pesticides				Comment #
						Analysis											
1	8/6/13	10:45	G	Sed	~~GZ-134 T 0-0.5'~~	2	X	X	X	X	X	X					
2	8/2/13	13:53	G	Sed	~~GZ-134 2-3~~	2	X	X	X	X	X	X					
3	8/2/13	13:53	G	Sed	~~GZ-134 4-6~~	2	X										
4	8/2/13	13:53	G	Sed	~~GZ-134 6-8~~	2	X	X	X	X	X	X					
(5) 5	8/6/13	8:23	G	Sed	GZ-135 T 0-0.5'	2	X	X	X	X	X	X	X				
6	8/2/13	14:15	G	Sed	~~GZ-135 2-4'~~	2	X										
7	8/2/13	14:15	G	Sed	~~GZ-135 4-6~~	2	X										
8	8/5/13	8:50	G	Sed	~~GZ-136 0-0.5~~	2	X										
9	8/5/13	8:50	G	Sed	~~GZ-136 0.5-2'~~	2	X	X	X	X	X	X					
10	8/5/13	8:50	G	Sed	~~GZ-136 2-4'~~	2	X										
							AG	AG	AG	AG	AG	AG					

8/12/13 (26)

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-_____

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present ___Yes ___No
Seals Intact ___Yes ___No NA: RP
Cooler Temperature: 4.1 3.6 4.8 2.6 3.2

Sampled by : Dan Scanlon

Comments: Contract Price - 10%

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
W Addeo	8/6/13	Brad Beacom	Brad Beacom 8/7/13 1030	1120	8/7/13 1635
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)

Please E-mail all changes to Chain of Custody in writing.

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ESS Laboratory

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS LAB PROJECT ID: ~~1308108~~

Turn Time ___x___ Standard Rush_____ Approved By: _____

Reporting Limits - see prev. email correspondence

State where samples were collected: MA RI CT NH NJ NY ME Other_____

Is this project for any of the following: (please circle)
MA-MCP CT-RCP RGP DOD Other_____

Electonic Deliverable Yes__x__ No____
Format: Excel_x__ Access___ PDF___ Other_____

GZA Project Manager: David E. Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Avenue
Norwood, MA 02062
(781) 278-3700
PRESUMPTIVE CERTAINTY REQUIRED

Project # 171521.02

Project Name: Former Everett Staging Yard

Contract Pricing ____
Special Pricing WO#: _____

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	MCP 14 metals	B/N Phthalates Esters 8270	PAH 8270 SIM	EPH Fractions	PCBs	TOC by Lloyd Kahn	Pesticides					Comment #
Analysis																		
11	8/5/13	8:50	G	Sed	~~GZ-136 4-6'~~	2	X											
12	8/5/13	8:50	G	Sed	~~GZ-136 8-10'~~	2	X					X						
13	8/6/13	8:30	G	Sed	GZ-137 T 0-0.5'	2	X	X	X	X	X	X	X					
14	8/5/13	9:16	G	Sed	~~GZ-137 2-4'~~	2	X	X	X	X	X	X						
15	8/5/13	9:16	G	Sed	~~GZ-137 4.5-5'~~	2	X											
16	8/2/13	14:25	G	Sed	~~GZ-138 0-0.5'~~	2	X					X						
17	8/2/13	14:25	G	Sed	~~GZ-138 0.5-2'~~	2	X											
18	8/2/13	14:25	G	Sed	~~GZ-138 2-4'~~	2	X					X						
19	8/2/13	14:25	G	Sed	~~GZ-138 4-6'~~	2	X											
20	8/2/13	14:25	G	Sed	~~GZ-138 6-8'~~	2	X											
					Preservation Code: I-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-_____		AG	AG	AG	AG	AG	AG						

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present ___Yes ___No
Seals Intact ___Yes ___No NA: BB
Cooler Temperature: 4.1 3.6 4.8 263-2

Sampled by : Dan Scanlon

Comments: Contract Price - 10%

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
[signature]	8/6/13 20:00	[signature] 8/7/13 1030	[signature] 8/7/13	1120	[signature] 8/7/13 16:35

Please E-mail all changes to Chain of Custody in writing.

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ESS Laboratory

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS LAB PROJECT ID 130 8109

8/22/13 (W)

Turn Time ___x___ Standard Rush _____ Approved By: _____

Reporting Limits - see prev. email correspondence

State where samples were collected: MA RI CT NH NJ NY ME Other_____

Is this project for any of the following: (please circle)
MA-MCP CT-RCP RGP DOD Other_____

Electonic Deliverable Yes__x__ No____
Format: Excel_x__ Access___ PDF___ Other_____

GZA Project Manager: David E. Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Avenue
Norwood, MA 02062
(781) 278-3700
PRESUMPTIVE CERTAINTY REQUIRED

Project # 171521.02
Project Name: Former Everett Staging Yard
Contract Pricing _____
Special Pricing WO#: _____

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	MCP 14 metals	B/N Phthalates Esters 8270	PAH 8270 SIM	EPH Fractions	PCBs	TOC by Lloyd Kahn	Reg limits				Comment #
						Analysis											
1	8/5/13	8:20	G	Sed	~~GZ-139 0-0.5~~	2	X					X					
2	8/5/13	8:20	G	Sed	~~GZ-139 2-4'~~	2	X										
3	8/5/13	8:20	G	Sed	~~GZ-139 6-8'~~	2	X					X					
4	8/5/13	8:45	G	Sed	~~GZ-140A 0-0.5'~~	2	X										
5	8/5/13	8:45	G	Sed	~~GZ-140A 0.5-2'~~	2	X										
6	8/5/13	8:45	G	Sed	~~GZ-140A 2-3~~	2	X	X	X	X	X	X					
(7) 7	8/6/13	11:20	G	Sed	GZ-LC1 T 0-0.5'	2	X	X	X	X	X	X	X				
8	8/5/13	13:30	G	Sed	~~GZ-LC1 2-4'~~	2	X	X	X	X	X						
(8) 9	8/6/13	11:26	G	Sed	GZ-LC2 T 0-0.5'	2	X	X	X	X	X	X	X				
10	8/5/13	14:05	G	Sed	~~GZ-LC2 2-4'~~	2	X	X	X	X	X						

8/22/13 (W)

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-_____

	AG	AG	AG	AG	AG	AG											

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present ✓ Yes _____ No
Seals Intact ✓ Yes _____ No NA: BB
Cooler Temperature: 4.1 3.6 4.6 2.6 3.2

Sampled by : Dan Scanlon
Comments: Contract Price - 10%

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
[signature]	8/6/13 3:30	[signature] 8/7/13 1030	[signature] 8/7/13	1120	[signature] 8/7/13 0800
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)

Please E-mail all changes to Chain of Custody in writing.

Page 13 of 16

1308485 7-7

ESS Laboratory

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS LAB PROJECT ID: ~~1308109~~ 1308485

8/22/13 (JC)

Turn Time ___x___ Standard Rush_____ Approved By: _____

Reporting Limits - see prev. email correspondence

State where samples were collected: **MA RI CT NH NJ NY ME** Other_____

Is this project for any of the following: (please circle)
MA-MCP CT-RCP RGP DOD Other_____

Electonic Deliverable Yes__x__ No____
Format: Excel_x__ Access___ PDF___ Other_____

GZA Project Manager: David ~~E. Leone~~
GZA GeoEnvironmental, Inc.
249 Vanderbilt Avenue
Norwood, MA 02062
(781) 278-3700
PRESUMPTIVE CERTAINTY REQUIRED

Project # 171521.02

Project Name: Former Everett Staging Yard

Contract Pricing ____
Special Pricing WO#: _____

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	MCP 14 metals	B/N Phthalates Esters 8270	PAH 8270 SIM	EPH Fractions	PCBs	TOC by Lloyd Kahn	X Preserve				Comment #
11	8/6/13	11:36	G	Sed	GZ-LC3 T 0-0.5'	2	X	X	X	X	X	X	X				
12	8/5/13	14:15	G	Sed	~~GZ-LC-3 0.5-2~~	2	X	X	X	X	X	X					
13	8/5/13	14:15	G	Sed	~~GZ-LC-3 4-6~~	2	X	X	X	X	X						
14	8/6/13	11:42	G	Sed	~~GZ-LC4 T 0-0.5'~~	2	X	X	X	X	X	X					
15	8/5/13	14:25	G	Sed	~~GZ-LC4 0.5-2'~~	2	X	X	X	X	X						
16	8/5/13	14:25	G	Sed	~~GZ-LC4 2-4'~~	2	X	X	X	X	X						
17	8/5/13	14:25	G	Sed	~~GZ-LC4 4-6'~~	2	X	X	X	X	X						
18	8/5/13	14:50	G	Sed	~~GZ-LC5 0-0.5'~~	2	X	X	X	X	X	X					
19	8/5/13	14:50	G	Sed	~~GZ-LC5 2-4'~~	2	X	X	X	X	X						
20	8/5/13	15:05	G	Sed	~~GZ-LC6 0-0.5'~~	2	X	X	X	X	X	X					
					Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-_____												
					Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA		AG	AG	AG	AG	AG	AG					
					Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter												

8/22/13 (JC)

Cooler Present ✓ Yes ____ No
Seals Intact ____ Yes ____ No NA: BB
Cooler Temperature: 4.1 3.6 4.8 2.6 3.2
5 coolers

Sampled by : Dan Scanlon

Comments: Contract Price - 10%

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Walsh	8/6/13 0820	Bob Brogan 8/7/13 1050	Bob Brogan 8/7/13	1120	8/7/13 1820

Please E-mail all changes to Chain of Custody in writing.

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CERTIFICATE OF ANALYSIS

David E Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Avenue
Norwood, MA 02062

RE: Wynn Everett Sediment Phase (01.0171521.13 Task 001)
ESS Laboratory Work Order Number: 1503414

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director

REVIEWED
By ESS Laboratory at 3:09 pm, Apr 01, 2015

Analytical Summary
The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with NELAC Standards, A2LA and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.

Subcontracted Analyses

TestAmerica Laboratories, Inc. - Burlington, VT	Total Organic Carbon

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503414

SAMPLE RECEIPT

The following samples were received on March 25, 2015 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has performed and reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Data Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

For EPH soil samples, the aromatic range results have been corrected for identified cartridge contaminant in accordance with the CAM protocol.

Lab Number	Sample Name	Matrix	Analysis
1503414-01	GZ-202 0ft-0.5ft	Soil	TOC-LK
1503414-02	GZ-203 0ft-0.5ft	Soil	TOC-LK
1503414-03	GZ-203 0ft-3ft	Soil	TOC-LK
1503414-04	GZ-204 0ft-0.5ft	Soil	TOC-LK
1503414-05	GZ-204 2ft-4ft	Soil	TOC-LK
1503414-06	GZ-212 0ft-0.5ft	Soil	TOC-LK
1503414-07	GZ-216 0ft-0.5ft	Soil	TOC-LK
1503414-08	GZ-216 2ft-4ft	Soil	TOC-LK
1503414-09	GZ-217 0ft-0.5ft	Soil	TOC-LK
1503414-10	GZ-217 0ft-3ft	Soil	TOC-LK

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503414

PROJECT NARRATIVE

No unusual observations noted.

End of Project Narrative.

DATA USABILITY LINKS

Definitions of Quality Control Parameters

Semivolatile Organics Internal Standard Information

Semivolatile Organics Surrogate Information

Volatile Organics Internal Standard Information

Volatile Organics Surrogate Information

EPH and VPH Alkane Lists

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503414

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

1010A - Flashpoint
6010C - ICP
6020A - ICP MS
7010 - Graphite Furnace
7196A - Hexavalent Chromium
7470A - Aqueous Mercury
7471B - Solid Mercury
8011 - EDB/DBCP/TCP
8015D - GRO/DRO
8081B - Pesticides
8082A - PCB
8100M - TPH
8151A - Herbicides
8260B - VOA
8270D - SVOA
8270D SIM - SVOA Low Level
9014 - Cyanide
9038 - Sulfate
9040C - Aqueous pH
9045D - Solid pH (Corrosivity)
9050A - Specific Conductance
9056A - Anions (IC)
9060A - TOC
9095B - Paint Filter
MADEP 04-1.1 - EPH / VPH

Prep Methods

3005A - Aqueous ICP and Graphite Furnace Digestion
3020A - Aqueous ICP MS Digestion
3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
3060A - Solid Hexavalent Chromium Digestion
3510C - Separatory Funnel Extraction
3520C - Liquid / Liquid Extraction
3540C - Manual Soxhlet Extraction
3541 - Automated Soxhlet Extraction
3546 - Microwave Extraction
3580A - Waste Dilution
5030B - Aqueous Purge and Trap
5030C - Aqueous Purge and Trap
5035 - Solid Purge and Trap

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-202 0ft-0.5ft
Date Sampled: 03/24/15 11:30
Percent Solids: N/A

ESS Laboratory Work Order: 1503414
ESS Laboratory Sample ID: 1503414-01
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**53200** (N/A)		TOC-LK		1	SUB	03/30/15 0:46	mg/kg	CC53023

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-203 0ft-0.5ft
Date Sampled: 03/24/15 12:30
Percent Solids: N/A

ESS Laboratory Work Order: 1503414
ESS Laboratory Sample ID: 1503414-02
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**43900** (N/A)		TOC-LK		1	SUB	03/30/15 0:52	mg/kg	CC53023

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-203 0ft-3ft
Date Sampled: 03/24/15 12:30
Percent Solids: N/A

ESS Laboratory Work Order: 1503414
ESS Laboratory Sample ID: 1503414-03
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**76200** (N/A)		TOC-LK		1	SUB	03/30/15 0:59	mg/kg	CC53023

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-204 0ft-0.5ft
Date Sampled: 03/24/15 12:50
Percent Solids: N/A

ESS Laboratory Work Order: 1503414
ESS Laboratory Sample ID: 1503414-04
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**51000** (N/A)		TOC-LK		1	SUB	03/30/15 1:05	mg/kg	CC53023

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-204 2ft-4ft
Date Sampled: 03/24/15 12:50
Percent Solids: N/A

ESS Laboratory Work Order: 1503414
ESS Laboratory Sample ID: 1503414-05
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**50900** (N/A)		TOC-LK		1	SUB	03/30/15 1:11	mg/kg	CC53023

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-212 0ft-0.5ft
Date Sampled: 03/24/15 14:20
Percent Solids: N/A

ESS Laboratory Work Order: 1503414
ESS Laboratory Sample ID: 1503414-06
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**17600** (N/A)		TOC-LK		1	SUB	03/30/15 1:18	mg/kg	CC53023

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-216 0ft-0.5ft
Date Sampled: 03/24/15 15:15
Percent Solids: N/A

ESS Laboratory Work Order: 1503414
ESS Laboratory Sample ID: 1503414-07
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**31800** (N/A)		TOC-LK		1	SUB	03/30/15 0:08	mg/kg	CC53023

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-216 2ft-4ft
Date Sampled: 03/24/15 15:15
Percent Solids: N/A

ESS Laboratory Work Order: 1503414
ESS Laboratory Sample ID: 1503414-08
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**35100** (N/A)		TOC-LK		1	SUB	03/30/15 1:30	mg/kg	CC53023

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-217 0ft-0.5ft
Date Sampled: 03/24/15 16:10
Percent Solids: N/A

ESS Laboratory Work Order: 1503414
ESS Laboratory Sample ID: 1503414-09
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**44400** (N/A)		TOC-LK		1	SUB	03/30/15 1:37	mg/kg	CC53023

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-217 0ft-3ft
Date Sampled: 03/24/15 16:10
Percent Solids: N/A

ESS Laboratory Work Order: 1503414
ESS Laboratory Sample ID: 1503414-10
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**73100** (N/A)		TOC-LK		1	SUB	03/30/15 1:43	mg/kg	CC53023

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503414

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase ESS Laboratory Work Order: 1503414

Notes and Definitions

ND	Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
I/V	Initial Volume
F/V	Final Volume
§	Subcontracted analysis; see attached report
1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of target analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.
Avg	Results reported as a mathematical average.
NR	No Recovery
[CALC]	Calculated Analyte
SUB	Subcontracted analysis; see attached report
[2C]	Result was taken from the second column. Dual column analysis.

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503414

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Department of Defense (DoD) Environmental Laboratory Accreditation Program (ELAP)
A2LA Accredited: Testing Cert# 2864.01
http://www.a2la.org/scopepdf/2864-01.pdf

Rhode Island Potable and Non Potable Water: LAI00179
http://www.health.ri.gov/find/labs/analytical/ESS.pdf

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750
http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutofStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI0002
http://www.maine.gov/dhhs/mecdc/environmental-health/water/dwp-services/labcert/documents/AllLabs.xls

Massachusetts Potable and Non Potable Water: M-RI002
http://public.dep.state.ma.us/Labcert/Labcert.aspx

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424
http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313
http://www.wadsworth.org/labcert/elap/comm.html

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006
http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752
http://www.depweb.state.pa.us/portal/server.pt/community/labs/13780/laboratory_accreditation_program/590095

CHEMISTRY

A2LA Accredited: Testing Cert # 2864.01
Lead in Paint, Phthalates, Lead in Children's Metals Products (Including Jewelry)
http://www.A2LA.org/dirsearchnew/newsearch.cfm

CPSC ID# 1141
Lead Paint, Lead in Children's Metals Jewelry
http://www.cpsc.gov/cgi-bin/labapplist.aspx

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING



ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Burlington
30 Community Drive
Suite 11
South Burlington, VT 05403
Tel: (802)660-1990

TestAmerica Job ID: 200-27247-1
TestAmerica Sample Delivery Group: 1503414
Client Project/Site: 1503414

For:
ESS Laboratory
185 Frances Ave.
Cranston, Rhode Island 02910

Attn: Ms. Elizabeth Ouk

Authorized for release by:
3/30/2015 1:26:19 PM

Kathryn Kelly, Project Manager I
(802)660-1990
kathryn.kelly@testamericainc.com

LINKS
Review your project results through TotalAccess
Have a Question? Ask The Expert
Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Qualifiers

General Chemistry

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Job ID: 200-27247-1

Laboratory: TestAmerica Burlington

Narrative

CASE NARRATIVE

Client: ESS Laboratory

Project: 1503414

Report Number: 200-27247-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The samples were received on 03/26/2015; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 2.2 C.

TOTAL ORGANIC CARBON

Samples 1503414-01, 1503414-02, 1503414-03, 1503414-04, 1503414-05, 1503414-06, 1503414-07, 1503414-08, 1503414-09 and 1503414-10 were analyzed for total organic carbon in accordance with Lloyd Kahn Method. The samples were analyzed on 03/27/2015.

Total Organic Carbon was detected in method blank MB 200-86185/5 at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. Refer to the QC report for details.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: ESS Laboratory
Project/Site: 1503414

TestAmerica Job ID: 200-27247-1
SDG: 1503414

Client Sample ID: 1503414-01 — Lab Sample ID: 200-27247-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	53200	B	1000	120	mg/Kg	1		Lloyd Kahn	Total/NA

Client Sample ID: 1503414-02 — Lab Sample ID: 200-27247-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	43900	B	1000	120	mg/Kg	1		Lloyd Kahn	Total/NA

Client Sample ID: 1503414-03 — Lab Sample ID: 200-27247-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	76200	B	1000	120	mg/Kg	1		Lloyd Kahn	Total/NA

Client Sample ID: 1503414-04 — Lab Sample ID: 200-27247-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	51000	B	1000	120	mg/Kg	1		Lloyd Kahn	Total/NA

Client Sample ID: 1503414-05 — Lab Sample ID: 200-27247-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	50900	B	1000	120	mg/Kg	1		Lloyd Kahn	Total/NA

Client Sample ID: 1503414-06 — Lab Sample ID: 200-27247-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	17600	B	1000	120	mg/Kg	1		Lloyd Kahn	Total/NA

Client Sample ID: 1503414-07 — Lab Sample ID: 200-27247-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	31800	B	1000	120	mg/Kg	1		Lloyd Kahn	Total/NA

Client Sample ID: 1503414-08 — Lab Sample ID: 200-27247-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	35100	B	1000	120	mg/Kg	1		Lloyd Kahn	Total/NA

Client Sample ID: 1503414-09 — Lab Sample ID: 200-27247-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	44400	B	1000	120	mg/Kg	1		Lloyd Kahn	Total/NA

Client Sample ID: 1503414-10 — Lab Sample ID: 200-27247-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	73100	B	1000	120	mg/Kg	1		Lloyd Kahn	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: 1503414-01 — **Lab Sample ID: 200-27247-1**
Date Collected: 03/24/15 11:30
Date Received: 03/26/15 10:05
Matrix: Sediment

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	53200	B	1000	120	mg/Kg			03/27/15 00:46	1

Client Sample ID: 1503414-02 — **Lab Sample ID: 200-27247-2**
Date Collected: 03/24/15 12:30
Date Received: 03/26/15 10:05
Matrix: Sediment

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	43900	B	1000	120	mg/Kg			03/27/15 00:52	1

Client Sample ID: 1503414-03 — **Lab Sample ID: 200-27247-3**
Date Collected: 03/24/15 12:30
Date Received: 03/26/15 10:05
Matrix: Sediment

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	76200	B	1000	120	mg/Kg			03/27/15 00:59	1

Client Sample ID: 1503414-04 — **Lab Sample ID: 200-27247-4**
Date Collected: 03/24/15 12:50
Date Received: 03/26/15 10:05
Matrix: Sediment

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	51000	B	1000	120	mg/Kg			03/27/15 01:05	1

Client Sample ID: 1503414-05 — **Lab Sample ID: 200-27247-5**
Date Collected: 03/24/15 12:50
Date Received: 03/26/15 10:05
Matrix: Sediment

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	50900	B	1000	120	mg/Kg			03/27/15 01:11	1

Client Sample ID: 1503414-06 — **Lab Sample ID: 200-27247-6**
Date Collected: 03/24/15 14:20
Date Received: 03/26/15 10:05
Matrix: Sediment

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	17600	B	1000	120	mg/Kg			03/27/15 01:18	1

Client Sample ID: 1503414-07 — **Lab Sample ID: 200-27247-7**
Date Collected: 03/24/15 15:15
Date Received: 03/26/15 10:05
Matrix: Sediment

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	31800	B	1000	120	mg/Kg			03/27/15 00:08	1

Client: ESS Laboratory
Project/Site: 1503414

TestAmerica Job ID: 200-27247-1
SDG: 1503414

Client Sample ID: 1503414-08

Lab Sample ID: 200-27247-8

Date Collected: 03/24/15 15:15

Matrix: Sediment

Date Received: 03/26/15 10:05

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	35100	B	1000	120	mg/Kg			03/27/15 01:30	1

Client Sample ID: 1503414-09

Lab Sample ID: 200-27247-9

Date Collected: 03/24/15 16:10

Matrix: Sediment

Date Received: 03/26/15 10:05

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	44400	B	1000	120	mg/Kg			03/27/15 01:37	1

Client Sample ID: 1503414-10

Lab Sample ID: 200-27247-10

Date Collected: 03/24/15 16:10

Matrix: Sediment

Date Received: 03/26/15 10:05

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	73100	B	1000	120	mg/Kg			03/27/15 01:43	1

QC Sample Results

Client: ESS Laboratory
Project/Site: 1503414

TestAmerica Job ID: 200-27247-1
SDG: 1503414

Method: Lloyd Kahn - Organic Carbon, Total (TOC)

Lab Sample ID: MB 200-86185/5
Matrix: Sediment
Analysis Batch: 86185

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	230.0	J	1000	120	mg/Kg			03/26/15 22:53	1

Lab Sample ID: LCS 200-86185/6
Matrix: Sediment
Analysis Batch: 86185

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	20100	19720		mg/Kg		98	75 - 125

QC Association Summary

Client: ESS Laboratory
Project/Site: 1503414

TestAmerica Job ID: 200-27247-1
SDG: 1503414

General Chemistry

Analysis Batch: 86185

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
200-27247-1	1503414-01	Total/NA	Sediment	Lloyd Kahn	
200-27247-2	1503414-02	Total/NA	Sediment	Lloyd Kahn	
200-27247-3	1503414-03	Total/NA	Sediment	Lloyd Kahn	
200-27247-4	1503414-04	Total/NA	Sediment	Lloyd Kahn	
200-27247-5	1503414-05	Total/NA	Sediment	Lloyd Kahn	
200-27247-6	1503414-06	Total/NA	Sediment	Lloyd Kahn	
200-27247-7	1503414-07	Total/NA	Sediment	Lloyd Kahn	
200-27247-8	1503414-08	Total/NA	Sediment	Lloyd Kahn	
200-27247-9	1503414-09	Total/NA	Sediment	Lloyd Kahn	
200-27247-10	1503414-10	Total/NA	Sediment	Lloyd Kahn	
LCS 200-86185/6	Lab Control Sample	Total/NA	Sediment	Lloyd Kahn	
MB 200-86185/5	Method Blank	Total/NA	Sediment	Lloyd Kahn	

Lab Chronicle

Client: ESS Laboratory
Project/Site: 1503414

TestAmerica Job ID: 200-27247-1
SDG: 1503414

Client Sample ID: 1503414-01
Date Collected: 03/24/15 11:30
Date Received: 03/26/15 10:05

Lab Sample ID: 200-27247-1
Matrix: Sediment

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Lloyd Kahn		1	86185	03/27/15 00:46	MDK	TAL BUR

Client Sample ID: 1503414-02
Date Collected: 03/24/15 12:30
Date Received: 03/26/15 10:05

Lab Sample ID: 200-27247-2
Matrix: Sediment

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Lloyd Kahn		1	86185	03/27/15 00:52	MDK	TAL BUR

Client Sample ID: 1503414-03
Date Collected: 03/24/15 12:30
Date Received: 03/26/15 10:05

Lab Sample ID: 200-27247-3
Matrix: Sediment

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Lloyd Kahn		1	86185	03/27/15 00:59	MDK	TAL BUR

Client Sample ID: 1503414-04
Date Collected: 03/24/15 12:50
Date Received: 03/26/15 10:05

Lab Sample ID: 200-27247-4
Matrix: Sediment

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Lloyd Kahn		1	86185	03/27/15 01:05	MDK	TAL BUR

Client Sample ID: 1503414-05
Date Collected: 03/24/15 12:50
Date Received: 03/26/15 10:05

Lab Sample ID: 200-27247-5
Matrix: Sediment

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Lloyd Kahn		1	86185	03/27/15 01:11	MDK	TAL BUR

Client Sample ID: 1503414-06
Date Collected: 03/24/15 14:20
Date Received: 03/26/15 10:05

Lab Sample ID: 200-27247-6
Matrix: Sediment

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Lloyd Kahn		1	86185	03/27/15 01:18	MDK	TAL BUR

Lab Chronicle

Client: ESS Laboratory
Project/Site: 1503414

TestAmerica Job ID: 200-27247-1
SDG: 1503414

Client Sample ID: 1503414-07
Date Collected: 03/24/15 15:15
Date Received: 03/26/15 10:05

Lab Sample ID: 200-27247-7
Matrix: Sediment

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Lloyd Kahn		1	86185	03/27/15 00:08	MDK	TAL BUR

Client Sample ID: 1503414-08
Date Collected: 03/24/15 15:15
Date Received: 03/26/15 10:05

Lab Sample ID: 200-27247-8
Matrix: Sediment

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Lloyd Kahn		1	86185	03/27/15 01:30	MDK	TAL BUR

Client Sample ID: 1503414-09
Date Collected: 03/24/15 16:10
Date Received: 03/26/15 10:05

Lab Sample ID: 200-27247-9
Matrix: Sediment

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Lloyd Kahn		1	86185	03/27/15 01:37	MDK	TAL BUR

Client Sample ID: 1503414-10
Date Collected: 03/24/15 16:10
Date Received: 03/26/15 10:05

Lab Sample ID: 200-27247-10
Matrix: Sediment

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Lloyd Kahn		1	86185	03/27/15 01:43	MDK	TAL BUR

Laboratory References:

TAL BUR = TestAmerica Burlington, 30 Community Drive, Suite 11, South Burlington, VT 05403, TEL (802)660-1990

Certification Summary

Client: ESS Laboratory
Project/Site: 1503414

TestAmerica Job ID: 200-27247-1
SDG: 1503414

Laboratory: TestAmerica Burlington

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Connecticut	State Program	1	PH-0751	09-30-15
DE Haz. Subst. Cleanup Act (HSCA)	State Program	3	NA	02-13-16
Florida	NELAP	4	E87467	06-30-15
L-A-B	DoD ELAP		L2336	02-26-17
Maine	State Program	1	VT00008	04-17-15 *
Minnesota	NELAP	5	050-999-436	12-31-15
New Hampshire	NELAP	1	2006	12-18-15
New Jersey	NELAP	2	VT972	06-30-15
New York	NELAP	2	10391	03-31-15 *
Pennsylvania	NELAP	3	68-00489	04-30-15 *
Rhode Island	State Program	1	LAO00298	12-30-15
US Fish & Wildlife	Federal		LE-058448-0	02-28-16
USDA	Federal		P330-11-00093	10-28-16
Vermont	State Program	1	VT-4000	12-31-15
Virginia	NELAP	3	460209	12-14-15

* Certification renewal pending - certification considered valid.

Method Summary

Client: ESS Laboratory
Project/Site: 1503414

TestAmerica Job ID: 200-27247-1
SDG: 1503414

Method	Method Description	Protocol	Laboratory
Lloyd Kahn	Organic Carbon, Total (TOC)	EPA	TAL BUR

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

TAL BUR = TestAmerica Burlington, 30 Community Drive, Suite 11, South Burlington, VT 05403, TEL (802)660-1990

Sample Summary

Client: ESS Laboratory
Project/Site: 1503414

TestAmerica Job ID: 200-27247-1
SDG: 1503414

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
200-27247-1	1503414-01	Sediment	03/24/15 11:30	03/26/15 10:05
200-27247-2	1503414-02	Sediment	03/24/15 12:30	03/26/15 10:05
200-27247-3	1503414-03	Sediment	03/24/15 12:30	03/26/15 10:05
200-27247-4	1503414-04	Sediment	03/24/15 12:50	03/26/15 10:05
200-27247-5	1503414-05	Sediment	03/24/15 12:50	03/26/15 10:05
200-27247-6	1503414-06	Sediment	03/24/15 14:20	03/26/15 10:05
200-27247-7	1503414-07	Sediment	03/24/15 15:15	03/26/15 10:05
200-27247-8	1503414-08	Sediment	03/24/15 15:15	03/26/15 10:05
200-27247-9	1503414-09	Sediment	03/24/15 16:10	03/26/15 10:05
200-27247-10	1503414-10	Sediment	03/24/15 16:10	03/26/15 10:05

ESS Laboratory — T. America — CHAIN OF CUSTODY

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston RI 02910-2211
Tel. (401)461-7181 Fax (401)461-4486
www.esslaboratory.com

ESS Lab # 1503414

Turn Time _____Standard Other **5 DAY**

Regulatory State: **MA** RI CT NH NJ NY ME Other_____

Is this project for any of the following:(please circle)
MA-MCP Navy USACE CT DEP Other_____

Reporting Limits - _____

Electonic Deliverables **Excel** Access **PDF** *

Co. Name: **ESS Laboratory**	Project #:	Project Name: **1503414**	
Contact Person: **Christine Taylor**	Proj. Location:		
Address:	City , State:	Zip:	PO #: B02192
Tel. ext. 3039	email: ctaylor@thielsch.com	email: smorrell@thielsch.com	

ESS Lab ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample ID	Pres Code	# of Containers	Type of Container	Vol of Container	Analysis: TOC Lloyd Kahn									
	3/24/15	1130	G	SED	1503414-01	1	1	G	2oz	X									
	3/24/15	1230	G	SED	1503414-02	1	1	G	2oz	X									
	3/24/15	1230	G	SED	1503414-03	1	1	G	2oz	X									
	3/24/15	1250	G	SED	1503414-04	1	1	G	2oz	X									
	3/24/15	1250	G	SED	1503414-05	1	1	G	2oz	X									
	3/24/15	1420	G	SED	1503414-06	1	1	G	2oz	X									
	3/24/15	1515	G	SED	1503414-07	1	1	G	2oz	X									
	3/24/15	1515	G	SED	1503414-08	1	1	G	2oz	X									
	3/24/15	1610	G	SED	1503414-09	1	1	G	2oz	X									
	3/24/15	1610	G	SED	1503414-10	1	1	G	2oz	X									

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present _____Yes _____No

Seals Intact ____ Yes _____No NA:____

Cooler Temperature: _____

Internal Use Only

[ ] Pickup

[ ] Technician____

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-_____

Sampled by :

Comments:

Relinquished by: (Signature, Date & Time)	Received by: (Signature, Date & Time)	Relinquished by: (Signature, Date & Time)	Received by: (Signature, Date & Time)
3/25/15 1407	3-25-15 1407	3-25-15 1500	3/26/15 1005 TA-BUR
Relinquished by: (Signature, Date & Time)	Received by: (Signature, Date & Time)	Relinquished by: (Signature, Date & Time)	Received by: (Signature, Date & Time)

* By circling MA-MCP, client acknowledges sampels were collected in accordance with MADEP CAM VIIA

Please fax to the laboratory all changes to Chain of Custody

Report Method Blank & Laboratory Control Sample Results

200-27247 Chain of Custody



ORIGIN ID:BXCA (781) 466-6900
PAUL HOBART
TESTAMERICA
240 BEAR HILL ROAD
SUITE 104
WALTHAM, MA 02451
UNITED STATES US

SHIP DATE: 25MAR15
ACTWGT: 15.5 LB
CAD: 590687/CAFE2807

BILL RECIPIENT

TO SAMPLE RECEIVING
TESTAMERICA BURLINGTON
30 COMMUNITY DRIVE
SUITE 11
SOUTH BURLINGTON VT 05403
(802) 660-1990
REF:
INV:
PO:
DEPT:

FedEx Express

THU - 26 MAR AA
STANDARD OVERNIGHT

TRK# 0201 4258 8388 7463

EK BTVA

05403
VT-US BTV

Login Sample Receipt Checklist

Client: ESS Laboratory

Job Number: 200-27247-1
SDG Number: 1503414

Login Number: 27247
List Number: 1
Creator: Atherton, Joel E

List Source: TestAmerica Burlington

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	TAMPER EVIDENT TAPE
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.2ºC
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	IDs on containers do not match the COC. Logged in per COC.
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

ESS Laboratory

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185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS LAB PROJECT ID: 15034/4

Turn Time ___X___ Standard Rush_____ Approved By: _____

Reporting Limits -

State where samples were collected: **MA** RI CT NH NJ NY ME Other_____

Is this project for any of the following: (please circle)
MA-MCP CT-RCP NJ-DKQP RGP DOD Other____

Electonic Deliverable Yes ✓ No____
Format: Excel ✓ Access___ PDF___ Other____

GZA Project Manager: David E. Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Ave
Norwood, MA 02062
(781) 278-3700

Project No.: 01.0171521.13 Task 001
Project Name: Wynn - Everett
Contract Pricing _____
Special Pricing WO#: _____

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	Analysis: MCP-14 Metals	PAHs by SIM	TOC	SVOCs	PCBs (Aroclors)	EPH	Hexavalent Chromium	Reactivity (Sulfide and Cyanide)	VOCs	% water	Grain Size Analysis	Comment #
1	3-24-15	1130	6	S	GZ-202 (0'-0.5')		X	X	X	X	X	X						
		1130	6	S	GZ-202 (2'-4')		X	X										
2		1230	6	S	GZ-203 (0'-0.5')		X	X	X	X	X	X						
		1230	6	S	GZ-203 (4'-6')		X	X										
3		1230	6	S	GZ-203 (0'-3')		X		X	X	X	X	X	X	X	X	X	(1)
4		1250	6	S	GZ-204 (0'-0.5')		X	X	X	X	X	X						
5		1250	6	S	GZ-204 (2'-4')		X	X	X	X	X	X						
		1250	6	S	GZ-204 (6'-8')		X	X										
6		1420	6	S	GZ-212 (0'-0.5')		X	X	X	X	X	X						
	↓	1420	6	S	GZ-212 (0.5'-2')		X	X										

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-_____

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present ✓ Yes _____ No

Seals Intact _____ Yes _____ No NA: 0845

Cooler Temperature: 2-6°C 3.6°C 3/25/15

Sampled by : Daniel Scanlon (Daniel.Scanlon@gza.com)

Comments: (1) TCLP 20X Rule Applies
TOC only being reported for this WO - cmt 4/1/15

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
[signature]	3-24-15 @ 18:20	[signature] 3/25/15 C(3.6)	[signature] 0845 3/25/15		[signature] 3/25/15 1207

Page 1 of 2

Page 35 of 38

ESS Laboratory
Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS LAB PROJECT ID: 1503414

Turn Time ___X___ Standard Rush_____ Approved By: _____

Reporting Limits -

State where samples were collected: **MA** RI CT NH NJ NY ME Other_____

Is this project for any of the following: (please circle)
MA-MCP CT-RCP NJ-DKQP RGP DOD Other____

Electonic Deliverable Yes_✓_ No____
Format: Excel_✓_ Access___ PDF___ Other_____

GZA Project Manager: David E. Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Ave
Norwood, MA 02062
(781) 278-3700

Project No.: 01.0171521.13 Task 001
Project Name: Wynn - Everett
Contract Pricing ____
Special Pricing WO#: _____

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	Analysis: MCP-14 Metals	PAHs by SIM	TOC	SVOCs	PCBs (Aroclors)	EPH	Hexavalent Chromium	Reactivity (Sulfide and Cyanide)	VOCs	% water	Grain Size Analysis	Comment #
7	3-24-15	1515	6	S	GZ-216 (0'-0.5')		X	X	X	X	X	X						
		1515	6	S	GZ-216 (4'-6')		X	X										
8		1515	6	S	GZ-216 (2'-4')		X	X	X	X	X	X						
9		16:10	6	S	GZ-217 (0'-0.5')		X	X	X	X	X	X						
10		16:10	6	S	GZ-217 (0'-3')		X		X	X	X	X	X	X	X	X	X	(1)
	✓	16:10	6	S	GZ-217 (6'-8')		X	X										

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-_____

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present _____Yes _____No

Seals Intact 2 Coolers _____Yes _____No NA: 0845

Cooler Temperature: 2.8+3.6°C 3B 3/25/15

Sampled by : Daniel Scanlon (Daniel.Scanlon@gza.com)

Comments: (1) TCLP 20X Rule Applies

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
	3-24-15	0845 3/25/15	3/25/15 0845		3/25/15 1207

C1820

ESS Laboratory
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CHAIN OF CUSTODY

ESS LAB PROJECT ID: 15034/4

Turn Time ___X___ Standard Rush_____ Approved By: _____

State where samples were collected: **MA** RI CT NH NJ NY ME Other_____

Reporting Limits -

Is this project for any of the following: (please circle)
MA-MCP CT-RCP NJ-DKQP RGP DOD Other____

Electonic Deliverable Yes ✓ No____
Format: Excel ✓ Access___ PDF___ Other____

GZA Project Manager: David E. Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Ave
Norwood, MA 02062
(781) 278-3700

Project No.: 01.0171521.13 Task 001
Project Name: Wynn - Everett
Contract Pricing ____
Special Pricing WO#: _____

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	Analysis: MCP-14 Metals	PAHs by SIM	TOC	SVOCs	PCBs (Aroclors)	EPH	Hexavalent Chromium	Reactivity (Sulfide and Cyanide)	VOCs	% water	Grain Size Analysis	Comment #
1	3-24-15	1130	G	S	GZ-202 (0'-0.5')		X	X	X	X	X	X						
		1130	G	S	GZ-202 (2'-4')		X	X										
2		1230	G	S	GZ-203 (0'-0.5')		X	X	X	X	X	X						
		1230	G	S	GZ-203 (4'-6')		X	X										
3		1230	G	S	GZ-203 (0'-3')		X		X	X	X	X	X	X	X	X	X	(1)
4		1250	G	S	GZ-204 (0'-0.5')		X	X	X	X	X	X						
5		1250	G	S	GZ-204 (2'-4')		X	X	X	X	X	X						
		1250	G	S	GZ-204 (6'-8')		X	X										
6		1420	G	S	GZ-212 (0'-0.5')		X	X	X	X	X	X						
	↓	1420	G	S	GZ-212 (0.5'-2')		X	X										

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-_____

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present ✓ Yes _____ No

Seals Intact _____ Yes _____ No NA: 0845

Cooler Temperature: 2-6°C-3.6°C 3/25/15

Sampled by : Daniel Scanlon (Daniel.Scanlon@gza.com)

Comments: (1) TCLP 20X Rule Applies

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
[signature]	3-24-15 @ 18:20	[signature] 3/25/15 C(3.6)	[signature] 3/25/15 0845		[signature] 3/25/15 1207

Page 1 of 2

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CHAIN OF CUSTODY

ESS LAB PROJECT ID: 1503414

Turn Time ___X___ Standard Rush_____ Approved By: _____

Reporting Limits -

State where samples were collected: **MA** RI CT NH NJ NY ME Other_____

Is this project for any of the following: (please circle)
MA-MCP CT-RCP NJ-DKQP RGP DOD Other____

Electonic Deliverable Yes ✓ No____
Format: Excel ✓ Access___ PDF___ Other_____

GZA Project Manager: David E. Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Ave
Norwood, MA 02062
(781) 278-3700

Project No.: 01.0171521.13 Task 001

Project Name: Wynn - Everett

Contract Pricing ____
Special Pricing WO#: _____

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	Analysis: MCP-14 Metals	PAHs by SIM	TOC	SVOCs	PCBs (Aroclors)	EPH	Hexavalent Chromium	Reactivity (Sulfide and Cyanide)	VOCs	% water	Grain Size Analysis	Comment #
7	3-24-15	1515	6	S	GZ-216 (0'-0.5')		X	X	X	X	X	X						
		1515	6	S	GZ-216 (4'-6')		X	X										
8		1515	6	S	GZ-216 (2'-4')		X	X	X	X	X	X						
9		16:10	6	S	GZ-217 (0'-0.5')		X	X	X	X	X	X						
10		16:10	6	S	GZ-217 (0'-3')		X		X	X	X	X	X	X	X	X	X	(1)
	✓	16:10	6	S	GZ-217 (6'-8')		X	X										

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-_____

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present _____Yes _____No

Seals Intact 2 Coolers _____Yes _____No NA: 0845

Cooler Temperature: 2.8+3.6°C 3B 3/25/15

Sampled by : Daniel Scanlon (Daniel.Scanlon@gza.com)

Comments: (1) TCLP 20X Rule Applies

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
	3-24-15	0845 3/25/15	3/25/15 0845		3/25/15 1207

C1820

CERTIFICATE OF ANALYSIS

David E Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Avenue
Norwood, MA 02062

RE: Wynn Everett Sediment Phase (01.0171521.13 Task 001)
ESS Laboratory Work Order Number: 1503415

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director

REVIEWED
By ESS Laboratory at 5:24 pm, Apr 07, 2015

Analytical Summary
The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with NELAC Standards, A2LA and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.

Subcontracted Analyses

CTS - Cranston, RI	Grain Size Analysis, Percent Water

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503415

SAMPLE RECEIPT

The following samples were received on March 25, 2015 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has performed and reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Data Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

For EPH soil samples, the aromatic range results have been corrected for identified cartridge contaminant in accordance with the CAM protocol.

Low Level VOA vials were frozen by ESS Laboratory on March 25, 2105 at 1429.

Question I: Samples GZ-202 (2-4), GZ-203 (4-6), GZ-204 (6-8), GZ-212 (0.5-2), GZ-216 (4-6), and GZ-217 (6-8) samples for SVOC were analyzed for a subset of the required MCP list per the client's request.

Samples were decanted, per client request, upon receipt by ESS.

Lab Number	Sample Name	Matrix	Analysis
1503415-01	GZ-202 0ft-0.5ft	Soil	8270D, EPH8270, MADEP-EPH
1503415-02	GZ-202 2ft-4ft	Soil	8270D
1503415-03	GZ-203 0ft-0.5ft	Soil	8270D, EPH8270, MADEP-EPH
1503415-04	GZ-203 4ft-6ft	Soil	8270D
1503415-05	GZ-203 0ft-3ft	Soil	§, 2580, 7.3.3.2, 7.3.4.1, 7196A, 8260B, 8260B Low, 8270D, 9045, EPH8270, MADEP-EPH
1503415-06	GZ-204 0ft-0.5ft	Soil	8270D, EPH8270, MADEP-EPH
1503415-07	GZ-204 2ft-4ft	Soil	8270D, EPH8270, MADEP-EPH
1503415-08	GZ-204 6ft-8ft	Soil	8270D
1503415-09	GZ-212 0ft-0.5ft	Soil	8270D, EPH8270, MADEP-EPH
1503415-10	GZ-212 0.5ft-2ft	Soil	8270D
1503415-11	GZ-216 0ft-0.5ft	Soil	8270D, EPH8270, MADEP-EPH
1503415-12	GZ-216 4ft-6ft	Soil	8270D
1503415-13	GZ-216 2ft-4ft	Soil	8270D, EPH8270, MADEP-EPH
1503415-14	GZ-217 0ft-0.5ft	Soil	8270D, EPH8270, MADEP-EPH

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase ESS Laboratory Work Order: 1503415

1503415-15	GZ-217 0ft-3ft	Soil	§, 2580, 7.3.3.2, 7.3.4.1, 7196A, 8260B, 8260B Low, 8270D, 9045, EPH8270, MADEP-EPH
1503415-16	GZ-217 6ft-8ft	Soil	8270D
1503415-17	GZ-202 0ft-0.5ft	Soil	6010C, 7010, 7471B
1503415-18	GZ-202 2ft-4ft	Soil	6010C, 7010, 7471B
1503415-19	GZ-203 0ft-0.5ft	Soil	6010C, 7010, 7471B
1503415-20	GZ-203 4ft-6ft	Soil	6010C, 7010, 7471B
1503415-21	GZ-203 0ft-3ft	Soil	6010C, 7010, 7471B
1503415-22	GZ-204 0ft-0.5ft	Soil	6010C, 7010, 7471B
1503415-23	GZ-204 2ft-4ft	Soil	6010C, 7010, 7471B
1503415-24	GZ-204 6ft-8ft	Soil	6010C, 7010, 7471B
1503415-25	GZ-212 0ft-0.5ft	Soil	6010C, 7010, 7471B
1503415-26	GZ-212 0.5ft-2ft	Soil	6010C, 7010, 7471B
1503415-27	GZ-216 0ft-0.5ft	Soil	6010C, 7010, 7471B
1503415-28	GZ-216 4ft-6ft	Soil	6010C, 7010, 7471B
1503415-29	GZ-216 2ft-4ft	Soil	6010C, 7010, 7471B
1503415-30	GZ-217 0ft-0.5ft	Soil	6010C, 7010, 7471B
1503415-31	GZ-217 0ft-3ft	Soil	6010C, 7010, 7471B
1503415-32	GZ-217 6ft-8ft	Soil	6010C, 7010, 7471B
1503415-33	GZ-202 0ft-0.5ft	Soil	8082A
1503415-34	GZ-203 0ft-0.5ft	Soil	8082A
1503415-35	GZ-203 0ft-3ft	Soil	8082A
1503415-36	GZ-204 0ft-0.5ft	Soil	8082A
1503415-37	GZ-204 2ft-4ft	Soil	8082A
1503415-38	GZ-212 0ft-0.5ft	Soil	8082A
1503415-39	GZ-216 0ft-0.5ft	Soil	8082A
1503415-40	GZ-216 2ft-4ft	Soil	8082A
1503415-41	GZ-217 0ft-0.5ft	Soil	8082A
1503415-42	GZ-217 0ft-3ft	Soil	8082A

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase ESS Laboratory Work Order: 1503415

PROJECT NARRATIVE

5035/8260B Volatile Organic Compounds / Low Level

1503415-05	**Internal Standard(s) outside of criteria. Sample was reanalyzed to confirm (IC).**
	1,4-Dichlorobenzene-D4 (35% @ 50-200%)
1503415-05	**Reported above the quantitation limit; Estimated value (E).**
	2-Chlorotoluene , 4-Chlorotoluene , Naphthalene
1503415-05RE1	**Internal Standard(s) outside of criteria. Sample was reanalyzed to confirm (IC).**
	1,4-Dichlorobenzene-D4 (33% @ 50-200%), Chlorobenzene-d5 (47% @ 50-200%)
1503415-05RE1	**Reported above the quantitation limit; Estimated value (E).**
	2-Chlorotoluene , 4-Chlorotoluene , Naphthalene
1503415-15	**Internal Standard(s) outside of criteria (I).**
	1,4-Dichlorobenzene-D4 (43% @ 50-200%)
CC52627-BS1	**Blank Spike recovery is above upper control limit (B+).**
	Bromomethane (185% @ 70-130%)
CC52627-BSD1	**Blank Spike recovery is above upper control limit (B+).**
	Bromomethane (152% @ 70-130%)
CYC0308-CCV1	**Continuing Calibration recovery is above upper control limit (C+).**
	Bromomethane (171% @ 70-130%)

5035/8260B Volatile Organic Compounds / Methanol

1503415-05	**Present in Method Blank (B).**
	Acetone
1503415-15	**Present in Method Blank (B).**
	Acetone
1503415-15	**Surrogate recovery(ies) above upper control limit (S+).**
	Dibromofluoromethane (136% @ 70-130%)
CC52745-BS1	**Blank Spike recovery is above upper control limit (B+).**
	Acetone (141% @ 70-130%)
CC52745-BSD1	**Blank Spike recovery is above upper control limit (B+).**
	Acetone (140% @ 70-130%)

8082A Polychlorinated Biphenyls (PCB)

1503415-35	**Surrogate recovery(ies) diluted below the MRL (SD).**
	Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)
1503415-37	**Surrogate recovery(ies) diluted below the MRL (SD).**
	Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

8270D Semi-Volatile Organic Compounds

1503415-13	**Surrogate recovery(ies) below lower control limit (S-).**
	2,4,6-Tribromophenol (21% @ 30-130%)
1503415-14	**Surrogate recovery(ies) below lower control limit (S-).**

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase ESS Laboratory Work Order: 1503415

2,4,6-Tribromophenol (17% @ 30-130%)

1503415-15 **Surrogate recovery(ies) below lower control limit (S-).**
2,4,6-Tribromophenol (5% @ 30-130%)

CC52608-BS1 **Blank Spike recovery is below lower control limit (B-).**
N-Nitrosodimethylamine (37% @ 40-140%)

CC52608-BSD1 **Blank Spike recovery is below lower control limit (B-).**
N-Nitrosodimethylamine (37% @ 40-140%)

CYC0313-CCV1 **Calibration required quadratic regression (Q).**
2,4-Dinitrophenol (93% @ 80-120%), bis(2-Ethylhexyl)phthalate (90% @ 80-120%), Di-n-octylphthalate (92% @ 80-120%)

CYC0313-CCV1 **Continuing Calibration recovery is below lower control limit (C-).**
N-Nitrosodimethylamine (75% @ 80-120%)

CYC0317-CCV1 **Calibration required quadratic regression (Q).**
2,4-Dinitrophenol (75% @ 80-120%), bis(2-Ethylhexyl)phthalate (91% @ 80-120%), Di-n-octylphthalate (92% @ 80-120%)

CYC0317-CCV1 **Continuing Calibration recovery is below lower control limit (C-).**
2,4-Dinitrophenol (75% @ 80-120%), 4-Nitrophenol (79% @ 80-120%), N-Nitrosodimethylamine (73% @ 80-120%)

8270D(SIM) Polynuclear Aromatic Hydrocarbons

1503415-07 **Elevated Method Reporting Limits due to sample matrix (EL).**
Acenaphthene , Hexachlorobenzene

1503415-14 **Surrogate recovery(ies) below lower control limit (S-).**
1,2-Dichlorobenzene-d4 (29% @ 30-130%)

CC52609-MS1 **Matrix Spike recovery is below lower control limit (M-).**
2-Methylnaphthalene (38% @ 40-140%), Naphthalene (31% @ 40-140%), Phenanthrene (34% @ 40-140%)

CC52609-MSD1 **Matrix Spike recovery is above upper control limit (M+).**

CC52609-MSD1 **Relative percent difference for duplicate is outside of criteria (D+).**

Classical Chemistry

1503415-05 **Estimated value. Sample hold times were exceeded (H).**
Corrosivity (pH) , Corrosivity (pH) Sample Temp , Eh (ORP)

1503415-15 **Estimated value. Sample hold times were exceeded (H).**
Corrosivity (pH) , Corrosivity (pH) Sample Temp , Eh (ORP)

Total Metals

CC52701-MS1 **Matrix Spike recovery is below lower control limit (M-).**
Antimony (24% @ 75-125%), Lead (64% @ 75-125%), Nickel (69% @ 75-125%), Selenium (72% @ 75-125%), Thallium (40% @ 75-125%), Zinc (59% @ 75-125%)

CC52701-MS2 **Matrix Spike recovery is below lower control limit (M-).**
Antimony (15% @ 75-125%)

CC52702-MS1 **Matrix Spike recovery is below lower control limit (M-).**
Mercury (11% @ 75-125%)

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503415

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

Definitions of Quality Control Parameters

Semivolatile Organics Internal Standard Information

Semivolatile Organics Surrogate Information

Volatile Organics Internal Standard Information

Volatile Organics Surrogate Information

EPH and VPH Alkane Lists

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

1010A - Flashpoint
6010C - ICP
6020A - ICP MS
7010 - Graphite Furnace
7196A - Hexavalent Chromium
7470A - Aqueous Mercury
7471B - Solid Mercury
8011 - EDB/DBCP/TCP
8015D - GRO/DRO
8081B - Pesticides
8082A - PCB
8100M - TPH
8151A - Herbicides
8260B - VOA
8270D - SVOA
8270D SIM - SVOA Low Level
9014 - Cyanide
9038 - Sulfate
9040C - Aqueous pH
9045D - Solid pH (Corrosivity)
9050A - Specific Conductance
9056A - Anions (IC)
9060A - TOC
9095B - Paint Filter
MADEP 04-1.1 - EPH / VPH

Prep Methods

3005A - Aqueous ICP and Graphite Furnace Digestion
3020A - Aqueous ICP MS Digestion
3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
3060A - Solid Hexavalent Chromium Digestion
3510C - Separatory Funnel Extraction
3520C - Liquid / Liquid Extraction
3540C - Manual Soxhlet Extraction
3541 - Automated Soxhlet Extraction
3546 - Microwave Extraction
3580A - Waste Dilution
5030B - Aqueous Purge and Trap
5030C - Aqueous Purge and Trap
5035 - Solid Purge and Trap

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503415

MassDEP Analytical Protocol Certification Form

MADEP RTN: _____

This form provides certification for the following data set: **1503415-01 through 1503415-42**

Matrices: ( ) Ground Water/Surface Water (X) Soil/Sediment ( ) Drinking Water ( ) Air ( ) Other:_____

CAM Protocol (check all that apply below):

(X) 8260 VOC CAM II A	(X) 7470/7471 Hg CAM III B	( ) MassDEP VPH CAM IV A	( ) 8081 Pesticides CAM V B	( ) 7196 Hex Cr CAM VI B	( ) MassDEP APH CAM IX A
(X) 8270 SVOC CAM II B	(X) 7010 Metals CAM III C	(X) MassDEP EPH CAM IV B	( ) 8151 Herbicides CAM V C	( ) 8330 Explosives CAM VIII A	( ) TO-15 VOC CAM IX B
(X) 6010 Metals CAM III A	( ) 6020 Metals CAM III D	(X) 8082 PCB CAM V A	( ) 6860 Perchlorate CAM VIII B	( ) 9014 Total Cyanide/PAC CAM VI A	

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	Yes (X) No ( )
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	Yes (X) No ( )
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	Yes (X) No ( )
D	Does the laboratory report comply with all the reporting requirements specified in the CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	Yes (X) No ( )
E	a. VPH, EPH, APH and TO-15 only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	Yes (X) No ( )
	b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	Yes ( ) No ( )
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	Yes (X) No ( )

Responses to Questions G, H and I below are required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocols(s)?	Yes (X) No ( )*
	***Data User Note:* Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.**	
H	Were **all** QC performance standards specified in the CAM protocol(s) achieved?	Yes ( ) No (X)*
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	Yes ( ) No (X)*

****All negative responses must be addressed in an attached laboratory narrative.***

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Laurel Stoddard Date: April 07, 2015

Printed Name: Laurel Stoddard Position: Laboratory Director

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-202 0ft-0.5ft
Date Sampled: 03/24/15 11:30
Percent Solids: 25
Initial Volume: 30.1
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503415
ESS Laboratory Sample ID: 1503415-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 3/26/15 15:21

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.663)		8270D		1	03/26/15 23:40	CYC0313	CC52608
1,2-Dichlorobenzene	ND (0.663)		8270D		1	03/26/15 23:40	CYC0313	CC52608
1,3-Dichlorobenzene	ND (0.663)		8270D		1	03/26/15 23:40	CYC0313	CC52608
1,4-Dichlorobenzene	ND (0.663)		8270D		1	03/26/15 23:40	CYC0313	CC52608
2,4,5-Trichlorophenol	ND (0.663)		8270D		1	03/26/15 23:40	CYC0313	CC52608
2,4,6-Trichlorophenol	ND (0.663)		8270D		1	03/26/15 23:40	CYC0313	CC52608
2,4-Dichlorophenol	ND (0.663)		8270D		1	03/26/15 23:40	CYC0313	CC52608
2,4-Dimethylphenol	ND (0.663)		8270D		1	03/26/15 23:40	CYC0313	CC52608
2,4-Dinitrophenol	ND (3.33)		8270D		1	03/26/15 23:40	CYC0313	CC52608
2,4-Dinitrotoluene	ND (0.663)		8270D		1	03/26/15 23:40	CYC0313	CC52608
2,6-Dinitrotoluene	ND (0.663)		8270D		1	03/26/15 23:40	CYC0313	CC52608
2-Chloronaphthalene	ND (0.663)		8270D		1	03/26/15 23:40	CYC0313	CC52608
2-Chlorophenol	ND (0.663)		8270D		1	03/26/15 23:40	CYC0313	CC52608
2-Methylphenol	ND (0.663)		8270D		1	03/26/15 23:40	CYC0313	CC52608
2-Nitrophenol	ND (0.663)		8270D		1	03/26/15 23:40	CYC0313	CC52608
3,3´-Dichlorobenzidine	ND (1.33)		8270D		1	03/26/15 23:40	CYC0313	CC52608
3+4-Methylphenol	ND (1.33)		8270D		1	03/26/15 23:40	CYC0313	CC52608
4-Bromophenyl-phenylether	ND (0.663)		8270D		1	03/26/15 23:40	CYC0313	CC52608
4-Chloroaniline	ND (1.33)		8270D		1	03/26/15 23:40	CYC0313	CC52608
4-Nitrophenol	ND (3.33)		8270D		1	03/26/15 23:40	CYC0313	CC52608
Acetophenone	ND (1.33)		8270D		1	03/26/15 23:40	CYC0313	CC52608
Aniline	ND (3.33)		8270D		1	03/26/15 23:40	CYC0313	CC52608
Azobenzene	ND (0.663)		8270D		1	03/26/15 23:40	CYC0313	CC52608
bis(2-Chloroethoxy)methane	ND (0.663)		8270D		1	03/26/15 23:40	CYC0313	CC52608
bis(2-Chloroethyl)ether	ND (0.663)		8270D		1	03/26/15 23:40	CYC0313	CC52608
bis(2-chloroisopropyl)Ether	ND (0.663)		8270D		1	03/26/15 23:40	CYC0313	CC52608
bis(2-Ethylhexyl)phthalate	**1.10** (0.663)		8270D		1	03/26/15 23:40	CYC0313	CC52608
Butylbenzylphthalate	ND (0.663)		8270D		1	03/26/15 23:40	CYC0313	CC52608
Dibenzofuran	ND (0.663)		8270D		1	03/26/15 23:40	CYC0313	CC52608
Diethylphthalate	ND (0.663)		8270D		1	03/26/15 23:40	CYC0313	CC52608
Dimethylphthalate	ND (0.663)		8270D		1	03/26/15 23:40	CYC0313	CC52608
Di-n-butylphthalate	ND (0.663)		8270D		1	03/26/15 23:40	CYC0313	CC52608

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-202 0ft-0.5ft
Date Sampled: 03/24/15 11:30
Percent Solids: 25
Initial Volume: 30.1
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503415
ESS Laboratory Sample ID: 1503415-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 3/26/15 15:21

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Di-n-octylphthalate	ND (0.663)		8270D		1	03/26/15 23:40	CYC0313	CC52608
Hexachlorobenzene	ND (0.663)		8270D		1	03/26/15 23:40	CYC0313	CC52608
Hexachlorobutadiene	ND (0.663)		8270D		1	03/26/15 23:40	CYC0313	CC52608
Hexachloroethane	ND (0.663)		8270D		1	03/26/15 23:40	CYC0313	CC52608
Isophorone	ND (0.663)		8270D		1	03/26/15 23:40	CYC0313	CC52608
Nitrobenzene	ND (0.663)		8270D		1	03/26/15 23:40	CYC0313	CC52608
N-Nitrosodimethylamine	ND (0.663)		8270D		1	03/26/15 23:40	CYC0313	CC52608
Pentachlorophenol	ND (3.33)		8270D		1	03/26/15 23:40	CYC0313	CC52608
Phenol	ND (0.663)		8270D		1	03/26/15 23:40	CYC0313	CC52608

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*41 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*69 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*43 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*48 %*		*30-130*
Surrogate: 2-Fluorophenol	*39 %*		*30-130*
Surrogate: Nitrobenzene-d5	*41 %*		*30-130*
Surrogate: Phenol-d6	*43 %*		*30-130*
Surrogate: p-Terphenyl-d14	*72 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-202 0ft-0.5ft
Date Sampled: 03/24/15 11:30
Percent Solids: 25
Initial Volume: 20.1
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503415
ESS Laboratory Sample ID: 1503415-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 3/26/15 16:45

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.050)		8270D		1	03/28/15 21:14	CYC0341	CC52609
Acenaphthene	**0.049** (0.020)		8270D		1	03/28/15 21:14	CYC0341	CC52609
Acenaphthylene	**0.190** (0.050)		8270D		1	03/28/15 21:14	CYC0341	CC52609
Anthracene	**0.187** (0.050)		8270D		1	03/28/15 21:14	CYC0341	CC52609
Benzo(a)anthracene	**0.521** (0.050)		8270D		1	03/28/15 21:14	CYC0341	CC52609
Benzo(a)pyrene	**0.690** (0.050)		8270D		1	03/28/15 21:14	CYC0341	CC52609
Benzo(b)fluoranthene	**1.07** (0.050)		8270D		1	03/28/15 21:14	CYC0341	CC52609
Benzo(g,h,i)perylene	**0.581** (0.050)		8270D		1	03/28/15 21:14	CYC0341	CC52609
Benzo(k)fluoranthene	**0.337** (0.050)		8270D		1	03/28/15 21:14	CYC0341	CC52609
Chrysene	**0.693** (0.050)		8270D		1	03/28/15 21:14	CYC0341	CC52609
Dibenzo(a,h)Anthracene	**0.146** (0.050)		8270D		1	03/28/15 21:14	CYC0341	CC52609
Fluoranthene	**1.07** (0.050)		8270D		1	03/28/15 21:14	CYC0341	CC52609
Fluorene	**0.073** (0.050)		8270D		1	03/28/15 21:14	CYC0341	CC52609
Hexachlorobenzene	ND (0.020)		8270D		1	03/28/15 21:14	CYC0341	CC52609
Indeno(1,2,3-cd)Pyrene	**0.628** (0.050)		8270D		1	03/28/15 21:14	CYC0341	CC52609
Naphthalene	**0.223** (0.050)		8270D		1	03/28/15 21:14	CYC0341	CC52609
Phenanthrene	**0.442** (0.050)		8270D		1	03/28/15 21:14	CYC0341	CC52609
Pyrene	**1.09** (0.050)		8270D		1	03/28/15 21:14	CYC0341	CC52609

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*41 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*63 %*		*30-130*
Surrogate: Nitrobenzene-d5	*56 %*		*30-130*
Surrogate: p-Terphenyl-d14	*72 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-202 0ft-0.5ft
Date Sampled: 03/24/15 11:30
Percent Solids: 25
Initial Volume: 30.1
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1503415
ESS Laboratory Sample ID: 1503415-01
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 3/26/15 16:10

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	ND (49.8)		MADEP-EPH		1	DPS	03/26/15 21:57	CYC0307	CC52536
C19-C36 Aliphatics1	**256** (49.8)		MADEP-EPH		1	DPS	03/26/15 21:57	CYC0307	CC52536
C11-C22 Unadjusted Aromatics1	**103** (49.8)		EPH8270		1	JXS	03/27/15 18:07	CYC0333	CC52536
C11-C22 Aromatics1,2	**97.3** (49.8)		EPH8270			JXS	03/27/15 18:07		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*57 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*106 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*102 %*		*40-140*
Surrogate: O-Terphenyl	*66 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-202 2ft-4ft
Date Sampled: 03/24/15 11:30
Percent Solids: 62
Initial Volume: 20.3
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503415
ESS Laboratory Sample ID: 1503415-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 3/26/15 16:45

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.020)		8270D		1	03/30/15 21:42	CYC0345	CC52609
Acenaphthene	**0.027** (0.020)		8270D		1	03/30/15 21:42	CYC0345	CC52609
Acenaphthylene	**0.052** (0.020)		8270D		1	03/30/15 21:42	CYC0345	CC52609
Anthracene	**0.054** (0.020)		8270D		1	03/30/15 21:42	CYC0345	CC52609
Benzo(a)anthracene	**0.075** (0.020)		8270D		1	03/30/15 21:42	CYC0345	CC52609
Benzo(a)pyrene	**0.103** (0.020)		8270D		1	03/30/15 21:42	CYC0345	CC52609
Benzo(b)fluoranthene	**0.121** (0.020)		8270D		1	03/30/15 21:42	CYC0345	CC52609
Benzo(g,h,i)perylene	ND (0.020)		8270D		1	03/30/15 21:42	CYC0345	CC52609
Benzo(k)fluoranthene	**0.052** (0.020)		8270D		1	03/30/15 21:42	CYC0345	CC52609
Chrysene	**0.101** (0.020)		8270D		1	03/30/15 21:42	CYC0345	CC52609
Dibenzo(a,h)Anthracene	ND (0.020)		8270D		1	03/30/15 21:42	CYC0345	CC52609
Fluoranthene	**0.177** (0.020)		8270D		1	03/30/15 21:42	CYC0345	CC52609
Fluorene	**0.027** (0.020)		8270D		1	03/30/15 21:42	CYC0345	CC52609
Hexachlorobenzene	ND (0.008)		8270D		1	03/30/15 21:42	CYC0345	CC52609
Indeno(1,2,3-cd)Pyrene	ND (0.020)		8270D		1	03/30/15 21:42	CYC0345	CC52609
Naphthalene	**0.126** (0.020)		8270D		1	03/30/15 21:42	CYC0345	CC52609
Phenanthrene	**0.088** (0.020)		8270D		1	03/30/15 21:42	CYC0345	CC52609
Pyrene	**0.231** (0.020)		8270D		1	03/30/15 21:42	CYC0345	CC52609

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*51 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*64 %*		*30-130*
Surrogate: Nitrobenzene-d5	*75 %*		*30-130*
Surrogate: p-Terphenyl-d14	*70 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-203 0ft-0.5ft
Date Sampled: 03/24/15 12:30
Percent Solids: 36
Initial Volume: 30.2
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503415
ESS Laboratory Sample ID: 1503415-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 3/26/15 15:21

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.460)		8270D		1	03/27/15 0:16	CYC0313	CC52608
1,2-Dichlorobenzene	ND (0.460)		8270D		1	03/27/15 0:16	CYC0313	CC52608
1,3-Dichlorobenzene	ND (0.460)		8270D		1	03/27/15 0:16	CYC0313	CC52608
1,4-Dichlorobenzene	ND (0.460)		8270D		1	03/27/15 0:16	CYC0313	CC52608
2,4,5-Trichlorophenol	ND (0.460)		8270D		1	03/27/15 0:16	CYC0313	CC52608
2,4,6-Trichlorophenol	ND (0.460)		8270D		1	03/27/15 0:16	CYC0313	CC52608
2,4-Dichlorophenol	ND (0.460)		8270D		1	03/27/15 0:16	CYC0313	CC52608
2,4-Dimethylphenol	ND (0.460)		8270D		1	03/27/15 0:16	CYC0313	CC52608
2,4-Dinitrophenol	ND (2.31)		8270D		1	03/27/15 0:16	CYC0313	CC52608
2,4-Dinitrotoluene	ND (0.460)		8270D		1	03/27/15 0:16	CYC0313	CC52608
2,6-Dinitrotoluene	ND (0.460)		8270D		1	03/27/15 0:16	CYC0313	CC52608
2-Chloronaphthalene	ND (0.460)		8270D		1	03/27/15 0:16	CYC0313	CC52608
2-Chlorophenol	ND (0.460)		8270D		1	03/27/15 0:16	CYC0313	CC52608
2-Methylphenol	ND (0.460)		8270D		1	03/27/15 0:16	CYC0313	CC52608
2-Nitrophenol	ND (0.460)		8270D		1	03/27/15 0:16	CYC0313	CC52608
3,3´-Dichlorobenzidine	ND (0.922)		8270D		1	03/27/15 0:16	CYC0313	CC52608
3+4-Methylphenol	ND (0.922)		8270D		1	03/27/15 0:16	CYC0313	CC52608
4-Bromophenyl-phenylether	ND (0.460)		8270D		1	03/27/15 0:16	CYC0313	CC52608
4-Chloroaniline	ND (0.922)		8270D		1	03/27/15 0:16	CYC0313	CC52608
4-Nitrophenol	ND (2.31)		8270D		1	03/27/15 0:16	CYC0313	CC52608
Acetophenone	ND (0.922)		8270D		1	03/27/15 0:16	CYC0313	CC52608
Aniline	ND (2.31)		8270D		1	03/27/15 0:16	CYC0313	CC52608
Azobenzene	ND (0.460)		8270D		1	03/27/15 0:16	CYC0313	CC52608
bis(2-Chloroethoxy)methane	ND (0.460)		8270D		1	03/27/15 0:16	CYC0313	CC52608
bis(2-Chloroethyl)ether	ND (0.460)		8270D		1	03/27/15 0:16	CYC0313	CC52608
bis(2-chloroisopropyl)Ether	ND (0.460)		8270D		1	03/27/15 0:16	CYC0313	CC52608
bis(2-Ethylhexyl)phthalate	**2.04** (0.460)		8270D		1	03/27/15 0:16	CYC0313	CC52608
Butylbenzylphthalate	ND (0.460)		8270D		1	03/27/15 0:16	CYC0313	CC52608
Dibenzofuran	ND (0.460)		8270D		1	03/27/15 0:16	CYC0313	CC52608
Diethylphthalate	ND (0.460)		8270D		1	03/27/15 0:16	CYC0313	CC52608
Dimethylphthalate	ND (0.460)		8270D		1	03/27/15 0:16	CYC0313	CC52608
Di-n-butylphthalate	ND (0.460)		8270D		1	03/27/15 0:16	CYC0313	CC52608

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-203 0ft-0.5ft
Date Sampled: 03/24/15 12:30
Percent Solids: 36
Initial Volume: 30.2
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503415
ESS Laboratory Sample ID: 1503415-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 3/26/15 15:21

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Di-n-octylphthalate	ND (0.460)		8270D		1	03/27/15 0:16	CYC0313	CC52608
Hexachlorobenzene	ND (0.460)		8270D		1	03/27/15 0:16	CYC0313	CC52608
Hexachlorobutadiene	ND (0.460)		8270D		1	03/27/15 0:16	CYC0313	CC52608
Hexachloroethane	ND (0.460)		8270D		1	03/27/15 0:16	CYC0313	CC52608
Isophorone	ND (0.460)		8270D		1	03/27/15 0:16	CYC0313	CC52608
Nitrobenzene	ND (0.460)		8270D		1	03/27/15 0:16	CYC0313	CC52608
N-Nitrosodimethylamine	ND (0.460)		8270D		1	03/27/15 0:16	CYC0313	CC52608
Pentachlorophenol	ND (2.31)		8270D		1	03/27/15 0:16	CYC0313	CC52608
Phenol	ND (0.460)		8270D		1	03/27/15 0:16	CYC0313	CC52608

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*43 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*70 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*44 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*50 %*		*30-130*
Surrogate: 2-Fluorophenol	*40 %*		*30-130*
Surrogate: Nitrobenzene-d5	*42 %*		*30-130*
Surrogate: Phenol-d6	*44 %*		*30-130*
Surrogate: p-Terphenyl-d14	*67 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-203 0ft-0.5ft
Date Sampled: 03/24/15 12:30
Percent Solids: 36
Initial Volume: 20.3
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503415
ESS Laboratory Sample ID: 1503415-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 3/26/15 16:45

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.034)		8270D		1	03/27/15 8:40	CYC0318	CC52609
Acenaphthene	**0.030** (0.014)		8270D		1	03/27/15 8:40	CYC0318	CC52609
Acenaphthylene	**0.103** (0.034)		8270D		1	03/27/15 8:40	CYC0318	CC52609
Anthracene	**0.111** (0.034)		8270D		1	03/27/15 8:40	CYC0318	CC52609
Benzo(a)anthracene	**0.321** (0.034)		8270D		1	03/27/15 8:40	CYC0318	CC52609
Benzo(a)pyrene	**0.451** (0.034)		8270D		1	03/27/15 8:40	CYC0318	CC52609
Benzo(b)fluoranthene	**0.655** (0.034)		8270D		1	03/27/15 8:40	CYC0318	CC52609
Benzo(g,h,i)perylene	**0.407** (0.034)		8270D		1	03/27/15 8:40	CYC0318	CC52609
Benzo(k)fluoranthene	**0.159** (0.034)		8270D		1	03/27/15 8:40	CYC0318	CC52609
Chrysene	**0.479** (0.034)		8270D		1	03/27/15 8:40	CYC0318	CC52609
Dibenzo(a,h)Anthracene	**0.096** (0.034)		8270D		1	03/27/15 8:40	CYC0318	CC52609
Fluoranthene	**0.682** (0.034)		8270D		1	03/27/15 8:40	CYC0318	CC52609
Fluorene	**0.040** (0.034)		8270D		1	03/27/15 8:40	CYC0318	CC52609
Hexachlorobenzene	ND (0.014)		8270D		1	03/27/15 8:40	CYC0318	CC52609
Indeno(1,2,3-cd)Pyrene	**0.416** (0.034)		8270D		1	03/27/15 8:40	CYC0318	CC52609
Naphthalene	**0.131** (0.034)		8270D		1	03/27/15 8:40	CYC0318	CC52609
Phenanthrene	**0.293** (0.034)		8270D		1	03/27/15 8:40	CYC0318	CC52609
Pyrene	**0.705** (0.034)		8270D		1	03/27/15 8:40	CYC0318	CC52609

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*36 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*56 %*		*30-130*
Surrogate: Nitrobenzene-d5	*42 %*		*30-130*
Surrogate: p-Terphenyl-d14	*66 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-203 0ft-0.5ft
Date Sampled: 03/24/15 12:30
Percent Solids: 36
Initial Volume: 30.1
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1503415
ESS Laboratory Sample ID: 1503415-03
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 3/26/15 16:10

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	ND (34.7)		MADEP-EPH		1	DPS	03/26/15 22:48	CYC0307	CC52536
C19-C36 Aliphatics1	**106** (34.7)		MADEP-EPH		1	DPS	03/26/15 22:48	CYC0307	CC52536
C11-C22 Unadjusted Aromatics1	**63.1** (34.7)		EPH8270		1	JXS	03/27/15 18:42	CYC0333	CC52536
C11-C22 Aromatics1,2	**54.6** (34.7)		EPH8270			JXS	03/27/15 18:42		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*59 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*99 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*93 %*		*40-140*
Surrogate: O-Terphenyl	*72 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-203 4ft-6ft
Date Sampled: 03/24/15 12:30
Percent Solids: 62
Initial Volume: 20.5
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503415
ESS Laboratory Sample ID: 1503415-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 3/26/15 16:45

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	**0.022** (0.020)		8270D		1	03/26/15 21:15	CYC0319	CC52609
Acenaphthene	**0.021** (0.020)		8270D		1	03/26/15 21:15	CYC0319	CC52609
Acenaphthylene	ND (0.020)		8270D		1	03/26/15 21:15	CYC0319	CC52609
Anthracene	ND (0.020)		8270D		1	03/26/15 21:15	CYC0319	CC52609
Benzo(a)anthracene	ND (0.020)		8270D		1	03/26/15 21:15	CYC0319	CC52609
Benzo(a)pyrene	ND (0.020)		8270D		1	03/26/15 21:15	CYC0319	CC52609
Benzo(b)fluoranthene	ND (0.020)		8270D		1	03/26/15 21:15	CYC0319	CC52609
Benzo(g,h,i)perylene	ND (0.020)		8270D		1	03/26/15 21:15	CYC0319	CC52609
Benzo(k)fluoranthene	ND (0.020)		8270D		1	03/26/15 21:15	CYC0319	CC52609
Chrysene	ND (0.020)		8270D		1	03/26/15 21:15	CYC0319	CC52609
Dibenzo(a,h)Anthracene	ND (0.020)		8270D		1	03/26/15 21:15	CYC0319	CC52609
Fluoranthene	ND (0.020)		8270D		1	03/26/15 21:15	CYC0319	CC52609
Fluorene	ND (0.020)		8270D		1	03/26/15 21:15	CYC0319	CC52609
Hexachlorobenzene	ND (0.008)		8270D		1	03/26/15 21:15	CYC0319	CC52609
Indeno(1,2,3-cd)Pyrene	ND (0.020)		8270D		1	03/26/15 21:15	CYC0319	CC52609
Naphthalene	**0.202** (0.020)		8270D		1	03/26/15 21:15	CYC0319	CC52609
Phenanthrene	ND (0.020)		8270D		1	03/26/15 21:15	CYC0319	CC52609
Pyrene	ND (0.020)		8270D		1	03/26/15 21:15	CYC0319	CC52609

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*64 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*74 %*		*30-130*
Surrogate: Nitrobenzene-d5	*61 %*		*30-130*
Surrogate: p-Terphenyl-d14	*79 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-203 0ft-3ft
Date Sampled: 03/24/15 12:30
Percent Solids: 35
Initial Volume: 11.1
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1503415
ESS Laboratory Sample ID: 1503415-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.0063)		8260B Low		1	03/26/15 14:10	CYC0308	CC52627
1,1,1-Trichloroethane	ND (0.0063)		8260B Low		1	03/26/15 14:10	CYC0308	CC52627
1,1,2,2-Tetrachloroethane	ND (0.0025)		8260B Low		1	03/26/15 14:10	CYC0308	CC52627
1,1,2-Trichloroethane	ND (0.0063)		8260B Low		1	03/26/15 14:10	CYC0308	CC52627
1,1-Dichloroethane	ND (0.0063)		8260B Low		1	03/26/15 14:10	CYC0308	CC52627
1,1-Dichloroethene	ND (0.0063)		8260B Low		1	03/26/15 14:10	CYC0308	CC52627
1,1-Dichloropropene	ND (0.0063)		8260B Low		1	03/26/15 14:10	CYC0308	CC52627
1,2,3-Trichlorobenzene	ND (0.0063)		8260B Low		1	03/26/15 14:10	CYC0308	CC52627
1,2,3-Trichloropropane	ND (0.0063)		8260B Low		1	03/26/15 14:10	CYC0308	CC52627
1,2,4-Trichlorobenzene	ND (0.0063)		8260B Low		1	03/26/15 14:10	CYC0308	CC52627
1,2,4-Trimethylbenzene	**0.0382** (0.0063)		8260B Low		1	03/26/15 14:10	CYC0308	CC52627
1,2-Dibromo-3-Chloropropane	ND (0.0063)		8260B Low		1	03/26/15 14:10	CYC0308	CC52627
1,2-Dibromoethane	ND (0.0063)		8260B Low		1	03/26/15 14:10	CYC0308	CC52627
1,2-Dichlorobenzene	ND (0.0063)		8260B Low		1	03/26/15 14:10	CYC0308	CC52627
1,2-Dichloroethane	ND (0.0063)		8260B Low		1	03/26/15 14:10	CYC0308	CC52627
1,2-Dichloropropane	ND (0.0063)		8260B Low		1	03/26/15 14:10	CYC0308	CC52627
1,3,5-Trimethylbenzene	**0.0234** (0.0063)		8260B Low		1	03/26/15 14:10	CYC0308	CC52627
1,3-Dichlorobenzene	ND (0.0063)		8260B Low		1	03/26/15 14:10	CYC0308	CC52627
1,3-Dichloropropane	ND (0.0063)		8260B Low		1	03/26/15 14:10	CYC0308	CC52627
1,4-Dichlorobenzene	ND (0.0063)		8260B Low		1	03/26/15 14:10	CYC0308	CC52627
1,4-Dioxane	ND (0.127)		8260B Low		1	03/26/15 14:10	CYC0308	CC52627
2,2-Dichloropropane	ND (0.0063)		8260B Low		1	03/26/15 14:10	CYC0308	CC52627
2-Butanone	**0.205** (0.0127)		8260B Low		1	03/26/15 14:10	CYC0308	CC52627
2-Chlorotoluene	**E 2.12** (0.0063)		8260B Low		1	03/26/15 14:10	CYC0308	CC52627
2-Hexanone	ND (0.0127)		8260B Low		1	03/26/15 14:10	CYC0308	CC52627
4-Chlorotoluene	**E 0.825** (0.0063)		8260B Low		1	03/26/15 14:10	CYC0308	CC52627
4-Isopropyltoluene	ND (0.0063)		8260B Low		1	03/26/15 14:10	CYC0308	CC52627
4-Methyl-2-Pentanone	**0.0163** (0.0127)		8260B Low		1	03/26/15 14:10	CYC0308	CC52627
Acetone	**1.18** (0.0127)		8260B Low		1	03/26/15 14:10	CYC0308	CC52627
Benzene	**0.0366** (0.0063)		8260B Low		1	03/26/15 14:10	CYC0308	CC52627
Bromobenzene	ND (0.0063)		8260B Low		1	03/26/15 14:10	CYC0308	CC52627
Bromochloromethane	ND (0.0063)		8260B Low		1	03/26/15 14:10	CYC0308	CC52627

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-203 0ft-3ft
Date Sampled: 03/24/15 12:30
Percent Solids: 35
Initial Volume: 11.1
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1503415
ESS Laboratory Sample ID: 1503415-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromodichloromethane	ND (0.0063)		8260B Low		1	03/26/15 14:10	CYC0308	CC52627
Bromoform	ND (0.0063)		8260B Low		1	03/26/15 14:10	CYC0308	CC52627
Bromomethane	ND (0.0127)		8260B Low		1	03/26/15 14:10	CYC0308	CC52627
Carbon Disulfide	**0.0294** (0.0063)		8260B Low		1	03/26/15 14:10	CYC0308	CC52627
Carbon Tetrachloride	ND (0.0063)		8260B Low		1	03/26/15 14:10	CYC0308	CC52627
Chlorobenzene	**0.0324** (0.0063)		8260B Low		1	03/26/15 14:10	CYC0308	CC52627
Chloroethane	ND (0.0127)		8260B Low		1	03/26/15 14:10	CYC0308	CC52627
Chloroform	ND (0.0063)		8260B Low		1	03/26/15 14:10	CYC0308	CC52627
Chloromethane	ND (0.0127)		8260B Low		1	03/26/15 14:10	CYC0308	CC52627
cis-1,2-Dichloroethene	ND (0.0063)		8260B Low		1	03/26/15 14:10	CYC0308	CC52627
cis-1,3-Dichloropropene	ND (0.0063)		8260B Low		1	03/26/15 14:10	CYC0308	CC52627
Dibromochloromethane	ND (0.0025)		8260B Low		1	03/26/15 14:10	CYC0308	CC52627
Dibromomethane	ND (0.0063)		8260B Low		1	03/26/15 14:10	CYC0308	CC52627
Dichlorodifluoromethane	ND (0.0127)		8260B Low		1	03/26/15 14:10	CYC0308	CC52627
Diethyl Ether	**0.0102** (0.0063)		8260B Low		1	03/26/15 14:10	CYC0308	CC52627
Di-isopropyl ether	ND (0.0063)		8260B Low		1	03/26/15 14:10	CYC0308	CC52627
Ethyl tertiary-butyl ether	ND (0.0063)		8260B Low		1	03/26/15 14:10	CYC0308	CC52627
Ethylbenzene	**0.180** (0.0063)		8260B Low		1	03/26/15 14:10	CYC0308	CC52627
Hexachlorobutadiene	ND (0.0063)		8260B Low		1	03/26/15 14:10	CYC0308	CC52627
Isopropylbenzene	**0.0088** (0.0063)		8260B Low		1	03/26/15 14:10	CYC0308	CC52627
Methyl tert-Butyl Ether	ND (0.0063)		8260B Low		1	03/26/15 14:10	CYC0308	CC52627
Methylene Chloride	ND (0.0127)		8260B Low		1	03/26/15 14:10	CYC0308	CC52627
Naphthalene	**E 0.761** (0.0063)		8260B Low		1	03/26/15 14:10	CYC0308	CC52627
n-Butylbenzene	ND (0.0063)		8260B Low		1	03/26/15 14:10	CYC0308	CC52627
n-Propylbenzene	ND (0.0063)		8260B Low		1	03/26/15 14:10	CYC0308	CC52627
sec-Butylbenzene	**0.0069** (0.0063)		8260B Low		1	03/26/15 14:10	CYC0308	CC52627
Styrene	ND (0.0063)		8260B Low		1	03/26/15 14:10	CYC0308	CC52627
tert-Butylbenzene	ND (0.0063)		8260B Low		1	03/26/15 14:10	CYC0308	CC52627
Tertiary-amyl methyl ether	ND (0.0063)		8260B Low		1	03/26/15 14:10	CYC0308	CC52627
Tetrachloroethene	ND (0.0063)		8260B Low		1	03/26/15 14:10	CYC0308	CC52627
Tetrahydrofuran	ND (0.0063)		8260B Low		1	03/26/15 14:10	CYC0308	CC52627
Toluene	**0.0423** (0.0063)		8260B Low		1	03/26/15 14:10	CYC0308	CC52627

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-203 0ft-3ft
Date Sampled: 03/24/15 12:30
Percent Solids: 35
Initial Volume: 11.1
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1503415
ESS Laboratory Sample ID: 1503415-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
trans-1,2-Dichloroethene	ND (0.0063)		8260B Low		1	03/26/15 14:10	CYC0308	CC52627
trans-1,3-Dichloropropene	ND (0.0063)		8260B Low		1	03/26/15 14:10	CYC0308	CC52627
Trichloroethene	ND (0.0063)		8260B Low		1	03/26/15 14:10	CYC0308	CC52627
Trichlorofluoromethane	ND (0.0063)		8260B Low		1	03/26/15 14:10	CYC0308	CC52627
Vinyl Chloride	ND (0.0127)		8260B Low		1	03/26/15 14:10	CYC0308	CC52627
Xylene O	**0.0501** (0.0063)		8260B Low		1	03/26/15 14:10	CYC0308	CC52627
Xylene P,M	**0.0758** (0.0127)		8260B Low		1	03/26/15 14:10	CYC0308	CC52627
Xylenes (Total)	**0.126** (0.0127)		8260B Low		1	03/26/15 14:10		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*108 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*77 %*		*70-130*
Surrogate: Dibromofluoromethane	*104 %*		*70-130*
Surrogate: Toluene-d8	*104 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-203 0ft-3ft
Date Sampled: 03/24/15 12:30
Percent Solids: 35
Initial Volume: 19.1
Final Volume: 15
Extraction Method: 5035

ESS Laboratory Work Order: 1503415
ESS Laboratory Sample ID: 1503415-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MD

5035/8260B Volatile Organic Compounds / Methanol

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.403)		8260B		1	03/27/15 20:40	CYC0336	CC52745
1,1,1-Trichloroethane	ND (0.202)		8260B		1	03/27/15 20:40	CYC0336	CC52745
1,1,2,2-Tetrachloroethane	ND (0.202)		8260B		1	03/27/15 20:40	CYC0336	CC52745
1,1,2-Trichloroethane	ND (0.202)		8260B		1	03/27/15 20:40	CYC0336	CC52745
1,1-Dichloroethane	ND (0.202)		8260B		1	03/27/15 20:40	CYC0336	CC52745
1,1-Dichloroethene	ND (0.202)		8260B		1	03/27/15 20:40	CYC0336	CC52745
1,1-Dichloropropene	ND (0.202)		8260B		1	03/27/15 20:40	CYC0336	CC52745
1,2,3-Trichlorobenzene	ND (0.202)		8260B		1	03/27/15 20:40	CYC0336	CC52745
1,2,3-Trichloropropane	ND (0.202)		8260B		1	03/27/15 20:40	CYC0336	CC52745
1,2,4-Trichlorobenzene	ND (0.202)		8260B		1	03/27/15 20:40	CYC0336	CC52745
1,2,4-Trimethylbenzene	ND (0.202)		8260B		1	03/27/15 20:40	CYC0336	CC52745
1,2-Dibromo-3-Chloropropane	ND (0.806)		8260B		1	03/27/15 20:40	CYC0336	CC52745
1,2-Dibromoethane	ND (0.202)		8260B		1	03/27/15 20:40	CYC0336	CC52745
1,2-Dichlorobenzene	ND (0.202)		8260B		1	03/27/15 20:40	CYC0336	CC52745
1,2-Dichloroethane	ND (0.202)		8260B		1	03/27/15 20:40	CYC0336	CC52745
1,2-Dichloropropane	ND (0.202)		8260B		1	03/27/15 20:40	CYC0336	CC52745
1,3,5-Trimethylbenzene	ND (0.202)		8260B		1	03/27/15 20:40	CYC0336	CC52745
1,3-Dichlorobenzene	ND (0.202)		8260B		1	03/27/15 20:40	CYC0336	CC52745
1,3-Dichloropropane	ND (0.202)		8260B		1	03/27/15 20:40	CYC0336	CC52745
1,4-Dichlorobenzene	ND (0.202)		8260B		1	03/27/15 20:40	CYC0336	CC52745
1,4-Dioxane - Screen	ND (20.2)		8260B		1	03/27/15 20:40	CYC0336	CC52745
2,2-Dichloropropane	ND (0.403)		8260B		1	03/27/15 20:40	CYC0336	CC52745
2-Butanone	ND (0.806)		8260B		1	03/27/15 20:40	CYC0336	CC52745
2-Chlorotoluene	**0.552** (0.202)		8260B		1	03/27/15 20:40	CYC0336	CC52745
2-Hexanone	ND (0.806)		8260B		1	03/27/15 20:40	CYC0336	CC52745
4-Chlorotoluene	ND (0.202)		8260B		1	03/27/15 20:40	CYC0336	CC52745
4-Isopropyltoluene	ND (0.202)		8260B		1	03/27/15 20:40	CYC0336	CC52745
4-Methyl-2-Pentanone	ND (0.806)		8260B		1	03/27/15 20:40	CYC0336	CC52745
Acetone	**B 1.31** (0.806)		8260B		1	03/27/15 20:40	CYC0336	CC52745
Benzene	ND (0.202)		8260B		1	03/27/15 20:40	CYC0336	CC52745
Bromobenzene	ND (0.202)		8260B		1	03/27/15 20:40	CYC0336	CC52745
Bromochloromethane	ND (0.202)		8260B		1	03/27/15 20:40	CYC0336	CC52745

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-203 0ft-3ft
Date Sampled: 03/24/15 12:30
Percent Solids: 35
Initial Volume: 19.1
Final Volume: 15
Extraction Method: 5035

ESS Laboratory Work Order: 1503415
ESS Laboratory Sample ID: 1503415-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MD

5035/8260B Volatile Organic Compounds / Methanol

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromodichloromethane	ND (0.202)		8260B		1	03/27/15 20:40	CYC0336	CC52745
Bromoform	ND (0.202)		8260B		1	03/27/15 20:40	CYC0336	CC52745
Bromomethane	ND (0.403)		8260B		1	03/27/15 20:40	CYC0336	CC52745
Carbon Disulfide	ND (0.202)		8260B		1	03/27/15 20:40	CYC0336	CC52745
Carbon Tetrachloride	ND (0.202)		8260B		1	03/27/15 20:40	CYC0336	CC52745
Chlorobenzene	ND (0.202)		8260B		1	03/27/15 20:40	CYC0336	CC52745
Chloroethane	ND (0.403)		8260B		1	03/27/15 20:40	CYC0336	CC52745
Chloroform	ND (0.202)		8260B		1	03/27/15 20:40	CYC0336	CC52745
Chloromethane	ND (0.403)		8260B		1	03/27/15 20:40	CYC0336	CC52745
cis-1,2-Dichloroethene	ND (0.202)		8260B		1	03/27/15 20:40	CYC0336	CC52745
cis-1,3-Dichloropropene	ND (0.202)		8260B		1	03/27/15 20:40	CYC0336	CC52745
Dibromochloromethane	ND (0.202)		8260B		1	03/27/15 20:40	CYC0336	CC52745
Dibromomethane	ND (0.202)		8260B		1	03/27/15 20:40	CYC0336	CC52745
Dichlorodifluoromethane	ND (0.202)		8260B		1	03/27/15 20:40	CYC0336	CC52745
Diethyl Ether	ND (0.202)		8260B		1	03/27/15 20:40	CYC0336	CC52745
Di-isopropyl ether	ND (0.202)		8260B		1	03/27/15 20:40	CYC0336	CC52745
Ethyl tertiary-butyl ether	ND (0.202)		8260B		1	03/27/15 20:40	CYC0336	CC52745
Ethylbenzene	ND (0.202)		8260B		1	03/27/15 20:40	CYC0336	CC52745
Hexachlorobutadiene	ND (0.202)		8260B		1	03/27/15 20:40	CYC0336	CC52745
Isopropylbenzene	ND (0.202)		8260B		1	03/27/15 20:40	CYC0336	CC52745
Methyl tert-Butyl Ether	ND (0.202)		8260B		1	03/27/15 20:40	CYC0336	CC52745
Methylene Chloride	ND (0.806)		8260B		1	03/27/15 20:40	CYC0336	CC52745
Naphthalene	**0.637** (0.202)		8260B		1	03/27/15 20:40	CYC0336	CC52745
n-Butylbenzene	ND (0.202)		8260B		1	03/27/15 20:40	CYC0336	CC52745
n-Propylbenzene	ND (0.202)		8260B		1	03/27/15 20:40	CYC0336	CC52745
sec-Butylbenzene	ND (0.202)		8260B		1	03/27/15 20:40	CYC0336	CC52745
Styrene	ND (0.202)		8260B		1	03/27/15 20:40	CYC0336	CC52745
tert-Butylbenzene	ND (0.202)		8260B		1	03/27/15 20:40	CYC0336	CC52745
Tertiary-amyl methyl ether	ND (0.202)		8260B		1	03/27/15 20:40	CYC0336	CC52745
Tetrachloroethene	ND (0.202)		8260B		1	03/27/15 20:40	CYC0336	CC52745
Tetrahydrofuran	ND (0.806)		8260B		1	03/27/15 20:40	CYC0336	CC52745
Toluene	ND (0.202)		8260B		1	03/27/15 20:40	CYC0336	CC52745

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-203 0ft-3ft
Date Sampled: 03/24/15 12:30
Percent Solids: 35
Initial Volume: 19.1
Final Volume: 15
Extraction Method: 5035

ESS Laboratory Work Order: 1503415
ESS Laboratory Sample ID: 1503415-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MD

5035/8260B Volatile Organic Compounds / Methanol

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
trans-1,2-Dichloroethene	ND (0.202)		8260B		1	03/27/15 20:40	CYC0336	CC52745
trans-1,3-Dichloropropene	ND (0.202)		8260B		1	03/27/15 20:40	CYC0336	CC52745
Trichloroethene	ND (0.202)		8260B		1	03/27/15 20:40	CYC0336	CC52745
Trichlorofluoromethane	ND (0.202)		8260B		1	03/27/15 20:40	CYC0336	CC52745
Vinyl Chloride	ND (0.202)		8260B		1	03/27/15 20:40	CYC0336	CC52745
Xylene O	ND (0.202)		8260B		1	03/27/15 20:40	CYC0336	CC52745
Xylene P,M	ND (0.403)		8260B		1	03/27/15 20:40	CYC0336	CC52745
Xylenes (Total)	ND (0.403)		8260B		1	03/27/15 20:40		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*102 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*86 %*		*70-130*
Surrogate: Dibromofluoromethane	*112 %*		*70-130*
Surrogate: Toluene-d8	*91 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-203 0ft-3ft
Date Sampled: 03/24/15 12:30
Percent Solids: 35
Initial Volume: 30.4
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503415
ESS Laboratory Sample ID: 1503415-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 3/26/15 15:21

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.463)		8270D		1	03/27/15 0:52	CYC0313	CC52608
1,2-Dichlorobenzene	ND (0.463)		8270D		1	03/27/15 0:52	CYC0313	CC52608
1,3-Dichlorobenzene	ND (0.463)		8270D		1	03/27/15 0:52	CYC0313	CC52608
1,4-Dichlorobenzene	ND (0.463)		8270D		1	03/27/15 0:52	CYC0313	CC52608
2,4,5-Trichlorophenol	ND (0.463)		8270D		1	03/27/15 0:52	CYC0313	CC52608
2,4,6-Trichlorophenol	ND (0.463)		8270D		1	03/27/15 0:52	CYC0313	CC52608
2,4-Dichlorophenol	ND (0.463)		8270D		1	03/27/15 0:52	CYC0313	CC52608
2,4-Dimethylphenol	ND (0.463)		8270D		1	03/27/15 0:52	CYC0313	CC52608
2,4-Dinitrophenol	ND (2.32)		8270D		1	03/27/15 0:52	CYC0313	CC52608
2,4-Dinitrotoluene	ND (0.463)		8270D		1	03/27/15 0:52	CYC0313	CC52608
2,6-Dinitrotoluene	ND (0.463)		8270D		1	03/27/15 0:52	CYC0313	CC52608
2-Chloronaphthalene	ND (0.463)		8270D		1	03/27/15 0:52	CYC0313	CC52608
2-Chlorophenol	ND (0.463)		8270D		1	03/27/15 0:52	CYC0313	CC52608
2-Methylphenol	ND (0.463)		8270D		1	03/27/15 0:52	CYC0313	CC52608
2-Nitrophenol	ND (0.463)		8270D		1	03/27/15 0:52	CYC0313	CC52608
3,3´-Dichlorobenzidine	ND (0.927)		8270D		1	03/27/15 0:52	CYC0313	CC52608
3+4-Methylphenol	ND (0.927)		8270D		1	03/27/15 0:52	CYC0313	CC52608
4-Bromophenyl-phenylether	ND (0.463)		8270D		1	03/27/15 0:52	CYC0313	CC52608
4-Chloroaniline	ND (0.927)		8270D		1	03/27/15 0:52	CYC0313	CC52608
4-Nitrophenol	ND (2.32)		8270D		1	03/27/15 0:52	CYC0313	CC52608
Acetophenone	ND (0.927)		8270D		1	03/27/15 0:52	CYC0313	CC52608
Aniline	ND (2.32)		8270D		1	03/27/15 0:52	CYC0313	CC52608
Azobenzene	ND (0.463)		8270D		1	03/27/15 0:52	CYC0313	CC52608
bis(2-Chloroethoxy)methane	ND (0.463)		8270D		1	03/27/15 0:52	CYC0313	CC52608
bis(2-Chloroethyl)ether	ND (0.463)		8270D		1	03/27/15 0:52	CYC0313	CC52608
bis(2-chloroisopropyl)Ether	ND (0.463)		8270D		1	03/27/15 0:52	CYC0313	CC52608
bis(2-Ethylhexyl)phthalate	**252** (46.3)		8270D		100	03/30/15 15:17	CYC0313	CC52608
Butylbenzylphthalate	ND (0.463)		8270D		1	03/27/15 0:52	CYC0313	CC52608
Dibenzofuran	ND (0.463)		8270D		1	03/27/15 0:52	CYC0313	CC52608
Diethylphthalate	ND (0.463)		8270D		1	03/27/15 0:52	CYC0313	CC52608
Dimethylphthalate	ND (0.463)		8270D		1	03/27/15 0:52	CYC0313	CC52608
Di-n-butylphthalate	ND (0.463)		8270D		1	03/27/15 0:52	CYC0313	CC52608

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-203 0ft-3ft
Date Sampled: 03/24/15 12:30
Percent Solids: 35
Initial Volume: 30.4
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503415
ESS Laboratory Sample ID: 1503415-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 3/26/15 15:21

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Di-n-octylphthalate	**5.25** (0.463)		8270D		1	03/27/15 0:52	CYC0313	CC52608
Hexachlorobenzene	ND (0.463)		8270D		1	03/27/15 0:52	CYC0313	CC52608
Hexachlorobutadiene	ND (0.463)		8270D		1	03/27/15 0:52	CYC0313	CC52608
Hexachloroethane	ND (0.463)		8270D		1	03/27/15 0:52	CYC0313	CC52608
Isophorone	ND (0.463)		8270D		1	03/27/15 0:52	CYC0313	CC52608
Nitrobenzene	ND (0.463)		8270D		1	03/27/15 0:52	CYC0313	CC52608
N-Nitrosodimethylamine	ND (0.463)		8270D		1	03/27/15 0:52	CYC0313	CC52608
Pentachlorophenol	ND (2.32)		8270D		1	03/27/15 0:52	CYC0313	CC52608
Phenol	ND (0.463)		8270D		1	03/27/15 0:52	CYC0313	CC52608

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*47 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*73 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*50 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*56 %*		*30-130*
Surrogate: 2-Fluorophenol	*43 %*		*30-130*
Surrogate: Nitrobenzene-d5	*48 %*		*30-130*
Surrogate: Phenol-d6	*51 %*		*30-130*
Surrogate: p-Terphenyl-d14	*69 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-203 0ft-3ft
Date Sampled: 03/24/15 12:30
Percent Solids: 35

ESS Laboratory Work Order: 1503415
ESS Laboratory Sample ID: 1503415-05
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Corrosivity (pH)	**H 7.83** (N/A)		9045		1	EEM	03/26/15 11:50	S.U.	CC52616
Corrosivity (pH) Sample Temp	**Soil pH measured in water at 16.8 °C.**								
Eh (ORP)	**H, WL 272** (N/A)		2580		1	EEM	03/26/15 11:50	mv	CC52617
Grain Size	**See Attached** (N/A)								
Hexavalent Chromium	ND (1.2)		7196A		1	JLK	03/28/15 11:00	mg/kg dry	CC52807
Percent Water	**See Attached** (N/A)								
Reactive Cyanide	ND (2.0)		7.3.3.2		1	JLK	03/26/15 11:50	mg/kg	CC52618
Reactive Sulfide	**29.2** (2.0)		7.3.4.1		1	JLK	03/26/15 11:50	mg/kg	CC52618

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-203 0ft-3ft
Date Sampled: 03/24/15 12:30
Percent Solids: 35
Initial Volume: 30.3
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1503415
ESS Laboratory Sample ID: 1503415-05
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 3/26/15 16:10

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	**170** (34.9)		MADEP-EPH		1	DPS	03/26/15 23:39	CYC0307	CC52536
C19-C36 Aliphatics1	**162** (34.9)		MADEP-EPH		1	DPS	03/26/15 23:39	CYC0307	CC52536
C11-C22 Unadjusted Aromatics1	**819** (34.9)		EPH8270		1	JXS	03/27/15 19:16	CYC0333	CC52536
C11-C22 Aromatics1,2	**818** (34.9)		EPH8270			JXS	03/27/15 19:16		[CALC]

	%Recovery	*Qualifier*	*Limits*
Surrogate: 1-Chlorooctadecane	*56 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*104 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*100 %*		*40-140*
Surrogate: O-Terphenyl	*92 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-203 0ft-3ft
Date Sampled: 03/24/15 12:30
Percent Solids: 35
Initial Volume: 11.1
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1503415
ESS Laboratory Sample ID: 1503415-05RE1
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.0063)		8260B Low		1	03/27/15 8:34	CYC0308	CC52627
1,1,1-Trichloroethane	ND (0.0063)		8260B Low		1	03/27/15 8:34	CYC0308	CC52627
1,1,2,2-Tetrachloroethane	ND (0.0025)		8260B Low		1	03/27/15 8:34	CYC0308	CC52627
1,1,2-Trichloroethane	ND (0.0063)		8260B Low		1	03/27/15 8:34	CYC0308	CC52627
1,1-Dichloroethane	ND (0.0063)		8260B Low		1	03/27/15 8:34	CYC0308	CC52627
1,1-Dichloroethene	ND (0.0063)		8260B Low		1	03/27/15 8:34	CYC0308	CC52627
1,1-Dichloropropene	ND (0.0063)		8260B Low		1	03/27/15 8:34	CYC0308	CC52627
1,2,3-Trichlorobenzene	ND (0.0063)		8260B Low		1	03/27/15 8:34	CYC0308	CC52627
1,2,3-Trichloropropane	ND (0.0063)		8260B Low		1	03/27/15 8:34	CYC0308	CC52627
1,2,4-Trichlorobenzene	ND (0.0063)		8260B Low		1	03/27/15 8:34	CYC0308	CC52627
1,2,4-Trimethylbenzene	**0.0567** (0.0063)		8260B Low		1	03/27/15 8:34	CYC0308	CC52627
1,2-Dibromo-3-Chloropropane	ND (0.0063)		8260B Low		1	03/27/15 8:34	CYC0308	CC52627
1,2-Dibromoethane	ND (0.0063)		8260B Low		1	03/27/15 8:34	CYC0308	CC52627
1,2-Dichlorobenzene	ND (0.0063)		8260B Low		1	03/27/15 8:34	CYC0308	CC52627
1,2-Dichloroethane	ND (0.0063)		8260B Low		1	03/27/15 8:34	CYC0308	CC52627
1,2-Dichloropropane	ND (0.0063)		8260B Low		1	03/27/15 8:34	CYC0308	CC52627
1,3,5-Trimethylbenzene	**0.0358** (0.0063)		8260B Low		1	03/27/15 8:34	CYC0308	CC52627
1,3-Dichlorobenzene	ND (0.0063)		8260B Low		1	03/27/15 8:34	CYC0308	CC52627
1,3-Dichloropropane	ND (0.0063)		8260B Low		1	03/27/15 8:34	CYC0308	CC52627
1,4-Dichlorobenzene	ND (0.0063)		8260B Low		1	03/27/15 8:34	CYC0308	CC52627
1,4-Dioxane	ND (0.127)		8260B Low		1	03/27/15 8:34	CYC0308	CC52627
2,2-Dichloropropane	ND (0.0063)		8260B Low		1	03/27/15 8:34	CYC0308	CC52627
2-Butanone	**0.171** (0.0127)		8260B Low		1	03/27/15 8:34	CYC0308	CC52627
2-Chlorotoluene	**E 2.60** (0.0063)		8260B Low		1	03/27/15 8:34	CYC0308	CC52627
2-Hexanone	ND (0.0127)		8260B Low		1	03/27/15 8:34	CYC0308	CC52627
4-Chlorotoluene	**E 1.16** (0.0063)		8260B Low		1	03/27/15 8:34	CYC0308	CC52627
4-Isopropyltoluene	ND (0.0063)		8260B Low		1	03/27/15 8:34	CYC0308	CC52627
4-Methyl-2-Pentanone	**0.0155** (0.0127)		8260B Low		1	03/27/15 8:34	CYC0308	CC52627
Acetone	**0.827** (0.0127)		8260B Low		1	03/27/15 8:34	CYC0308	CC52627
Benzene	**0.0440** (0.0063)		8260B Low		1	03/27/15 8:34	CYC0308	CC52627
Bromobenzene	ND (0.0063)		8260B Low		1	03/27/15 8:34	CYC0308	CC52627
Bromochloromethane	ND (0.0063)		8260B Low		1	03/27/15 8:34	CYC0308	CC52627

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-203 0ft-3ft
Date Sampled: 03/24/15 12:30
Percent Solids: 35
Initial Volume: 11.1
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1503415
ESS Laboratory Sample ID: 1503415-05RE1
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromodichloromethane	ND (0.0063)		8260B Low		1	03/27/15 8:34	CYC0308	CC52627
Bromoform	ND (0.0063)		8260B Low		1	03/27/15 8:34	CYC0308	CC52627
Bromomethane	ND (0.0127)		8260B Low		1	03/27/15 8:34	CYC0308	CC52627
Carbon Disulfide	**0.0232** (0.0063)		8260B Low		1	03/27/15 8:34	CYC0308	CC52627
Carbon Tetrachloride	ND (0.0063)		8260B Low		1	03/27/15 8:34	CYC0308	CC52627
Chlorobenzene	**0.0439** (0.0063)		8260B Low		1	03/27/15 8:34	CYC0308	CC52627
Chloroethane	ND (0.0127)		8260B Low		1	03/27/15 8:34	CYC0308	CC52627
Chloroform	ND (0.0063)		8260B Low		1	03/27/15 8:34	CYC0308	CC52627
Chloromethane	ND (0.0127)		8260B Low		1	03/27/15 8:34	CYC0308	CC52627
cis-1,2-Dichloroethene	ND (0.0063)		8260B Low		1	03/27/15 8:34	CYC0308	CC52627
cis-1,3-Dichloropropene	ND (0.0063)		8260B Low		1	03/27/15 8:34	CYC0308	CC52627
Dibromochloromethane	ND (0.0025)		8260B Low		1	03/27/15 8:34	CYC0308	CC52627
Dibromomethane	ND (0.0063)		8260B Low		1	03/27/15 8:34	CYC0308	CC52627
Dichlorodifluoromethane	ND (0.0127)		8260B Low		1	03/27/15 8:34	CYC0308	CC52627
Diethyl Ether	**0.0104** (0.0063)		8260B Low		1	03/27/15 8:34	CYC0308	CC52627
Di-isopropyl ether	ND (0.0063)		8260B Low		1	03/27/15 8:34	CYC0308	CC52627
Ethyl tertiary-butyl ether	ND (0.0063)		8260B Low		1	03/27/15 8:34	CYC0308	CC52627
Ethylbenzene	**0.248** (0.0063)		8260B Low		1	03/27/15 8:34	CYC0308	CC52627
Hexachlorobutadiene	ND (0.0063)		8260B Low		1	03/27/15 8:34	CYC0308	CC52627
Isopropylbenzene	**0.0115** (0.0063)		8260B Low		1	03/27/15 8:34	CYC0308	CC52627
Methyl tert-Butyl Ether	ND (0.0063)		8260B Low		1	03/27/15 8:34	CYC0308	CC52627
Methylene Chloride	ND (0.0127)		8260B Low		1	03/27/15 8:34	CYC0308	CC52627
Naphthalene	**E 0.903** (0.0063)		8260B Low		1	03/27/15 8:34	CYC0308	CC52627
n-Butylbenzene	ND (0.0063)		8260B Low		1	03/27/15 8:34	CYC0308	CC52627
n-Propylbenzene	ND (0.0063)		8260B Low		1	03/27/15 8:34	CYC0308	CC52627
sec-Butylbenzene	**0.0092** (0.0063)		8260B Low		1	03/27/15 8:34	CYC0308	CC52627
Styrene	ND (0.0063)		8260B Low		1	03/27/15 8:34	CYC0308	CC52627
tert-Butylbenzene	ND (0.0063)		8260B Low		1	03/27/15 8:34	CYC0308	CC52627
Tertiary-amyl methyl ether	ND (0.0063)		8260B Low		1	03/27/15 8:34	CYC0308	CC52627
Tetrachloroethene	ND (0.0063)		8260B Low		1	03/27/15 8:34	CYC0308	CC52627
Tetrahydrofuran	ND (0.0063)		8260B Low		1	03/27/15 8:34	CYC0308	CC52627
Toluene	**0.0636** (0.0063)		8260B Low		1	03/27/15 8:34	CYC0308	CC52627

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-203 0ft-3ft
Date Sampled: 03/24/15 12:30
Percent Solids: 35
Initial Volume: 11.1
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1503415
ESS Laboratory Sample ID: 1503415-05RE1
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
trans-1,2-Dichloroethene	ND (0.0063)		8260B Low		1	03/27/15 8:34	CYC0308	CC52627
trans-1,3-Dichloropropene	ND (0.0063)		8260B Low		1	03/27/15 8:34	CYC0308	CC52627
Trichloroethene	ND (0.0063)		8260B Low		1	03/27/15 8:34	CYC0308	CC52627
Trichlorofluoromethane	ND (0.0063)		8260B Low		1	03/27/15 8:34	CYC0308	CC52627
Vinyl Chloride	ND (0.0127)		8260B Low		1	03/27/15 8:34	CYC0308	CC52627
Xylene O	**0.0669** (0.0063)		8260B Low		1	03/27/15 8:34	CYC0308	CC52627
Xylene P,M	**0.107** (0.0127)		8260B Low		1	03/27/15 8:34	CYC0308	CC52627
Xylenes (Total)	**0.174** (0.0127)		8260B Low		1	03/27/15 8:34		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*87 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*80 %*		*70-130*
Surrogate: Dibromofluoromethane	*75 %*		*70-130*
Surrogate: Toluene-d8	*105 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-204 0ft-0.5ft
Date Sampled: 03/24/15 12:50
Percent Solids: 36
Initial Volume: 30.4
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503415
ESS Laboratory Sample ID: 1503415-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 3/26/15 15:21

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.459)		8270D		1	03/27/15 1:29	CYC0313	CC52608
1,2-Dichlorobenzene	ND (0.459)		8270D		1	03/27/15 1:29	CYC0313	CC52608
1,3-Dichlorobenzene	ND (0.459)		8270D		1	03/27/15 1:29	CYC0313	CC52608
1,4-Dichlorobenzene	ND (0.459)		8270D		1	03/27/15 1:29	CYC0313	CC52608
2,4,5-Trichlorophenol	ND (0.459)		8270D		1	03/27/15 1:29	CYC0313	CC52608
2,4,6-Trichlorophenol	ND (0.459)		8270D		1	03/27/15 1:29	CYC0313	CC52608
2,4-Dichlorophenol	ND (0.459)		8270D		1	03/27/15 1:29	CYC0313	CC52608
2,4-Dimethylphenol	ND (0.459)		8270D		1	03/27/15 1:29	CYC0313	CC52608
2,4-Dinitrophenol	ND (2.30)		8270D		1	03/27/15 1:29	CYC0313	CC52608
2,4-Dinitrotoluene	ND (0.459)		8270D		1	03/27/15 1:29	CYC0313	CC52608
2,6-Dinitrotoluene	ND (0.459)		8270D		1	03/27/15 1:29	CYC0313	CC52608
2-Chloronaphthalene	ND (0.459)		8270D		1	03/27/15 1:29	CYC0313	CC52608
2-Chlorophenol	ND (0.459)		8270D		1	03/27/15 1:29	CYC0313	CC52608
2-Methylphenol	ND (0.459)		8270D		1	03/27/15 1:29	CYC0313	CC52608
2-Nitrophenol	ND (0.459)		8270D		1	03/27/15 1:29	CYC0313	CC52608
3,3´-Dichlorobenzidine	ND (0.920)		8270D		1	03/27/15 1:29	CYC0313	CC52608
3+4-Methylphenol	ND (0.920)		8270D		1	03/27/15 1:29	CYC0313	CC52608
4-Bromophenyl-phenylether	ND (0.459)		8270D		1	03/27/15 1:29	CYC0313	CC52608
4-Chloroaniline	ND (0.920)		8270D		1	03/27/15 1:29	CYC0313	CC52608
4-Nitrophenol	ND (2.30)		8270D		1	03/27/15 1:29	CYC0313	CC52608
Acetophenone	ND (0.920)		8270D		1	03/27/15 1:29	CYC0313	CC52608
Aniline	ND (2.30)		8270D		1	03/27/15 1:29	CYC0313	CC52608
Azobenzene	ND (0.459)		8270D		1	03/27/15 1:29	CYC0313	CC52608
bis(2-Chloroethoxy)methane	ND (0.459)		8270D		1	03/27/15 1:29	CYC0313	CC52608
bis(2-Chloroethyl)ether	ND (0.459)		8270D		1	03/27/15 1:29	CYC0313	CC52608
bis(2-chloroisopropyl)Ether	ND (0.459)		8270D		1	03/27/15 1:29	CYC0313	CC52608
bis(2-Ethylhexyl)phthalate	**1.84** (0.459)		8270D		1	03/27/15 1:29	CYC0313	CC52608
Butylbenzylphthalate	ND (0.459)		8270D		1	03/27/15 1:29	CYC0313	CC52608
Dibenzofuran	ND (0.459)		8270D		1	03/27/15 1:29	CYC0313	CC52608
Diethylphthalate	ND (0.459)		8270D		1	03/27/15 1:29	CYC0313	CC52608
Dimethylphthalate	ND (0.459)		8270D		1	03/27/15 1:29	CYC0313	CC52608
Di-n-butylphthalate	ND (0.459)		8270D		1	03/27/15 1:29	CYC0313	CC52608

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-204 0ft-0.5ft
Date Sampled: 03/24/15 12:50
Percent Solids: 36
Initial Volume: 30.4
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503415
ESS Laboratory Sample ID: 1503415-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 3/26/15 15:21

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Di-n-octylphthalate	ND (0.459)		8270D		1	03/27/15 1:29	CYC0313	CC52608
Hexachlorobenzene	ND (0.459)		8270D		1	03/27/15 1:29	CYC0313	CC52608
Hexachlorobutadiene	ND (0.459)		8270D		1	03/27/15 1:29	CYC0313	CC52608
Hexachloroethane	ND (0.459)		8270D		1	03/27/15 1:29	CYC0313	CC52608
Isophorone	ND (0.459)		8270D		1	03/27/15 1:29	CYC0313	CC52608
Nitrobenzene	ND (0.459)		8270D		1	03/27/15 1:29	CYC0313	CC52608
N-Nitrosodimethylamine	ND (0.459)		8270D		1	03/27/15 1:29	CYC0313	CC52608
Pentachlorophenol	ND (2.30)		8270D		1	03/27/15 1:29	CYC0313	CC52608
Phenol	ND (0.459)		8270D		1	03/27/15 1:29	CYC0313	CC52608

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*46 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*67 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*50 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*54 %*		*30-130*
Surrogate: 2-Fluorophenol	*44 %*		*30-130*
Surrogate: Nitrobenzene-d5	*49 %*		*30-130*
Surrogate: Phenol-d6	*51 %*		*30-130*
Surrogate: p-Terphenyl-d14	*67 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-204 0ft-0.5ft
Date Sampled: 03/24/15 12:50
Percent Solids: 36
Initial Volume: 20.2
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503415
ESS Laboratory Sample ID: 1503415-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 3/26/15 16:45

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.035)		8270D		1	03/28/15 22:03	CYC0341	CC52609
Acenaphthene	**0.029** (0.014)		8270D		1	03/28/15 22:03	CYC0341	CC52609
Acenaphthylene	**0.071** (0.035)		8270D		1	03/28/15 22:03	CYC0341	CC52609
Anthracene	**0.104** (0.035)		8270D		1	03/28/15 22:03	CYC0341	CC52609
Benzo(a)anthracene	**0.291** (0.035)		8270D		1	03/28/15 22:03	CYC0341	CC52609
Benzo(a)pyrene	**0.350** (0.035)		8270D		1	03/28/15 22:03	CYC0341	CC52609
Benzo(b)fluoranthene	**0.517** (0.035)		8270D		1	03/28/15 22:03	CYC0341	CC52609
Benzo(g,h,i)perylene	**0.273** (0.035)		8270D		1	03/28/15 22:03	CYC0341	CC52609
Benzo(k)fluoranthene	**0.137** (0.035)		8270D		1	03/28/15 22:03	CYC0341	CC52609
Chrysene	**0.354** (0.035)		8270D		1	03/28/15 22:03	CYC0341	CC52609
Dibenzo(a,h)Anthracene	**0.068** (0.035)		8270D		1	03/28/15 22:03	CYC0341	CC52609
Fluoranthene	**0.612** (0.035)		8270D		1	03/28/15 22:03	CYC0341	CC52609
Fluorene	**0.038** (0.035)		8270D		1	03/28/15 22:03	CYC0341	CC52609
Hexachlorobenzene	ND (0.014)		8270D		1	03/28/15 22:03	CYC0341	CC52609
Indeno(1,2,3-cd)Pyrene	**0.298** (0.035)		8270D		1	03/28/15 22:03	CYC0341	CC52609
Naphthalene	**0.094** (0.035)		8270D		1	03/28/15 22:03	CYC0341	CC52609
Phenanthrene	**0.331** (0.035)		8270D		1	03/28/15 22:03	CYC0341	CC52609
Pyrene	**0.636** (0.035)		8270D		1	03/28/15 22:03	CYC0341	CC52609

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*50 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*64 %*		*30-130*
Surrogate: Nitrobenzene-d5	*64 %*		*30-130*
Surrogate: p-Terphenyl-d14	*75 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-204 0ft-0.5ft
Date Sampled: 03/24/15 12:50
Percent Solids: 36
Initial Volume: 30.2
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1503415
ESS Laboratory Sample ID: 1503415-06
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 3/26/15 16:10

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	ND (34.7)		MADEP-EPH		1	DPS	03/27/15 0:29	CYC0307	CC52536
C19-C36 Aliphatics1	**120** (34.7)		MADEP-EPH		1	DPS	03/27/15 0:29	CYC0307	CC52536
C11-C22 Unadjusted Aromatics1	**66.2** (34.7)		EPH8270		1	JXS	03/27/15 19:50	CYC0333	CC52536
C11-C22 Aromatics1,2	**63.0** (34.7)		EPH8270			JXS	03/27/15 19:50		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*51 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*106 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*103 %*		*40-140*
Surrogate: O-Terphenyl	*78 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-204 2ft-4ft
Date Sampled: 03/24/15 12:50
Percent Solids: 28
Initial Volume: 30.1
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503415
ESS Laboratory Sample ID: 1503415-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 3/26/15 15:21

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.587)		8270D		1	03/27/15 2:05	CYC0313	CC52608
1,2-Dichlorobenzene	ND (0.587)		8270D		1	03/27/15 2:05	CYC0313	CC52608
1,3-Dichlorobenzene	ND (0.587)		8270D		1	03/27/15 2:05	CYC0313	CC52608
1,4-Dichlorobenzene	ND (0.587)		8270D		1	03/27/15 2:05	CYC0313	CC52608
2,4,5-Trichlorophenol	ND (0.587)		8270D		1	03/27/15 2:05	CYC0313	CC52608
2,4,6-Trichlorophenol	ND (0.587)		8270D		1	03/27/15 2:05	CYC0313	CC52608
2,4-Dichlorophenol	ND (0.587)		8270D		1	03/27/15 2:05	CYC0313	CC52608
2,4-Dimethylphenol	ND (0.587)		8270D		1	03/27/15 2:05	CYC0313	CC52608
2,4-Dinitrophenol	ND (2.94)		8270D		1	03/27/15 2:05	CYC0313	CC52608
2,4-Dinitrotoluene	ND (0.587)		8270D		1	03/27/15 2:05	CYC0313	CC52608
2,6-Dinitrotoluene	ND (0.587)		8270D		1	03/27/15 2:05	CYC0313	CC52608
2-Chloronaphthalene	ND (0.587)		8270D		1	03/27/15 2:05	CYC0313	CC52608
2-Chlorophenol	ND (0.587)		8270D		1	03/27/15 2:05	CYC0313	CC52608
2-Methylphenol	ND (0.587)		8270D		1	03/27/15 2:05	CYC0313	CC52608
2-Nitrophenol	ND (0.587)		8270D		1	03/27/15 2:05	CYC0313	CC52608
3,3´-Dichlorobenzidine	ND (1.18)		8270D		1	03/27/15 2:05	CYC0313	CC52608
3+4-Methylphenol	ND (1.18)		8270D		1	03/27/15 2:05	CYC0313	CC52608
4-Bromophenyl-phenylether	ND (0.587)		8270D		1	03/27/15 2:05	CYC0313	CC52608
4-Chloroaniline	ND (1.18)		8270D		1	03/27/15 2:05	CYC0313	CC52608
4-Nitrophenol	ND (2.94)		8270D		1	03/27/15 2:05	CYC0313	CC52608
Acetophenone	ND (1.18)		8270D		1	03/27/15 2:05	CYC0313	CC52608
Aniline	ND (2.94)		8270D		1	03/27/15 2:05	CYC0313	CC52608
Azobenzene	ND (0.587)		8270D		1	03/27/15 2:05	CYC0313	CC52608
bis(2-Chloroethoxy)methane	ND (0.587)		8270D		1	03/27/15 2:05	CYC0313	CC52608
bis(2-Chloroethyl)ether	ND (0.587)		8270D		1	03/27/15 2:05	CYC0313	CC52608
bis(2-chloroisopropyl)Ether	ND (0.587)		8270D		1	03/27/15 2:05	CYC0313	CC52608
bis(2-Ethylhexyl)phthalate	**1120** (58.7)		8270D		100	03/30/15 16:28	CYC0313	CC52608
Butylbenzylphthalate	ND (0.587)		8270D		1	03/27/15 2:05	CYC0313	CC52608
Dibenzofuran	ND (0.587)		8270D		1	03/27/15 2:05	CYC0313	CC52608
Diethylphthalate	ND (0.587)		8270D		1	03/27/15 2:05	CYC0313	CC52608
Dimethylphthalate	ND (0.587)		8270D		1	03/27/15 2:05	CYC0313	CC52608
Di-n-butylphthalate	ND (0.587)		8270D		1	03/27/15 2:05	CYC0313	CC52608

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-204 2ft-4ft
Date Sampled: 03/24/15 12:50
Percent Solids: 28
Initial Volume: 30.1
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503415
ESS Laboratory Sample ID: 1503415-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 3/26/15 15:21

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Di-n-octylphthalate	**2.19** (0.587)		8270D		1	03/27/15 2:05	CYC0313	CC52608
Hexachlorobenzene	ND (0.587)		8270D		1	03/27/15 2:05	CYC0313	CC52608
Hexachlorobutadiene	ND (0.587)		8270D		1	03/27/15 2:05	CYC0313	CC52608
Hexachloroethane	ND (0.587)		8270D		1	03/27/15 2:05	CYC0313	CC52608
Isophorone	ND (0.587)		8270D		1	03/27/15 2:05	CYC0313	CC52608
Nitrobenzene	ND (0.587)		8270D		1	03/27/15 2:05	CYC0313	CC52608
N-Nitrosodimethylamine	ND (0.587)		8270D		1	03/27/15 2:05	CYC0313	CC52608
Pentachlorophenol	ND (2.94)		8270D		1	03/27/15 2:05	CYC0313	CC52608
Phenol	ND (0.587)		8270D		1	03/27/15 2:05	CYC0313	CC52608

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*48 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*72 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*51 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*59 %*		*30-130*
Surrogate: 2-Fluorophenol	*45 %*		*30-130*
Surrogate: Nitrobenzene-d5	*49 %*		*30-130*
Surrogate: Phenol-d6	*54 %*		*30-130*
Surrogate: p-Terphenyl-d14	*66 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-204 2ft-4ft
Date Sampled: 03/24/15 12:50
Percent Solids: 28
Initial Volume: 20.1
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503415
ESS Laboratory Sample ID: 1503415-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 3/26/15 16:45

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	**1.54** (0.440)		8270D		10	03/30/15 20:52	CYC0345	CC52609
Acenaphthene	**EL 0.599** (0.440)		8270D		10	03/30/15 20:52	CYC0345	CC52609
Acenaphthylene	**0.519** (0.440)		8270D		10	03/30/15 20:52	CYC0345	CC52609
Anthracene	**1.03** (0.440)		8270D		10	03/30/15 20:52	CYC0345	CC52609
Benzo(a)anthracene	**0.864** (0.440)		8270D		10	03/30/15 20:52	CYC0345	CC52609
Benzo(a)pyrene	**0.868** (0.440)		8270D		10	03/30/15 20:52	CYC0345	CC52609
Benzo(b)fluoranthene	**1.43** (0.440)		8270D		10	03/30/15 20:52	CYC0345	CC52609
Benzo(g,h,i)perylene	**0.568** (0.440)		8270D		10	03/30/15 20:52	CYC0345	CC52609
Benzo(k)fluoranthene	**0.459** (0.440)		8270D		10	03/30/15 20:52	CYC0345	CC52609
Chrysene	**1.14** (0.440)		8270D		10	03/30/15 20:52	CYC0345	CC52609
Dibenzo(a,h)Anthracene	ND (0.440)		8270D		10	03/30/15 20:52	CYC0345	CC52609
Fluoranthene	**2.41** (0.440)		8270D		10	03/30/15 20:52	CYC0345	CC52609
Fluorene	**1.06** (0.440)		8270D		10	03/30/15 20:52	CYC0345	CC52609
Hexachlorobenzene	**EL** ND (0.176)		8270D		10	03/30/15 20:52	CYC0345	CC52609
Indeno(1,2,3-cd)Pyrene	**0.581** (0.440)		8270D		10	03/30/15 20:52	CYC0345	CC52609
Naphthalene	**14.8** (0.440)		8270D		10	03/30/15 20:52	CYC0345	CC52609
Phenanthrene	**2.81** (0.440)		8270D		10	03/30/15 20:52	CYC0345	CC52609
Pyrene	**2.56** (0.440)		8270D		10	03/30/15 20:52	CYC0345	CC52609

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*49 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*85 %*		*30-130*
Surrogate: Nitrobenzene-d5	*69 %*		*30-130*
Surrogate: p-Terphenyl-d14	*89 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-204 2ft-4ft
Date Sampled: 03/24/15 12:50
Percent Solids: 28
Initial Volume: 30.1
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1503415
ESS Laboratory Sample ID: 1503415-07
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 3/26/15 16:10

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	**574** (44.1)		MADEP-EPH		1	DPS	03/27/15 1:20	CYC0307	CC52536
C19-C36 Aliphatics1	**391** (44.1)		MADEP-EPH		1	DPS	03/27/15 1:20	CYC0307	CC52536
C11-C22 Unadjusted Aromatics1	**2280** (44.1)		EPH8270		1	JXS	03/27/15 20:24	CYC0333	CC52536
C11-C22 Aromatics1,2	**2280** (44.1)		EPH8270			JXS	03/27/15 20:24		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*64 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*104 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*105 %*		*40-140*
Surrogate: O-Terphenyl	*103 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-204 6ft-8ft
Date Sampled: 03/24/15 12:50
Percent Solids: 65
Initial Volume: 20.1
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503415
ESS Laboratory Sample ID: 1503415-08
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 3/26/15 16:45

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	**0.083** (0.019)		8270D		1	03/30/15 22:31	CYC0345	CC52609
Acenaphthene	**0.135** (0.019)		8270D		1	03/30/15 22:31	CYC0345	CC52609
Acenaphthylene	**0.087** (0.019)		8270D		1	03/30/15 22:31	CYC0345	CC52609
Anthracene	**0.309** (0.019)		8270D		1	03/30/15 22:31	CYC0345	CC52609
Benzo(a)anthracene	**0.169** (0.019)		8270D		1	03/30/15 22:31	CYC0345	CC52609
Benzo(a)pyrene	**0.173** (0.019)		8270D		1	03/30/15 22:31	CYC0345	CC52609
Benzo(b)fluoranthene	**0.242** (0.019)		8270D		1	03/30/15 22:31	CYC0345	CC52609
Benzo(g,h,i)perylene	**0.106** (0.019)		8270D		1	03/30/15 22:31	CYC0345	CC52609
Benzo(k)fluoranthene	**0.064** (0.019)		8270D		1	03/30/15 22:31	CYC0345	CC52609
Chrysene	**0.234** (0.019)		8270D		1	03/30/15 22:31	CYC0345	CC52609
Dibenzo(a,h)Anthracene	**0.032** (0.019)		8270D		1	03/30/15 22:31	CYC0345	CC52609
Fluoranthene	**0.455** (0.019)		8270D		1	03/30/15 22:31	CYC0345	CC52609
Fluorene	**0.160** (0.019)		8270D		1	03/30/15 22:31	CYC0345	CC52609
Hexachlorobenzene	ND (0.008)		8270D		1	03/30/15 22:31	CYC0345	CC52609
Indeno(1,2,3-cd)Pyrene	**0.114** (0.019)		8270D		1	03/30/15 22:31	CYC0345	CC52609
Naphthalene	**1.17** (0.019)		8270D		1	03/30/15 22:31	CYC0345	CC52609
Phenanthrene	**0.636** (0.019)		8270D		1	03/30/15 22:31	CYC0345	CC52609
Pyrene	**0.560** (0.019)		8270D		1	03/30/15 22:31	CYC0345	CC52609

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*41 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*55 %*		*30-130*
Surrogate: Nitrobenzene-d5	*48 %*		*30-130*
Surrogate: p-Terphenyl-d14	*60 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-212 0ft-0.5ft
Date Sampled: 03/24/15 14:20
Percent Solids: 73
Initial Volume: 30
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503415
ESS Laboratory Sample ID: 1503415-09
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 3/26/15 15:21

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.227)		8270D		1	03/27/15 2:41	CYC0313	CC52608
1,2-Dichlorobenzene	ND (0.227)		8270D		1	03/27/15 2:41	CYC0313	CC52608
1,3-Dichlorobenzene	ND (0.227)		8270D		1	03/27/15 2:41	CYC0313	CC52608
1,4-Dichlorobenzene	ND (0.227)		8270D		1	03/27/15 2:41	CYC0313	CC52608
2,4,5-Trichlorophenol	ND (0.227)		8270D		1	03/27/15 2:41	CYC0313	CC52608
2,4,6-Trichlorophenol	ND (0.227)		8270D		1	03/27/15 2:41	CYC0313	CC52608
2,4-Dichlorophenol	ND (0.227)		8270D		1	03/27/15 2:41	CYC0313	CC52608
2,4-Dimethylphenol	ND (0.227)		8270D		1	03/27/15 2:41	CYC0313	CC52608
2,4-Dinitrophenol	ND (1.14)		8270D		1	03/27/15 2:41	CYC0313	CC52608
2,4-Dinitrotoluene	ND (0.227)		8270D		1	03/27/15 2:41	CYC0313	CC52608
2,6-Dinitrotoluene	ND (0.227)		8270D		1	03/27/15 2:41	CYC0313	CC52608
2-Chloronaphthalene	ND (0.227)		8270D		1	03/27/15 2:41	CYC0313	CC52608
2-Chlorophenol	ND (0.227)		8270D		1	03/27/15 2:41	CYC0313	CC52608
2-Methylphenol	ND (0.227)		8270D		1	03/27/15 2:41	CYC0313	CC52608
2-Nitrophenol	ND (0.227)		8270D		1	03/27/15 2:41	CYC0313	CC52608
3,3´-Dichlorobenzidine	ND (0.455)		8270D		1	03/27/15 2:41	CYC0313	CC52608
3+4-Methylphenol	ND (0.455)		8270D		1	03/27/15 2:41	CYC0313	CC52608
4-Bromophenyl-phenylether	ND (0.227)		8270D		1	03/27/15 2:41	CYC0313	CC52608
4-Chloroaniline	ND (0.455)		8270D		1	03/27/15 2:41	CYC0313	CC52608
4-Nitrophenol	ND (1.14)		8270D		1	03/27/15 2:41	CYC0313	CC52608
Acetophenone	ND (0.455)		8270D		1	03/27/15 2:41	CYC0313	CC52608
Aniline	ND (1.14)		8270D		1	03/27/15 2:41	CYC0313	CC52608
Azobenzene	ND (0.227)		8270D		1	03/27/15 2:41	CYC0313	CC52608
bis(2-Chloroethoxy)methane	ND (0.227)		8270D		1	03/27/15 2:41	CYC0313	CC52608
bis(2-Chloroethyl)ether	ND (0.227)		8270D		1	03/27/15 2:41	CYC0313	CC52608
bis(2-chloroisopropyl)Ether	ND (0.227)		8270D		1	03/27/15 2:41	CYC0313	CC52608
bis(2-Ethylhexyl)phthalate	**0.500** (0.227)		8270D		1	03/27/15 2:41	CYC0313	CC52608
Butylbenzylphthalate	ND (0.227)		8270D		1	03/27/15 2:41	CYC0313	CC52608
Dibenzofuran	ND (0.227)		8270D		1	03/27/15 2:41	CYC0313	CC52608
Diethylphthalate	ND (0.227)		8270D		1	03/27/15 2:41	CYC0313	CC52608
Dimethylphthalate	ND (0.227)		8270D		1	03/27/15 2:41	CYC0313	CC52608
Di-n-butylphthalate	ND (0.227)		8270D		1	03/27/15 2:41	CYC0313	CC52608

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-212 0ft-0.5ft
Date Sampled: 03/24/15 14:20
Percent Solids: 73
Initial Volume: 30
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503415
ESS Laboratory Sample ID: 1503415-09
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 3/26/15 15:21

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Di-n-octylphthalate	ND (0.227)		8270D		1	03/27/15 2:41	CYC0313	CC52608
Hexachlorobenzene	ND (0.227)		8270D		1	03/27/15 2:41	CYC0313	CC52608
Hexachlorobutadiene	ND (0.227)		8270D		1	03/27/15 2:41	CYC0313	CC52608
Hexachloroethane	ND (0.227)		8270D		1	03/27/15 2:41	CYC0313	CC52608
Isophorone	ND (0.227)		8270D		1	03/27/15 2:41	CYC0313	CC52608
Nitrobenzene	ND (0.227)		8270D		1	03/27/15 2:41	CYC0313	CC52608
N-Nitrosodimethylamine	ND (0.227)		8270D		1	03/27/15 2:41	CYC0313	CC52608
Pentachlorophenol	ND (1.14)		8270D		1	03/27/15 2:41	CYC0313	CC52608
Phenol	ND (0.227)		8270D		1	03/27/15 2:41	CYC0313	CC52608

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*41 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*56 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*45 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*47 %*		*30-130*
Surrogate: 2-Fluorophenol	*39 %*		*30-130*
Surrogate: Nitrobenzene-d5	*42 %*		*30-130*
Surrogate: Phenol-d6	*46 %*		*30-130*
Surrogate: p-Terphenyl-d14	*63 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-212 0ft-0.5ft
Date Sampled: 03/24/15 14:20
Percent Solids: 73
Initial Volume: 20.2
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503415
ESS Laboratory Sample ID: 1503415-09
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 3/26/15 16:45

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.017)		8270D		1	03/28/15 19:37	CYC0341	CC52609
Acenaphthene	**0.025** (0.017)		8270D		1	03/28/15 19:37	CYC0341	CC52609
Acenaphthylene	**0.024** (0.017)		8270D		1	03/28/15 19:37	CYC0341	CC52609
Anthracene	**0.075** (0.017)		8270D		1	03/28/15 19:37	CYC0341	CC52609
Benzo(a)anthracene	**0.151** (0.017)		8270D		1	03/28/15 19:37	CYC0341	CC52609
Benzo(a)pyrene	**0.161** (0.017)		8270D		1	03/28/15 19:37	CYC0341	CC52609
Benzo(b)fluoranthene	**0.194** (0.017)		8270D		1	03/28/15 19:37	CYC0341	CC52609
Benzo(g,h,i)perylene	**0.111** (0.017)		8270D		1	03/28/15 19:37	CYC0341	CC52609
Benzo(k)fluoranthene	**0.065** (0.017)		8270D		1	03/28/15 19:37	CYC0341	CC52609
Chrysene	**0.160** (0.017)		8270D		1	03/28/15 19:37	CYC0341	CC52609
Dibenzo(a,h)Anthracene	**0.027** (0.017)		8270D		1	03/28/15 19:37	CYC0341	CC52609
Fluoranthene	**0.310** (0.017)		8270D		1	03/28/15 19:37	CYC0341	CC52609
Fluorene	**0.024** (0.017)		8270D		1	03/28/15 19:37	CYC0341	CC52609
Hexachlorobenzene	ND (0.007)		8270D		1	03/28/15 19:37	CYC0341	CC52609
Indeno(1,2,3-cd)Pyrene	**0.119** (0.017)		8270D		1	03/28/15 19:37	CYC0341	CC52609
Naphthalene	**0.024** (0.017)		8270D		1	03/28/15 19:37	CYC0341	CC52609
Phenanthrene	**0.184** (0.017)		8270D		1	03/28/15 19:37	CYC0341	CC52609
Pyrene	**0.294** (0.017)		8270D		1	03/28/15 19:37	CYC0341	CC52609

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*32 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*40 %*		*30-130*
Surrogate: Nitrobenzene-d5	*39 %*		*30-130*
Surrogate: p-Terphenyl-d14	*52 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-212 0ft-0.5ft
Date Sampled: 03/24/15 14:20
Percent Solids: 73
Initial Volume: 30.5
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1503415
ESS Laboratory Sample ID: 1503415-09
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 3/26/15 16:10

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	ND (16.8)		MADEP-EPH		1	DPS	03/27/15 2:11	CYC0307	CC52536
C19-C36 Aliphatics1	**18.2** (16.8)		MADEP-EPH		1	DPS	03/27/15 2:11	CYC0307	CC52536
C11-C22 Unadjusted Aromatics1	ND (16.8)		EPH8270		1	JXS	03/27/15 20:58	CYC0333	CC52536
C11-C22 Aromatics1,2	ND (16.8)		EPH8270			JXS	03/27/15 20:58		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*58 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*102 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*91 %*		*40-140*
Surrogate: O-Terphenyl	*75 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-212 0.5ft-2ft
Date Sampled: 03/24/15 14:20
Percent Solids: 69
Initial Volume: 20
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503415
ESS Laboratory Sample ID: 1503415-10
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 3/26/15 16:45

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.018)		8270D		1	03/27/15 2:06	CYC0318	CC52609
Acenaphthene	ND (0.018)		8270D		1	03/27/15 2:06	CYC0318	CC52609
Acenaphthylene	**0.019** (0.018)		8270D		1	03/27/15 2:06	CYC0318	CC52609
Anthracene	**0.094** (0.018)		8270D		1	03/27/15 2:06	CYC0318	CC52609
Benzo(a)anthracene	**0.302** (0.018)		8270D		1	03/27/15 2:06	CYC0318	CC52609
Benzo(a)pyrene	**0.273** (0.018)		8270D		1	03/27/15 2:06	CYC0318	CC52609
Benzo(b)fluoranthene	**0.314** (0.018)		8270D		1	03/27/15 2:06	CYC0318	CC52609
Benzo(g,h,i)perylene	**0.145** (0.018)		8270D		1	03/27/15 2:06	CYC0318	CC52609
Benzo(k)fluoranthene	**0.090** (0.018)		8270D		1	03/27/15 2:06	CYC0318	CC52609
Chrysene	**0.296** (0.018)		8270D		1	03/27/15 2:06	CYC0318	CC52609
Dibenzo(a,h)Anthracene	**0.044** (0.018)		8270D		1	03/27/15 2:06	CYC0318	CC52609
Fluoranthene	**0.454** (0.018)		8270D		1	03/27/15 2:06	CYC0318	CC52609
Fluorene	ND (0.018)		8270D		1	03/27/15 2:06	CYC0318	CC52609
Hexachlorobenzene	ND (0.007)		8270D		1	03/27/15 2:06	CYC0318	CC52609
Indeno(1,2,3-cd)Pyrene	**0.167** (0.018)		8270D		1	03/27/15 2:06	CYC0318	CC52609
Naphthalene	ND (0.018)		8270D		1	03/27/15 2:06	CYC0318	CC52609
Phenanthrene	**0.115** (0.018)		8270D		1	03/27/15 2:06	CYC0318	CC52609
Pyrene	**0.450** (0.018)		8270D		1	03/27/15 2:06	CYC0318	CC52609

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*38 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*55 %*		*30-130*
Surrogate: Nitrobenzene-d5	*43 %*		*30-130*
Surrogate: p-Terphenyl-d14	*65 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-216 0ft-0.5ft
Date Sampled: 03/24/15 15:15
Percent Solids: 55
Initial Volume: 30.1
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1503415
ESS Laboratory Sample ID: 1503415-11
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 3/26/15 15:21

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.599)		8270D		1	03/27/15 3:18	CYC0313	CC52608
1,2-Dichlorobenzene	ND (0.599)		8270D		1	03/27/15 3:18	CYC0313	CC52608
1,3-Dichlorobenzene	ND (0.599)		8270D		1	03/27/15 3:18	CYC0313	CC52608
1,4-Dichlorobenzene	ND (0.599)		8270D		1	03/27/15 3:18	CYC0313	CC52608
2,4,5-Trichlorophenol	ND (0.599)		8270D		1	03/27/15 3:18	CYC0313	CC52608
2,4,6-Trichlorophenol	ND (0.599)		8270D		1	03/27/15 3:18	CYC0313	CC52608
2,4-Dichlorophenol	ND (0.599)		8270D		1	03/27/15 3:18	CYC0313	CC52608
2,4-Dimethylphenol	ND (0.599)		8270D		1	03/27/15 3:18	CYC0313	CC52608
2,4-Dinitrophenol	ND (3.00)		8270D		1	03/27/15 3:18	CYC0313	CC52608
2,4-Dinitrotoluene	ND (0.599)		8270D		1	03/27/15 3:18	CYC0313	CC52608
2,6-Dinitrotoluene	ND (0.599)		8270D		1	03/27/15 3:18	CYC0313	CC52608
2-Chloronaphthalene	ND (0.599)		8270D		1	03/27/15 3:18	CYC0313	CC52608
2-Chlorophenol	ND (0.599)		8270D		1	03/27/15 3:18	CYC0313	CC52608
2-Methylphenol	ND (0.599)		8270D		1	03/27/15 3:18	CYC0313	CC52608
2-Nitrophenol	ND (0.599)		8270D		1	03/27/15 3:18	CYC0313	CC52608
3,3´-Dichlorobenzidine	ND (1.20)		8270D		1	03/27/15 3:18	CYC0313	CC52608
3+4-Methylphenol	ND (1.20)		8270D		1	03/27/15 3:18	CYC0313	CC52608
4-Bromophenyl-phenylether	ND (0.599)		8270D		1	03/27/15 3:18	CYC0313	CC52608
4-Chloroaniline	ND (1.20)		8270D		1	03/27/15 3:18	CYC0313	CC52608
4-Nitrophenol	ND (3.00)		8270D		1	03/27/15 3:18	CYC0313	CC52608
Acetophenone	ND (1.20)		8270D		1	03/27/15 3:18	CYC0313	CC52608
Aniline	ND (3.00)		8270D		1	03/27/15 3:18	CYC0313	CC52608
Azobenzene	ND (0.599)		8270D		1	03/27/15 3:18	CYC0313	CC52608
bis(2-Chloroethoxy)methane	ND (0.599)		8270D		1	03/27/15 3:18	CYC0313	CC52608
bis(2-Chloroethyl)ether	ND (0.599)		8270D		1	03/27/15 3:18	CYC0313	CC52608
bis(2-chloroisopropyl)Ether	ND (0.599)		8270D		1	03/27/15 3:18	CYC0313	CC52608
bis(2-Ethylhexyl)phthalate	**7.28** (0.599)		8270D		1	03/27/15 3:18	CYC0313	CC52608
Butylbenzylphthalate	ND (0.599)		8270D		1	03/27/15 3:18	CYC0313	CC52608
Dibenzofuran	ND (0.599)		8270D		1	03/27/15 3:18	CYC0313	CC52608
Diethylphthalate	ND (0.599)		8270D		1	03/27/15 3:18	CYC0313	CC52608
Dimethylphthalate	ND (0.599)		8270D		1	03/27/15 3:18	CYC0313	CC52608
Di-n-butylphthalate	ND (0.599)		8270D		1	03/27/15 3:18	CYC0313	CC52608

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-216 0ft-0.5ft
Date Sampled: 03/24/15 15:15
Percent Solids: 55
Initial Volume: 30.1
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1503415
ESS Laboratory Sample ID: 1503415-11
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 3/26/15 15:21

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Di-n-octylphthalate	ND (0.599)		8270D		1	03/27/15 3:18	CYC0313	CC52608
Hexachlorobenzene	ND (0.599)		8270D		1	03/27/15 3:18	CYC0313	CC52608
Hexachlorobutadiene	ND (0.599)		8270D		1	03/27/15 3:18	CYC0313	CC52608
Hexachloroethane	ND (0.599)		8270D		1	03/27/15 3:18	CYC0313	CC52608
Isophorone	ND (0.599)		8270D		1	03/27/15 3:18	CYC0313	CC52608
Nitrobenzene	ND (0.599)		8270D		1	03/27/15 3:18	CYC0313	CC52608
N-Nitrosodimethylamine	ND (0.599)		8270D		1	03/27/15 3:18	CYC0313	CC52608
Pentachlorophenol	ND (3.00)		8270D		1	03/27/15 3:18	CYC0313	CC52608
Phenol	ND (0.599)		8270D		1	03/27/15 3:18	CYC0313	CC52608

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*41 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*48 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*46 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*54 %*		*30-130*
Surrogate: 2-Fluorophenol	*40 %*		*30-130*
Surrogate: Nitrobenzene-d5	*44 %*		*30-130*
Surrogate: Phenol-d6	*49 %*		*30-130*
Surrogate: p-Terphenyl-d14	*66 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-216 0ft-0.5ft
Date Sampled: 03/24/15 15:15
Percent Solids: 55
Initial Volume: 20.2
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1503415
ESS Laboratory Sample ID: 1503415-11
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 3/26/15 16:45

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	**0.049** (0.045)		8270D		1	03/27/15 3:44	CYC0318	CC52609
Acenaphthene	**0.039** (0.018)		8270D		1	03/27/15 3:44	CYC0318	CC52609
Acenaphthylene	**0.149** (0.045)		8270D		1	03/27/15 3:44	CYC0318	CC52609
Anthracene	**0.240** (0.045)		8270D		1	03/27/15 3:44	CYC0318	CC52609
Benzo(a)anthracene	**0.442** (0.045)		8270D		1	03/27/15 3:44	CYC0318	CC52609
Benzo(a)pyrene	**0.497** (0.045)		8270D		1	03/27/15 3:44	CYC0318	CC52609
Benzo(b)fluoranthene	**0.594** (0.045)		8270D		1	03/27/15 3:44	CYC0318	CC52609
Benzo(g,h,i)perylene	**0.419** (0.045)		8270D		1	03/27/15 3:44	CYC0318	CC52609
Benzo(k)fluoranthene	**0.205** (0.045)		8270D		1	03/27/15 3:44	CYC0318	CC52609
Chrysene	**0.587** (0.045)		8270D		1	03/27/15 3:44	CYC0318	CC52609
Dibenzo(a,h)Anthracene	**0.104** (0.045)		8270D		1	03/27/15 3:44	CYC0318	CC52609
Fluoranthene	**0.590** (0.045)		8270D		1	03/27/15 3:44	CYC0318	CC52609
Fluorene	**0.104** (0.045)		8270D		1	03/27/15 3:44	CYC0318	CC52609
Hexachlorobenzene	ND (0.018)		8270D		1	03/27/15 3:44	CYC0318	CC52609
Indeno(1,2,3-cd)Pyrene	**0.435** (0.045)		8270D		1	03/27/15 3:44	CYC0318	CC52609
Naphthalene	**0.184** (0.045)		8270D		1	03/27/15 3:44	CYC0318	CC52609
Phenanthrene	**0.248** (0.045)		8270D		1	03/27/15 3:44	CYC0318	CC52609
Pyrene	**1.07** (0.045)		8270D		1	03/27/15 3:44	CYC0318	CC52609

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*43 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*59 %*		*30-130*
Surrogate: Nitrobenzene-d5	*50 %*		*30-130*
Surrogate: p-Terphenyl-d14	*71 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-216 0ft-0.5ft
Date Sampled: 03/24/15 15:15
Percent Solids: 55
Initial Volume: 30.8
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1503415
ESS Laboratory Sample ID: 1503415-11
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 3/26/15 16:10

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	**29.4** (22.0)		MADEP-EPH		1	DPS	03/27/15 3:02	CYC0307	CC52536
C19-C36 Aliphatics1	**124** (22.0)		MADEP-EPH		1	DPS	03/27/15 3:02	CYC0307	CC52536
C11-C22 Unadjusted Aromatics1	**204** (22.0)		EPH8270		1	JXS	03/27/15 21:32	CYC0333	CC52536
C11-C22 Aromatics1,2	**199** (22.0)		EPH8270			JXS	03/27/15 21:32		[CALC]

	%Recovery	*Qualifier*	*Limits*
Surrogate: 1-Chlorooctadecane	*43 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*86 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*68 %*		*40-140*
Surrogate: O-Terphenyl	*54 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-216 4ft-6ft
Date Sampled: 03/24/15 15:15
Percent Solids: 70
Initial Volume: 20.5
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503415
ESS Laboratory Sample ID: 1503415-12
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 3/26/15 16:45

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.018)		8270D		1	03/28/15 17:10	CYC0341	CC52609
Acenaphthene	ND (0.018)		8270D		1	03/28/15 17:10	CYC0341	CC52609
Acenaphthylene	ND (0.018)		8270D		1	03/28/15 17:10	CYC0341	CC52609
Anthracene	ND (0.018)		8270D		1	03/28/15 17:10	CYC0341	CC52609
Benzo(a)anthracene	ND (0.018)		8270D		1	03/28/15 17:10	CYC0341	CC52609
Benzo(a)pyrene	ND (0.018)		8270D		1	03/28/15 17:10	CYC0341	CC52609
Benzo(b)fluoranthene	ND (0.018)		8270D		1	03/28/15 17:10	CYC0341	CC52609
Benzo(g,h,i)perylene	ND (0.018)		8270D		1	03/28/15 17:10	CYC0341	CC52609
Benzo(k)fluoranthene	ND (0.018)		8270D		1	03/28/15 17:10	CYC0341	CC52609
Chrysene	**0.018** (0.018)		8270D		1	03/28/15 17:10	CYC0341	CC52609
Dibenzo(a,h)Anthracene	ND (0.018)		8270D		1	03/28/15 17:10	CYC0341	CC52609
Fluoranthene	**0.031** (0.018)		8270D		1	03/28/15 17:10	CYC0341	CC52609
Fluorene	ND (0.018)		8270D		1	03/28/15 17:10	CYC0341	CC52609
Hexachlorobenzene	ND (0.007)		8270D		1	03/28/15 17:10	CYC0341	CC52609
Indeno(1,2,3-cd)Pyrene	ND (0.018)		8270D		1	03/28/15 17:10	CYC0341	CC52609
Naphthalene	ND (0.018)		8270D		1	03/28/15 17:10	CYC0341	CC52609
Phenanthrene	ND (0.018)		8270D		1	03/28/15 17:10	CYC0341	CC52609
Pyrene	**0.031** (0.018)		8270D		1	03/28/15 17:10	CYC0341	CC52609

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*46 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*60 %*		*30-130*
Surrogate: Nitrobenzene-d5	*57 %*		*30-130*
Surrogate: p-Terphenyl-d14	*63 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-216 2ft-4ft
Date Sampled: 03/24/15 15:15
Percent Solids: 62
Initial Volume: 30.1
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503415
ESS Laboratory Sample ID: 1503415-13
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 3/26/15 15:21

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.269)		8270D		1	03/27/15 3:54	CYC0313	CC52608
1,2-Dichlorobenzene	ND (0.269)		8270D		1	03/27/15 3:54	CYC0313	CC52608
1,3-Dichlorobenzene	ND (0.269)		8270D		1	03/27/15 3:54	CYC0313	CC52608
1,4-Dichlorobenzene	ND (0.269)		8270D		1	03/27/15 3:54	CYC0313	CC52608
2,4,5-Trichlorophenol	ND (0.269)		8270D		1	03/27/15 3:54	CYC0313	CC52608
2,4,6-Trichlorophenol	ND (0.269)		8270D		1	03/27/15 3:54	CYC0313	CC52608
2,4-Dichlorophenol	ND (0.269)		8270D		1	03/27/15 3:54	CYC0313	CC52608
2,4-Dimethylphenol	ND (0.269)		8270D		1	03/27/15 3:54	CYC0313	CC52608
2,4-Dinitrophenol	ND (1.35)		8270D		1	03/27/15 3:54	CYC0313	CC52608
2,4-Dinitrotoluene	ND (0.269)		8270D		1	03/27/15 3:54	CYC0313	CC52608
2,6-Dinitrotoluene	ND (0.269)		8270D		1	03/27/15 3:54	CYC0313	CC52608
2-Chloronaphthalene	ND (0.269)		8270D		1	03/27/15 3:54	CYC0313	CC52608
2-Chlorophenol	ND (0.269)		8270D		1	03/27/15 3:54	CYC0313	CC52608
2-Methylphenol	ND (0.269)		8270D		1	03/27/15 3:54	CYC0313	CC52608
2-Nitrophenol	ND (0.269)		8270D		1	03/27/15 3:54	CYC0313	CC52608
3,3´-Dichlorobenzidine	ND (0.539)		8270D		1	03/27/15 3:54	CYC0313	CC52608
3+4-Methylphenol	ND (0.539)		8270D		1	03/27/15 3:54	CYC0313	CC52608
4-Bromophenyl-phenylether	ND (0.269)		8270D		1	03/27/15 3:54	CYC0313	CC52608
4-Chloroaniline	ND (0.539)		8270D		1	03/27/15 3:54	CYC0313	CC52608
4-Nitrophenol	ND (1.35)		8270D		1	03/27/15 3:54	CYC0313	CC52608
Acetophenone	ND (0.539)		8270D		1	03/27/15 3:54	CYC0313	CC52608
Aniline	ND (1.35)		8270D		1	03/27/15 3:54	CYC0313	CC52608
Azobenzene	ND (0.269)		8270D		1	03/27/15 3:54	CYC0313	CC52608
bis(2-Chloroethoxy)methane	ND (0.269)		8270D		1	03/27/15 3:54	CYC0313	CC52608
bis(2-Chloroethyl)ether	ND (0.269)		8270D		1	03/27/15 3:54	CYC0313	CC52608
bis(2-chloroisopropyl)Ether	ND (0.269)		8270D		1	03/27/15 3:54	CYC0313	CC52608
bis(2-Ethylhexyl)phthalate	ND (0.269)		8270D		1	03/27/15 3:54	CYC0313	CC52608
Butylbenzylphthalate	ND (0.269)		8270D		1	03/27/15 3:54	CYC0313	CC52608
Dibenzofuran	ND (0.269)		8270D		1	03/27/15 3:54	CYC0313	CC52608
Diethylphthalate	ND (0.269)		8270D		1	03/27/15 3:54	CYC0313	CC52608
Dimethylphthalate	ND (0.269)		8270D		1	03/27/15 3:54	CYC0313	CC52608
Di-n-butylphthalate	ND (0.269)		8270D		1	03/27/15 3:54	CYC0313	CC52608

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-216 2ft-4ft
Date Sampled: 03/24/15 15:15
Percent Solids: 62
Initial Volume: 30.1
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503415
ESS Laboratory Sample ID: 1503415-13
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 3/26/15 15:21

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Di-n-octylphthalate	ND (0.269)		8270D		1	03/27/15 3:54	CYC0313	CC52608
Hexachlorobenzene	ND (0.269)		8270D		1	03/27/15 3:54	CYC0313	CC52608
Hexachlorobutadiene	ND (0.269)		8270D		1	03/27/15 3:54	CYC0313	CC52608
Hexachloroethane	ND (0.269)		8270D		1	03/27/15 3:54	CYC0313	CC52608
Isophorone	ND (0.269)		8270D		1	03/27/15 3:54	CYC0313	CC52608
Nitrobenzene	ND (0.269)		8270D		1	03/27/15 3:54	CYC0313	CC52608
N-Nitrosodimethylamine	ND (0.269)		8270D		1	03/27/15 3:54	CYC0313	CC52608
Pentachlorophenol	ND (1.35)		8270D		1	03/27/15 3:54	CYC0313	CC52608
Phenol	ND (0.269)		8270D		1	03/27/15 3:54	CYC0313	CC52608

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*46 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*21 %*	*S-*	*30-130*
Surrogate: 2-Chlorophenol-d4	*52 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*54 %*		*30-130*
Surrogate: 2-Fluorophenol	*46 %*		*30-130*
Surrogate: Nitrobenzene-d5	*49 %*		*30-130*
Surrogate: Phenol-d6	*53 %*		*30-130*
Surrogate: p-Terphenyl-d14	*66 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-216 2ft-4ft
Date Sampled: 03/24/15 15:15
Percent Solids: 62
Initial Volume: 20
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503415
ESS Laboratory Sample ID: 1503415-13
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 3/26/15 16:45

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.020)		8270D		1	03/28/15 17:59	CYC0341	CC52609
Acenaphthene	**0.029** (0.020)		8270D		1	03/28/15 17:59	CYC0341	CC52609
Acenaphthylene	**0.021** (0.020)		8270D		1	03/28/15 17:59	CYC0341	CC52609
Anthracene	**0.100** (0.020)		8270D		1	03/28/15 17:59	CYC0341	CC52609
Benzo(a)anthracene	**0.327** (0.020)		8270D		1	03/28/15 17:59	CYC0341	CC52609
Benzo(a)pyrene	**0.279** (0.020)		8270D		1	03/28/15 17:59	CYC0341	CC52609
Benzo(b)fluoranthene	**0.315** (0.020)		8270D		1	03/28/15 17:59	CYC0341	CC52609
Benzo(g,h,i)perylene	**0.139** (0.020)		8270D		1	03/28/15 17:59	CYC0341	CC52609
Benzo(k)fluoranthene	**0.113** (0.020)		8270D		1	03/28/15 17:59	CYC0341	CC52609
Chrysene	**0.305** (0.020)		8270D		1	03/28/15 17:59	CYC0341	CC52609
Dibenzo(a,h)Anthracene	**0.045** (0.020)		8270D		1	03/28/15 17:59	CYC0341	CC52609
Fluoranthene	**0.470** (0.020)		8270D		1	03/28/15 17:59	CYC0341	CC52609
Fluorene	**0.026** (0.020)		8270D		1	03/28/15 17:59	CYC0341	CC52609
Hexachlorobenzene	ND (0.008)		8270D		1	03/28/15 17:59	CYC0341	CC52609
Indeno(1,2,3-cd)Pyrene	**0.151** (0.020)		8270D		1	03/28/15 17:59	CYC0341	CC52609
Naphthalene	**0.021** (0.020)		8270D		1	03/28/15 17:59	CYC0341	CC52609
Phenanthrene	**0.110** (0.020)		8270D		1	03/28/15 17:59	CYC0341	CC52609
Pyrene	**0.470** (0.020)		8270D		1	03/28/15 17:59	CYC0341	CC52609

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*43 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*60 %*		*30-130*
Surrogate: Nitrobenzene-d5	*54 %*		*30-130*
Surrogate: p-Terphenyl-d14	*68 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-216 2ft-4ft
Date Sampled: 03/24/15 15:15
Percent Solids: 62
Initial Volume: 30
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1503415
ESS Laboratory Sample ID: 1503415-13
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 3/26/15 16:10

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	ND (20.3)		MADEP-EPH		1	DPS	03/27/15 3:52	CYC0307	CC52536
C19-C36 Aliphatics1	ND (20.3)		MADEP-EPH		1	DPS	03/27/15 3:52	CYC0307	CC52536
C11-C22 Unadjusted Aromatics1	**20.6** (20.3)		EPH8270		1	JXS	03/27/15 22:06	CYC0333	CC52536
C11-C22 Aromatics1,2	ND (20.3)		EPH8270			JXS	03/27/15 22:06		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*67 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*105 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*102 %*		*40-140*
Surrogate: O-Terphenyl	*74 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-217 0ft-0.5ft
Date Sampled: 03/24/15 16:10
Percent Solids: 59
Initial Volume: 30.1
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503415
ESS Laboratory Sample ID: 1503415-14
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 3/26/15 15:21

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.283)		8270D		1	03/27/15 4:30	CYC0313	CC52608
1,2-Dichlorobenzene	ND (0.283)		8270D		1	03/27/15 4:30	CYC0313	CC52608
1,3-Dichlorobenzene	ND (0.283)		8270D		1	03/27/15 4:30	CYC0313	CC52608
1,4-Dichlorobenzene	ND (0.283)		8270D		1	03/27/15 4:30	CYC0313	CC52608
2,4,5-Trichlorophenol	ND (0.283)		8270D		1	03/27/15 4:30	CYC0313	CC52608
2,4,6-Trichlorophenol	ND (0.283)		8270D		1	03/27/15 4:30	CYC0313	CC52608
2,4-Dichlorophenol	ND (0.283)		8270D		1	03/27/15 4:30	CYC0313	CC52608
2,4-Dimethylphenol	ND (0.283)		8270D		1	03/27/15 4:30	CYC0313	CC52608
2,4-Dinitrophenol	ND (1.42)		8270D		1	03/27/15 4:30	CYC0313	CC52608
2,4-Dinitrotoluene	ND (0.283)		8270D		1	03/27/15 4:30	CYC0313	CC52608
2,6-Dinitrotoluene	ND (0.283)		8270D		1	03/27/15 4:30	CYC0313	CC52608
2-Chloronaphthalene	ND (0.283)		8270D		1	03/27/15 4:30	CYC0313	CC52608
2-Chlorophenol	ND (0.283)		8270D		1	03/27/15 4:30	CYC0313	CC52608
2-Methylphenol	ND (0.283)		8270D		1	03/27/15 4:30	CYC0313	CC52608
2-Nitrophenol	ND (0.283)		8270D		1	03/27/15 4:30	CYC0313	CC52608
3,3´-Dichlorobenzidine	ND (0.567)		8270D		1	03/27/15 4:30	CYC0313	CC52608
3+4-Methylphenol	ND (0.567)		8270D		1	03/27/15 4:30	CYC0313	CC52608
4-Bromophenyl-phenylether	ND (0.283)		8270D		1	03/27/15 4:30	CYC0313	CC52608
4-Chloroaniline	ND (0.567)		8270D		1	03/27/15 4:30	CYC0313	CC52608
4-Nitrophenol	ND (1.42)		8270D		1	03/27/15 4:30	CYC0313	CC52608
Acetophenone	ND (0.567)		8270D		1	03/27/15 4:30	CYC0313	CC52608
Aniline	ND (1.42)		8270D		1	03/27/15 4:30	CYC0313	CC52608
Azobenzene	ND (0.283)		8270D		1	03/27/15 4:30	CYC0313	CC52608
bis(2-Chloroethoxy)methane	ND (0.283)		8270D		1	03/27/15 4:30	CYC0313	CC52608
bis(2-Chloroethyl)ether	ND (0.283)		8270D		1	03/27/15 4:30	CYC0313	CC52608
bis(2-chloroisopropyl)Ether	ND (0.283)		8270D		1	03/27/15 4:30	CYC0313	CC52608
bis(2-Ethylhexyl)phthalate	**0.358** (0.283)		8270D		1	03/27/15 4:30	CYC0313	CC52608
Butylbenzylphthalate	ND (0.283)		8270D		1	03/27/15 4:30	CYC0313	CC52608
Dibenzofuran	ND (0.283)		8270D		1	03/27/15 4:30	CYC0313	CC52608
Diethylphthalate	ND (0.283)		8270D		1	03/27/15 4:30	CYC0313	CC52608
Dimethylphthalate	ND (0.283)		8270D		1	03/27/15 4:30	CYC0313	CC52608
Di-n-butylphthalate	ND (0.283)		8270D		1	03/27/15 4:30	CYC0313	CC52608

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-217 0ft-0.5ft
Date Sampled: 03/24/15 16:10
Percent Solids: 59
Initial Volume: 30.1
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503415
ESS Laboratory Sample ID: 1503415-14
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 3/26/15 15:21

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Di-n-octylphthalate	ND (0.283)		8270D		1	03/27/15 4:30	CYC0313	CC52608
Hexachlorobenzene	ND (0.283)		8270D		1	03/27/15 4:30	CYC0313	CC52608
Hexachlorobutadiene	ND (0.283)		8270D		1	03/27/15 4:30	CYC0313	CC52608
Hexachloroethane	ND (0.283)		8270D		1	03/27/15 4:30	CYC0313	CC52608
Isophorone	ND (0.283)		8270D		1	03/27/15 4:30	CYC0313	CC52608
Nitrobenzene	ND (0.283)		8270D		1	03/27/15 4:30	CYC0313	CC52608
N-Nitrosodimethylamine	ND (0.283)		8270D		1	03/27/15 4:30	CYC0313	CC52608
Pentachlorophenol	ND (1.42)		8270D		1	03/27/15 4:30	CYC0313	CC52608
Phenol	ND (0.283)		8270D		1	03/27/15 4:30	CYC0313	CC52608

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*49 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*17 %*	*S-*	*30-130*
Surrogate: 2-Chlorophenol-d4	*53 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*55 %*		*30-130*
Surrogate: 2-Fluorophenol	*48 %*		*30-130*
Surrogate: Nitrobenzene-d5	*54 %*		*30-130*
Surrogate: Phenol-d6	*54 %*		*30-130*
Surrogate: p-Terphenyl-d14	*65 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-217 0ft-0.5ft
Date Sampled: 03/24/15 16:10
Percent Solids: 59
Initial Volume: 20
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503415
ESS Laboratory Sample ID: 1503415-14
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 3/26/15 16:45

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	**0.094** (0.021)		8270D		1	03/27/15 11:07	CYC0318	CC52609
Acenaphthene	**0.079** (0.021)		8270D		1	03/27/15 11:07	CYC0318	CC52609
Acenaphthylene	**0.368** (0.021)		8270D		1	03/27/15 11:07	CYC0318	CC52609
Anthracene	**0.556** (0.021)		8270D		1	03/27/15 11:07	CYC0318	CC52609
Benzo(a)anthracene	**0.808** (0.021)		8270D		1	03/27/15 11:07	CYC0318	CC52609
Benzo(a)pyrene	**0.818** (0.021)		8270D		1	03/27/15 11:07	CYC0318	CC52609
Benzo(b)fluoranthene	**0.985** (0.021)		8270D		1	03/27/15 11:07	CYC0318	CC52609
Benzo(g,h,i)perylene	**0.472** (0.021)		8270D		1	03/27/15 11:07	CYC0318	CC52609
Benzo(k)fluoranthene	**0.334** (0.021)		8270D		1	03/27/15 11:07	CYC0318	CC52609
Chrysene	**1.03** (0.021)		8270D		1	03/27/15 11:07	CYC0318	CC52609
Dibenzo(a,h)Anthracene	**0.154** (0.021)		8270D		1	03/27/15 11:07	CYC0318	CC52609
Fluoranthene	**0.924** (0.021)		8270D		1	03/27/15 11:07	CYC0318	CC52609
Fluorene	**0.180** (0.021)		8270D		1	03/27/15 11:07	CYC0318	CC52609
Hexachlorobenzene	ND (0.009)		8270D		1	03/27/15 11:07	CYC0318	CC52609
Indeno(1,2,3-cd)Pyrene	**0.547** (0.021)		8270D		1	03/27/15 11:07	CYC0318	CC52609
Naphthalene	**0.250** (0.021)		8270D		1	03/27/15 11:07	CYC0318	CC52609
Phenanthrene	**0.762** (0.021)		8270D		1	03/27/15 11:07	CYC0318	CC52609
Pyrene	**1.70** (0.021)		8270D		1	03/27/15 11:07	CYC0318	CC52609

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*29 %*	*S-*	*30-130*
Surrogate: 2-Fluorobiphenyl	*54 %*		*30-130*
Surrogate: Nitrobenzene-d5	*35 %*		*30-130*
Surrogate: p-Terphenyl-d14	*57 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-217 0ft-0.5ft
Date Sampled: 03/24/15 16:10
Percent Solids: 59
Initial Volume: 30
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1503415
ESS Laboratory Sample ID: 1503415-14
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 3/26/15 16:10

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	**59.0** (21.3)		MADEP-EPH		1	DPS	03/27/15 4:43	CYC0307	CC52536
C19-C36 Aliphatics1	**188** (21.3)		MADEP-EPH		1	DPS	03/27/15 4:43	CYC0307	CC52536
C11-C22 Unadjusted Aromatics1	**227** (21.3)		EPH8270		1	JXS	03/27/15 22:41	CYC0333	CC52536
C11-C22 Aromatics1,2	**217** (21.3)		EPH8270			JXS	03/27/15 22:41		[CALC]

	%Recovery	*Qualifier*	*Limits*
Surrogate: 1-Chlorooctadecane	*48 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*108 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*102 %*		*40-140*
Surrogate: O-Terphenyl	*69 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-217 0ft-3ft
Date Sampled: 03/24/15 16:10
Percent Solids: 65
Initial Volume: 13.6
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1503415
ESS Laboratory Sample ID: 1503415-15
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.0028)		8260B Low		1	03/26/15 13:42	CYC0308	CC52627
1,1,1-Trichloroethane	ND (0.0028)		8260B Low		1	03/26/15 13:42	CYC0308	CC52627
1,1,2,2-Tetrachloroethane	ND (0.0011)		8260B Low		1	03/26/15 13:42	CYC0308	CC52627
1,1,2-Trichloroethane	ND (0.0028)		8260B Low		1	03/26/15 13:42	CYC0308	CC52627
1,1-Dichloroethane	ND (0.0028)		8260B Low		1	03/26/15 13:42	CYC0308	CC52627
1,1-Dichloroethene	ND (0.0028)		8260B Low		1	03/26/15 13:42	CYC0308	CC52627
1,1-Dichloropropene	ND (0.0028)		8260B Low		1	03/26/15 13:42	CYC0308	CC52627
1,2,3-Trichlorobenzene	ND (0.0028)		8260B Low		1	03/26/15 13:42	CYC0308	CC52627
1,2,3-Trichloropropane	ND (0.0028)		8260B Low		1	03/26/15 13:42	CYC0308	CC52627
1,2,4-Trichlorobenzene	ND (0.0028)		8260B Low		1	03/26/15 13:42	CYC0308	CC52627
1,2,4-Trimethylbenzene	ND (0.0028)		8260B Low		1	03/26/15 13:42	CYC0308	CC52627
1,2-Dibromo-3-Chloropropane	ND (0.0028)		8260B Low		1	03/26/15 13:42	CYC0308	CC52627
1,2-Dibromoethane	ND (0.0028)		8260B Low		1	03/26/15 13:42	CYC0308	CC52627
1,2-Dichlorobenzene	ND (0.0028)		8260B Low		1	03/26/15 13:42	CYC0308	CC52627
1,2-Dichloroethane	ND (0.0028)		8260B Low		1	03/26/15 13:42	CYC0308	CC52627
1,2-Dichloropropane	ND (0.0028)		8260B Low		1	03/26/15 13:42	CYC0308	CC52627
1,3,5-Trimethylbenzene	ND (0.0028)		8260B Low		1	03/26/15 13:42	CYC0308	CC52627
1,3-Dichlorobenzene	ND (0.0028)		8260B Low		1	03/26/15 13:42	CYC0308	CC52627
1,3-Dichloropropane	ND (0.0028)		8260B Low		1	03/26/15 13:42	CYC0308	CC52627
1,4-Dichlorobenzene	ND (0.0028)		8260B Low		1	03/26/15 13:42	CYC0308	CC52627
1,4-Dioxane	ND (0.0569)		8260B Low		1	03/26/15 13:42	CYC0308	CC52627
2,2-Dichloropropane	ND (0.0028)		8260B Low		1	03/26/15 13:42	CYC0308	CC52627
2-Butanone	**0.0119** (0.0057)		8260B Low		1	03/26/15 13:42	CYC0308	CC52627
2-Chlorotoluene	ND (0.0028)		8260B Low		1	03/26/15 13:42	CYC0308	CC52627
2-Hexanone	ND (0.0057)		8260B Low		1	03/26/15 13:42	CYC0308	CC52627
4-Chlorotoluene	ND (0.0028)		8260B Low		1	03/26/15 13:42	CYC0308	CC52627
4-Isopropyltoluene	ND (0.0028)		8260B Low		1	03/26/15 13:42	CYC0308	CC52627
4-Methyl-2-Pentanone	ND (0.0057)		8260B Low		1	03/26/15 13:42	CYC0308	CC52627
Acetone	**0.0898** (0.0057)		8260B Low		1	03/26/15 13:42	CYC0308	CC52627
Benzene	ND (0.0028)		8260B Low		1	03/26/15 13:42	CYC0308	CC52627
Bromobenzene	ND (0.0028)		8260B Low		1	03/26/15 13:42	CYC0308	CC52627
Bromochloromethane	ND (0.0028)		8260B Low		1	03/26/15 13:42	CYC0308	CC52627

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-217 0ft-3ft
Date Sampled: 03/24/15 16:10
Percent Solids: 65
Initial Volume: 13.6
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1503415
ESS Laboratory Sample ID: 1503415-15
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromodichloromethane	ND (0.0028)		8260B Low		1	03/26/15 13:42	CYC0308	CC52627
Bromoform	ND (0.0028)		8260B Low		1	03/26/15 13:42	CYC0308	CC52627
Bromomethane	ND (0.0057)		8260B Low		1	03/26/15 13:42	CYC0308	CC52627
Carbon Disulfide	**0.0060** (0.0028)		8260B Low		1	03/26/15 13:42	CYC0308	CC52627
Carbon Tetrachloride	ND (0.0028)		8260B Low		1	03/26/15 13:42	CYC0308	CC52627
Chlorobenzene	ND (0.0028)		8260B Low		1	03/26/15 13:42	CYC0308	CC52627
Chloroethane	ND (0.0057)		8260B Low		1	03/26/15 13:42	CYC0308	CC52627
Chloroform	ND (0.0028)		8260B Low		1	03/26/15 13:42	CYC0308	CC52627
Chloromethane	ND (0.0057)		8260B Low		1	03/26/15 13:42	CYC0308	CC52627
cis-1,2-Dichloroethene	ND (0.0028)		8260B Low		1	03/26/15 13:42	CYC0308	CC52627
cis-1,3-Dichloropropene	ND (0.0028)		8260B Low		1	03/26/15 13:42	CYC0308	CC52627
Dibromochloromethane	ND (0.0011)		8260B Low		1	03/26/15 13:42	CYC0308	CC52627
Dibromomethane	ND (0.0028)		8260B Low		1	03/26/15 13:42	CYC0308	CC52627
Dichlorodifluoromethane	ND (0.0057)		8260B Low		1	03/26/15 13:42	CYC0308	CC52627
Diethyl Ether	ND (0.0028)		8260B Low		1	03/26/15 13:42	CYC0308	CC52627
Di-isopropyl ether	ND (0.0028)		8260B Low		1	03/26/15 13:42	CYC0308	CC52627
Ethyl tertiary-butyl ether	ND (0.0028)		8260B Low		1	03/26/15 13:42	CYC0308	CC52627
Ethylbenzene	ND (0.0028)		8260B Low		1	03/26/15 13:42	CYC0308	CC52627
Hexachlorobutadiene	ND (0.0028)		8260B Low		1	03/26/15 13:42	CYC0308	CC52627
Isopropylbenzene	ND (0.0028)		8260B Low		1	03/26/15 13:42	CYC0308	CC52627
Methyl tert-Butyl Ether	ND (0.0028)		8260B Low		1	03/26/15 13:42	CYC0308	CC52627
Methylene Chloride	ND (0.0057)		8260B Low		1	03/26/15 13:42	CYC0308	CC52627
Naphthalene	ND (0.0028)		8260B Low		1	03/26/15 13:42	CYC0308	CC52627
n-Butylbenzene	ND (0.0028)		8260B Low		1	03/26/15 13:42	CYC0308	CC52627
n-Propylbenzene	ND (0.0028)		8260B Low		1	03/26/15 13:42	CYC0308	CC52627
sec-Butylbenzene	ND (0.0028)		8260B Low		1	03/26/15 13:42	CYC0308	CC52627
Styrene	ND (0.0028)		8260B Low		1	03/26/15 13:42	CYC0308	CC52627
tert-Butylbenzene	ND (0.0028)		8260B Low		1	03/26/15 13:42	CYC0308	CC52627
Tertiary-amyl methyl ether	ND (0.0028)		8260B Low		1	03/26/15 13:42	CYC0308	CC52627
Tetrachloroethene	ND (0.0028)		8260B Low		1	03/26/15 13:42	CYC0308	CC52627
Tetrahydrofuran	ND (0.0028)		8260B Low		1	03/26/15 13:42	CYC0308	CC52627
Toluene	ND (0.0028)		8260B Low		1	03/26/15 13:42	CYC0308	CC52627

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-217 0ft-3ft
Date Sampled: 03/24/15 16:10
Percent Solids: 65
Initial Volume: 13.6
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1503415
ESS Laboratory Sample ID: 1503415-15
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
trans-1,2-Dichloroethene	ND (0.0028)		8260B Low		1	03/26/15 13:42	CYC0308	CC52627
trans-1,3-Dichloropropene	ND (0.0028)		8260B Low		1	03/26/15 13:42	CYC0308	CC52627
Trichloroethene	ND (0.0028)		8260B Low		1	03/26/15 13:42	CYC0308	CC52627
Trichlorofluoromethane	ND (0.0028)		8260B Low		1	03/26/15 13:42	CYC0308	CC52627
Vinyl Chloride	ND (0.0057)		8260B Low		1	03/26/15 13:42	CYC0308	CC52627
Xylene O	ND (0.0028)		8260B Low		1	03/26/15 13:42	CYC0308	CC52627
Xylene P,M	ND (0.0057)		8260B Low		1	03/26/15 13:42	CYC0308	CC52627
Xylenes (Total)	ND (0.0057)		8260B Low		1	03/26/15 13:42		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*100 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*82 %*		*70-130*
Surrogate: Dibromofluoromethane	*94 %*		*70-130*
Surrogate: Toluene-d8	*98 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-217 0ft-3ft
Date Sampled: 03/24/15 16:10
Percent Solids: 65
Initial Volume: 15.9
Final Volume: 15
Extraction Method: 5035

ESS Laboratory Work Order: 1503415
ESS Laboratory Sample ID: 1503415-15
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MD

5035/8260B Volatile Organic Compounds / Methanol

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.201)		8260B		1	03/27/15 12:47	CYC0336	CC52745
1,1,1-Trichloroethane	ND (0.100)		8260B		1	03/27/15 12:47	CYC0336	CC52745
1,1,2,2-Tetrachloroethane	ND (0.100)		8260B		1	03/27/15 12:47	CYC0336	CC52745
1,1,2-Trichloroethane	ND (0.100)		8260B		1	03/27/15 12:47	CYC0336	CC52745
1,1-Dichloroethane	ND (0.100)		8260B		1	03/27/15 12:47	CYC0336	CC52745
1,1-Dichloroethene	ND (0.100)		8260B		1	03/27/15 12:47	CYC0336	CC52745
1,1-Dichloropropene	ND (0.100)		8260B		1	03/27/15 12:47	CYC0336	CC52745
1,2,3-Trichlorobenzene	ND (0.100)		8260B		1	03/27/15 12:47	CYC0336	CC52745
1,2,3-Trichloropropane	ND (0.100)		8260B		1	03/27/15 12:47	CYC0336	CC52745
1,2,4-Trichlorobenzene	ND (0.100)		8260B		1	03/27/15 12:47	CYC0336	CC52745
1,2,4-Trimethylbenzene	ND (0.100)		8260B		1	03/27/15 12:47	CYC0336	CC52745
1,2-Dibromo-3-Chloropropane	ND (0.402)		8260B		1	03/27/15 12:47	CYC0336	CC52745
1,2-Dibromoethane	ND (0.100)		8260B		1	03/27/15 12:47	CYC0336	CC52745
1,2-Dichlorobenzene	ND (0.100)		8260B		1	03/27/15 12:47	CYC0336	CC52745
1,2-Dichloroethane	ND (0.100)		8260B		1	03/27/15 12:47	CYC0336	CC52745
1,2-Dichloropropane	ND (0.100)		8260B		1	03/27/15 12:47	CYC0336	CC52745
1,3,5-Trimethylbenzene	ND (0.100)		8260B		1	03/27/15 12:47	CYC0336	CC52745
1,3-Dichlorobenzene	ND (0.100)		8260B		1	03/27/15 12:47	CYC0336	CC52745
1,3-Dichloropropane	ND (0.100)		8260B		1	03/27/15 12:47	CYC0336	CC52745
1,4-Dichlorobenzene	ND (0.100)		8260B		1	03/27/15 12:47	CYC0336	CC52745
1,4-Dioxane - Screen	ND (10.0)		8260B		1	03/27/15 12:47	CYC0336	CC52745
2,2-Dichloropropane	ND (0.201)		8260B		1	03/27/15 12:47	CYC0336	CC52745
2-Butanone	ND (0.402)		8260B		1	03/27/15 12:47	CYC0336	CC52745
2-Chlorotoluene	ND (0.100)		8260B		1	03/27/15 12:47	CYC0336	CC52745
2-Hexanone	ND (0.402)		8260B		1	03/27/15 12:47	CYC0336	CC52745
4-Chlorotoluene	ND (0.100)		8260B		1	03/27/15 12:47	CYC0336	CC52745
4-Isopropyltoluene	ND (0.100)		8260B		1	03/27/15 12:47	CYC0336	CC52745
4-Methyl-2-Pentanone	ND (0.402)		8260B		1	03/27/15 12:47	CYC0336	CC52745
Acetone	**B 0.434** (0.402)		8260B		1	03/27/15 12:47	CYC0336	CC52745
Benzene	ND (0.100)		8260B		1	03/27/15 12:47	CYC0336	CC52745
Bromobenzene	ND (0.100)		8260B		1	03/27/15 12:47	CYC0336	CC52745
Bromochloromethane	ND (0.100)		8260B		1	03/27/15 12:47	CYC0336	CC52745

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-217 0ft-3ft
Date Sampled: 03/24/15 16:10
Percent Solids: 65
Initial Volume: 15.9
Final Volume: 15
Extraction Method: 5035

ESS Laboratory Work Order: 1503415
ESS Laboratory Sample ID: 1503415-15
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MD

5035/8260B Volatile Organic Compounds / Methanol

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromodichloromethane	ND (0.100)		8260B		1	03/27/15 12:47	CYC0336	CC52745
Bromoform	ND (0.100)		8260B		1	03/27/15 12:47	CYC0336	CC52745
Bromomethane	ND (0.201)		8260B		1	03/27/15 12:47	CYC0336	CC52745
Carbon Disulfide	ND (0.100)		8260B		1	03/27/15 12:47	CYC0336	CC52745
Carbon Tetrachloride	ND (0.100)		8260B		1	03/27/15 12:47	CYC0336	CC52745
Chlorobenzene	ND (0.100)		8260B		1	03/27/15 12:47	CYC0336	CC52745
Chloroethane	ND (0.201)		8260B		1	03/27/15 12:47	CYC0336	CC52745
Chloroform	ND (0.100)		8260B		1	03/27/15 12:47	CYC0336	CC52745
Chloromethane	ND (0.201)		8260B		1	03/27/15 12:47	CYC0336	CC52745
cis-1,2-Dichloroethene	ND (0.100)		8260B		1	03/27/15 12:47	CYC0336	CC52745
cis-1,3-Dichloropropene	ND (0.100)		8260B		1	03/27/15 12:47	CYC0336	CC52745
Dibromochloromethane	ND (0.100)		8260B		1	03/27/15 12:47	CYC0336	CC52745
Dibromomethane	ND (0.100)		8260B		1	03/27/15 12:47	CYC0336	CC52745
Dichlorodifluoromethane	ND (0.100)		8260B		1	03/27/15 12:47	CYC0336	CC52745
Diethyl Ether	ND (0.100)		8260B		1	03/27/15 12:47	CYC0336	CC52745
Di-isopropyl ether	ND (0.100)		8260B		1	03/27/15 12:47	CYC0336	CC52745
Ethyl tertiary-butyl ether	ND (0.100)		8260B		1	03/27/15 12:47	CYC0336	CC52745
Ethylbenzene	ND (0.100)		8260B		1	03/27/15 12:47	CYC0336	CC52745
Hexachlorobutadiene	ND (0.100)		8260B		1	03/27/15 12:47	CYC0336	CC52745
Isopropylbenzene	ND (0.100)		8260B		1	03/27/15 12:47	CYC0336	CC52745
Methyl tert-Butyl Ether	ND (0.100)		8260B		1	03/27/15 12:47	CYC0336	CC52745
Methylene Chloride	ND (0.402)		8260B		1	03/27/15 12:47	CYC0336	CC52745
Naphthalene	ND (0.100)		8260B		1	03/27/15 12:47	CYC0336	CC52745
n-Butylbenzene	ND (0.100)		8260B		1	03/27/15 12:47	CYC0336	CC52745
n-Propylbenzene	ND (0.100)		8260B		1	03/27/15 12:47	CYC0336	CC52745
sec-Butylbenzene	ND (0.100)		8260B		1	03/27/15 12:47	CYC0336	CC52745
Styrene	ND (0.100)		8260B		1	03/27/15 12:47	CYC0336	CC52745
tert-Butylbenzene	ND (0.100)		8260B		1	03/27/15 12:47	CYC0336	CC52745
Tertiary-amyl methyl ether	ND (0.100)		8260B		1	03/27/15 12:47	CYC0336	CC52745
Tetrachloroethene	ND (0.100)		8260B		1	03/27/15 12:47	CYC0336	CC52745
Tetrahydrofuran	ND (0.402)		8260B		1	03/27/15 12:47	CYC0336	CC52745
Toluene	ND (0.100)		8260B		1	03/27/15 12:47	CYC0336	CC52745

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-217 0ft-3ft
Date Sampled: 03/24/15 16:10
Percent Solids: 65
Initial Volume: 15.9
Final Volume: 15
Extraction Method: 5035

ESS Laboratory Work Order: 1503415
ESS Laboratory Sample ID: 1503415-15
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MD

5035/8260B Volatile Organic Compounds / Methanol

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
trans-1,2-Dichloroethene	ND (0.100)		8260B		1	03/27/15 12:47	CYC0336	CC52745
trans-1,3-Dichloropropene	ND (0.100)		8260B		1	03/27/15 12:47	CYC0336	CC52745
Trichloroethene	ND (0.100)		8260B		1	03/27/15 12:47	CYC0336	CC52745
Trichlorofluoromethane	ND (0.100)		8260B		1	03/27/15 12:47	CYC0336	CC52745
Vinyl Chloride	ND (0.100)		8260B		1	03/27/15 12:47	CYC0336	CC52745
Xylene O	ND (0.100)		8260B		1	03/27/15 12:47	CYC0336	CC52745
Xylene P,M	ND (0.201)		8260B		1	03/27/15 12:47	CYC0336	CC52745
Xylenes (Total)	ND (0.201)		8260B		1	03/27/15 12:47		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*120 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*120 %*		*70-130*
Surrogate: Dibromofluoromethane	*136 %*	*S+*	*70-130*
Surrogate: Toluene-d8	*123 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-217 0ft-3ft
Date Sampled: 03/24/15 16:10
Percent Solids: 65
Initial Volume: 30.4
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503415
ESS Laboratory Sample ID: 1503415-15
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 3/26/15 15:21

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.254)		8270D		1	03/27/15 5:07	CYC0313	CC52608
1,2-Dichlorobenzene	ND (0.254)		8270D		1	03/27/15 5:07	CYC0313	CC52608
1,3-Dichlorobenzene	ND (0.254)		8270D		1	03/27/15 5:07	CYC0313	CC52608
1,4-Dichlorobenzene	ND (0.254)		8270D		1	03/27/15 5:07	CYC0313	CC52608
2,4,5-Trichlorophenol	ND (0.254)		8270D		1	03/27/15 5:07	CYC0313	CC52608
2,4,6-Trichlorophenol	ND (0.254)		8270D		1	03/27/15 5:07	CYC0313	CC52608
2,4-Dichlorophenol	ND (0.254)		8270D		1	03/27/15 5:07	CYC0313	CC52608
2,4-Dimethylphenol	ND (0.254)		8270D		1	03/27/15 5:07	CYC0313	CC52608
2,4-Dinitrophenol	ND (1.28)		8270D		1	03/27/15 5:07	CYC0313	CC52608
2,4-Dinitrotoluene	ND (0.254)		8270D		1	03/27/15 5:07	CYC0313	CC52608
2,6-Dinitrotoluene	ND (0.254)		8270D		1	03/27/15 5:07	CYC0313	CC52608
2-Chloronaphthalene	ND (0.254)		8270D		1	03/27/15 5:07	CYC0313	CC52608
2-Chlorophenol	ND (0.254)		8270D		1	03/27/15 5:07	CYC0313	CC52608
2-Methylphenol	ND (0.254)		8270D		1	03/27/15 5:07	CYC0313	CC52608
2-Nitrophenol	ND (0.254)		8270D		1	03/27/15 5:07	CYC0313	CC52608
3,3´-Dichlorobenzidine	ND (0.510)		8270D		1	03/27/15 5:07	CYC0313	CC52608
3+4-Methylphenol	ND (0.510)		8270D		1	03/27/15 5:07	CYC0313	CC52608
4-Bromophenyl-phenylether	ND (0.254)		8270D		1	03/27/15 5:07	CYC0313	CC52608
4-Chloroaniline	ND (0.510)		8270D		1	03/27/15 5:07	CYC0313	CC52608
4-Nitrophenol	ND (1.28)		8270D		1	03/27/15 5:07	CYC0313	CC52608
Acetophenone	ND (0.510)		8270D		1	03/27/15 5:07	CYC0313	CC52608
Aniline	ND (1.28)		8270D		1	03/27/15 5:07	CYC0313	CC52608
Azobenzene	ND (0.254)		8270D		1	03/27/15 5:07	CYC0313	CC52608
bis(2-Chloroethoxy)methane	ND (0.254)		8270D		1	03/27/15 5:07	CYC0313	CC52608
bis(2-Chloroethyl)ether	ND (0.254)		8270D		1	03/27/15 5:07	CYC0313	CC52608
bis(2-chloroisopropyl)Ether	ND (0.254)		8270D		1	03/27/15 5:07	CYC0313	CC52608
bis(2-Ethylhexyl)phthalate	ND (0.254)		8270D		1	03/27/15 5:07	CYC0313	CC52608
Butylbenzylphthalate	ND (0.254)		8270D		1	03/27/15 5:07	CYC0313	CC52608
Dibenzofuran	ND (0.254)		8270D		1	03/27/15 5:07	CYC0313	CC52608
Diethylphthalate	ND (0.254)		8270D		1	03/27/15 5:07	CYC0313	CC52608
Dimethylphthalate	ND (0.254)		8270D		1	03/27/15 5:07	CYC0313	CC52608
Di-n-butylphthalate	ND (0.254)		8270D		1	03/27/15 5:07	CYC0313	CC52608

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-217 0ft-3ft
Date Sampled: 03/24/15 16:10
Percent Solids: 65
Initial Volume: 30.4
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503415
ESS Laboratory Sample ID: 1503415-15
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 3/26/15 15:21

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Di-n-octylphthalate	ND (0.254)		8270D		1	03/27/15 5:07	CYC0313	CC52608
Hexachlorobenzene	ND (0.254)		8270D		1	03/27/15 5:07	CYC0313	CC52608
Hexachlorobutadiene	ND (0.254)		8270D		1	03/27/15 5:07	CYC0313	CC52608
Hexachloroethane	ND (0.254)		8270D		1	03/27/15 5:07	CYC0313	CC52608
Isophorone	ND (0.254)		8270D		1	03/27/15 5:07	CYC0313	CC52608
Nitrobenzene	ND (0.254)		8270D		1	03/27/15 5:07	CYC0313	CC52608
N-Nitrosodimethylamine	ND (0.254)		8270D		1	03/27/15 5:07	CYC0313	CC52608
Pentachlorophenol	ND (1.28)		8270D		1	03/27/15 5:07	CYC0313	CC52608
Phenol	ND (0.254)		8270D		1	03/27/15 5:07	CYC0313	CC52608

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*54 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*5 %*	*S-*	*30-130*
Surrogate: 2-Chlorophenol-d4	*59 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*64 %*		*30-130*
Surrogate: 2-Fluorophenol	*52 %*		*30-130*
Surrogate: Nitrobenzene-d5	*59 %*		*30-130*
Surrogate: Phenol-d6	*61 %*		*30-130*
Surrogate: p-Terphenyl-d14	*72 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-217 0ft-3ft
Date Sampled: 03/24/15 16:10
Percent Solids: 65

ESS Laboratory Work Order: 1503415
ESS Laboratory Sample ID: 1503415-15
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Corrosivity (pH)	**H 8.37** (N/A)		9045		1	EEM	03/26/15 11:50	S.U.	CC52616
Corrosivity (pH) Sample Temp	**Soil pH measured in water at 16.4 ºC.**								
Eh (ORP)	**H, WL 275** (N/A)		2580		1	EEM	03/26/15 11:50	mv	CC52617
Grain Size	**See Attached** (N/A)								
Hexavalent Chromium	ND (0.6)		7196A		1	JLK	03/28/15 11:00	mg/kg dry	CC52807
Percent Water	**See Attached** (N/A)								
Reactive Cyanide	ND (2.0)		7.3.3.2		1	JLK	03/26/15 11:50	mg/kg	CC52618
Reactive Sulfide	**29.4** (2.0)		7.3.4.1		1	JLK	03/26/15 11:50	mg/kg	CC52618

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-217 0ft-3ft
Date Sampled: 03/24/15 16:10
Percent Solids: 65
Initial Volume: 30.5
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1503415
ESS Laboratory Sample ID: 1503415-15
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 3/26/15 16:10

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	ND (19.0)		MADEP-EPH		1	DPS	03/27/15 5:34	CYC0307	CC52536
C19-C36 Aliphatics1	**61.3** (19.0)		MADEP-EPH		1	DPS	03/27/15 5:34	CYC0307	CC52536
C11-C22 Unadjusted Aromatics1	**46.5** (19.0)		EPH8270		1	JXS	03/28/15 8:48	CYC0342	CC52536
C11-C22 Aromatics1,2	**37.6** (19.0)		EPH8270			JXS	03/28/15 8:48		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*47 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*102 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*98 %*		*40-140*
Surrogate: O-Terphenyl	*63 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-217 6ft-8ft
Date Sampled: 03/24/15 16:10
Percent Solids: 65
Initial Volume: 20.2
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503415
ESS Laboratory Sample ID: 1503415-16
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 3/26/15 16:45

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.019)		8270D		1	03/26/15 22:54	CYC0319	CC52609
Acenaphthene	ND (0.019)		8270D		1	03/26/15 22:54	CYC0319	CC52609
Acenaphthylene	ND (0.019)		8270D		1	03/26/15 22:54	CYC0319	CC52609
Anthracene	ND (0.019)		8270D		1	03/26/15 22:54	CYC0319	CC52609
Benzo(a)anthracene	ND (0.019)		8270D		1	03/26/15 22:54	CYC0319	CC52609
Benzo(a)pyrene	ND (0.019)		8270D		1	03/26/15 22:54	CYC0319	CC52609
Benzo(b)fluoranthene	ND (0.019)		8270D		1	03/26/15 22:54	CYC0319	CC52609
Benzo(g,h,i)perylene	ND (0.019)		8270D		1	03/26/15 22:54	CYC0319	CC52609
Benzo(k)fluoranthene	ND (0.019)		8270D		1	03/26/15 22:54	CYC0319	CC52609
Chrysene	ND (0.019)		8270D		1	03/26/15 22:54	CYC0319	CC52609
Dibenzo(a,h)Anthracene	ND (0.019)		8270D		1	03/26/15 22:54	CYC0319	CC52609
Fluoranthene	ND (0.019)		8270D		1	03/26/15 22:54	CYC0319	CC52609
Fluorene	ND (0.019)		8270D		1	03/26/15 22:54	CYC0319	CC52609
Hexachlorobenzene	ND (0.008)		8270D		1	03/26/15 22:54	CYC0319	CC52609
Indeno(1,2,3-cd)Pyrene	ND (0.019)		8270D		1	03/26/15 22:54	CYC0319	CC52609
Naphthalene	ND (0.019)		8270D		1	03/26/15 22:54	CYC0319	CC52609
Phenanthrene	ND (0.019)		8270D		1	03/26/15 22:54	CYC0319	CC52609
Pyrene	ND (0.019)		8270D		1	03/26/15 22:54	CYC0319	CC52609

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*43 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*60 %*		*30-130*
Surrogate: Nitrobenzene-d5	*44 %*		*30-130*
Surrogate: p-Terphenyl-d14	*67 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-202 0ft-0.5ft
Date Sampled: 03/24/15 11:30
Percent Solids: 100

ESS Laboratory Work Order: 1503415
ESS Laboratory Sample ID: 1503415-17
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.23)		7010		5	KJK	04/01/15 22:23	2.04	100	CC52701
Arsenic	**29.9** (2.45)		6010C		1	KJK	03/30/15 16:42	2.04	100	CC52701
Barium	**69.4** (2.45)		6010C		1	KJK	03/30/15 16:42	2.04	100	CC52701
Beryllium	**0.68** (0.11)		6010C		1	KJK	03/30/15 16:42	2.04	100	CC52701
Cadmium	**1.02** (0.49)		6010C		1	KJK	03/30/15 16:42	2.04	100	CC52701
Chromium	**87.0** (0.98)		6010C		1	KJK	03/30/15 16:42	2.04	100	CC52701
Lead	**237** (4.90)		6010C		1	KJK	03/30/15 16:42	2.04	100	CC52701
Mercury	**0.307** (0.032)		7471B		1	BJV	03/30/15 13:24	0.61	40	CC52702
Nickel	**26.6** (2.45)		6010C		1	KJK	03/30/15 16:42	2.04	100	CC52701
Selenium	ND (4.90)		6010C		1	KJK	03/30/15 16:42	2.04	100	CC52701
Silver	**1.42** (0.49)		6010C		1	KJK	03/30/15 16:42	2.04	100	CC52701
Thallium	ND (0.39)		7010		4	JP	04/06/15 19:57	2.04	100	CC52701
Vanadium	**80.7** (0.98)		6010C		1	KJK	03/30/15 16:42	2.04	100	CC52701
Zinc	**394** (2.45)		6010C		1	KJK	03/30/15 16:42	2.04	100	CC52701

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-202 2ft-4ft
Date Sampled: 03/24/15 11:30
Percent Solids: 100

ESS Laboratory Work Order: 1503415
ESS Laboratory Sample ID: 1503415-18
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (4.88)		6010C		1	KJK	03/30/15 17:21	2.05	100	CC52701
Arsenic	**15.3** (2.44)		6010C		1	KJK	03/30/15 17:21	2.05	100	CC52701
Barium	**25.7** (2.44)		6010C		1	KJK	03/30/15 17:21	2.05	100	CC52701
Beryllium	**0.32** (0.11)		6010C		1	KJK	03/30/15 17:21	2.05	100	CC52701
Cadmium	ND (0.49)		6010C		1	KJK	03/30/15 17:21	2.05	100	CC52701
Chromium	**33.2** (0.98)		6010C		1	KJK	03/30/15 17:21	2.05	100	CC52701
Lead	**73.8** (4.88)		6010C		1	KJK	03/30/15 17:21	2.05	100	CC52701
Mercury	**0.258** (0.032)		7471B		1	BJV	03/30/15 13:32	0.61	40	CC52702
Nickel	**12.7** (2.44)		6010C		1	KJK	03/30/15 17:21	2.05	100	CC52701
Selenium	ND (4.88)		6010C		1	KJK	03/30/15 17:21	2.05	100	CC52701
Silver	ND (0.49)		6010C		1	KJK	03/30/15 17:21	2.05	100	CC52701
Thallium	ND (0.39)		7010		4	JP	04/06/15 20:43	2.05	100	CC52701
Vanadium	**59.5** (0.98)		6010C		1	KJK	03/30/15 17:21	2.05	100	CC52701
Zinc	**114** (2.44)		6010C		1	KJK	03/30/15 17:21	2.05	100	CC52701

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-203 0ft-0.5ft
Date Sampled: 03/24/15 12:30
Percent Solids: 100

ESS Laboratory Work Order: 1503415
ESS Laboratory Sample ID: 1503415-19
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.24)		7010		5	KJK	04/01/15 22:51	2.01	100	CC52701
Arsenic	**25.5** (2.49)		6010C		1	KJK	03/30/15 17:25	2.01	100	CC52701
Barium	**55.7** (2.49)		6010C		1	KJK	03/30/15 17:25	2.01	100	CC52701
Beryllium	**0.54** (0.11)		6010C		1	KJK	03/30/15 17:25	2.01	100	CC52701
Cadmium	**0.73** (0.50)		6010C		1	KJK	03/30/15 17:25	2.01	100	CC52701
Chromium	**67.6** (1.00)		6010C		1	KJK	03/30/15 17:25	2.01	100	CC52701
Lead	**200** (4.98)		6010C		1	KJK	03/30/15 17:25	2.01	100	CC52701
Mercury	**0.728** (0.160)		7471B		5	BJV	03/30/15 15:22	0.62	40	CC52702
Nickel	**20.6** (2.49)		6010C		1	KJK	03/30/15 17:25	2.01	100	CC52701
Selenium	ND (4.98)		6010C		1	KJK	03/30/15 17:25	2.01	100	CC52701
Silver	**1.09** (0.50)		6010C		1	KJK	03/30/15 17:25	2.01	100	CC52701
Thallium	ND (0.40)		7010		4	JP	04/06/15 21:00	2.01	100	CC52701
Vanadium	**64.7** (1.00)		6010C		1	KJK	03/30/15 17:25	2.01	100	CC52701
Zinc	**311** (2.49)		6010C		1	KJK	03/30/15 17:25	2.01	100	CC52701

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-203 4ft-6ft
Date Sampled: 03/24/15 12:30
Percent Solids: 100

ESS Laboratory Work Order: 1503415
ESS Laboratory Sample ID: 1503415-20
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.21)		7010		5	KJK	04/01/15 22:57	2.06	100	CC52701
Arsenic	**18.8** (2.43)		6010C		1	KJK	03/30/15 17:31	2.06	100	CC52701
Barium	**50.7** (2.43)		6010C		1	KJK	03/30/15 17:31	2.06	100	CC52701
Beryllium	**0.58** (0.11)		6010C		1	KJK	03/30/15 17:31	2.06	100	CC52701
Cadmium	**0.50** (0.49)		6010C		1	KJK	03/30/15 17:31	2.06	100	CC52701
Chromium	**42.3** (0.97)		6010C		1	KJK	03/30/15 17:31	2.06	100	CC52701
Lead	**77.2** (4.85)		6010C		1	KJK	03/30/15 17:31	2.06	100	CC52701
Mercury	**0.218** (0.030)		7471B		1	BJV	03/30/15 13:39	0.65	40	CC52702
Nickel	**17.7** (2.43)		6010C		1	KJK	03/30/15 17:31	2.06	100	CC52701
Selenium	ND (4.85)		6010C		1	KJK	03/30/15 17:31	2.06	100	CC52701
Silver	ND (0.49)		6010C		1	KJK	03/30/15 17:31	2.06	100	CC52701
Thallium	ND (0.39)		7010		4	JP	04/06/15 21:06	2.06	100	CC52701
Vanadium	**45.5** (0.97)		6010C		1	KJK	03/30/15 17:31	2.06	100	CC52701
Zinc	**128** (2.43)		6010C		1	KJK	03/30/15 17:31	2.06	100	CC52701

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-203 0ft-3ft
Date Sampled: 03/24/15 12:30
Percent Solids: 100

ESS Laboratory Work Order: 1503415
ESS Laboratory Sample ID: 1503415-21
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.22)		7010		5	KJK	04/01/15 23:02	2.05	100	CC52701
Arsenic	**36.5** (2.44)		6010C		1	KJK	03/30/15 17:35	2.05	100	CC52701
Barium	**56.6** (2.44)		6010C		1	KJK	03/30/15 17:35	2.05	100	CC52701
Beryllium	**0.71** (0.11)		6010C		1	KJK	03/30/15 17:35	2.05	100	CC52701
Cadmium	**1.14** (0.49)		6010C		1	KJK	03/30/15 17:35	2.05	100	CC52701
Chromium	**77.9** (0.98)		6010C		1	KJK	03/30/15 17:35	2.05	100	CC52701
Lead	**190** (4.88)		6010C		1	KJK	03/30/15 17:35	2.05	100	CC52701
Mercury	**0.682** (0.162)		7471B		5	BJV	03/30/15 15:23	0.61	40	CC52702
Nickel	**23.8** (2.44)		6010C		1	KJK	03/30/15 17:35	2.05	100	CC52701
Selenium	ND (4.88)		6010C		1	KJK	03/30/15 17:35	2.05	100	CC52701
Silver	**0.91** (0.49)		6010C		1	KJK	03/30/15 17:35	2.05	100	CC52701
Thallium	ND (0.39)		7010		4	JP	04/06/15 21:11	2.05	100	CC52701
Vanadium	**105** (0.98)		6010C		1	KJK	03/30/15 17:35	2.05	100	CC52701
Zinc	**282** (2.44)		6010C		1	KJK	03/30/15 17:35	2.05	100	CC52701

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-204 0ft-0.5ft
Date Sampled: 03/24/15 12:50
Percent Solids: 100

ESS Laboratory Work Order: 1503415
ESS Laboratory Sample ID: 1503415-22
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.21)		7010		5	KJK	04/01/15 23:19	2.06	100	CC52701
Arsenic	**29.5** (2.43)		6010C		1	KJK	03/30/15 17:40	2.06	100	CC52701
Barium	**56.8** (2.43)		6010C		1	KJK	03/30/15 17:40	2.06	100	CC52701
Beryllium	**0.56** (0.11)		6010C		1	KJK	03/30/15 17:40	2.06	100	CC52701
Cadmium	**0.75** (0.49)		6010C		1	KJK	03/30/15 17:40	2.06	100	CC52701
Chromium	**69.3** (0.97)		6010C		1	KJK	03/30/15 17:40	2.06	100	CC52701
Lead	**216** (4.85)		6010C		1	KJK	03/30/15 17:40	2.06	100	CC52701
Mercury	**0.170** (0.033)		7471B		1	BJV	03/30/15 13:42	0.6	40	CC52702
Nickel	**21.5** (2.43)		6010C		1	KJK	03/30/15 17:40	2.06	100	CC52701
Selenium	ND (4.85)		6010C		1	KJK	03/30/15 17:40	2.06	100	CC52701
Silver	**1.15** (0.49)		6010C		1	KJK	03/30/15 17:40	2.06	100	CC52701
Thallium	ND (0.39)		7010		4	JP	04/06/15 21:17	2.06	100	CC52701
Vanadium	**70.2** (0.97)		6010C		1	KJK	03/30/15 17:40	2.06	100	CC52701
Zinc	**322** (2.43)		6010C		1	KJK	03/30/15 17:40	2.06	100	CC52701

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-204 2ft-4ft
Date Sampled: 03/24/15 12:50
Percent Solids: 100

ESS Laboratory Work Order: 1503415
ESS Laboratory Sample ID: 1503415-23
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (4.98)		6010C		1	KJK	03/30/15 17:46	2.01	100	CC52701
Arsenic	**61.4** (2.49)		6010C		1	KJK	03/30/15 17:46	2.01	100	CC52701
Barium	**66.4** (2.49)		6010C		1	KJK	03/30/15 17:46	2.01	100	CC52701
Beryllium	**0.56** (0.11)		6010C		1	KJK	03/30/15 17:46	2.01	100	CC52701
Cadmium	**1.74** (0.50)		6010C		1	KJK	03/30/15 17:46	2.01	100	CC52701
Chromium	**96.5** (1.00)		6010C		1	KJK	03/30/15 17:46	2.01	100	CC52701
Lead	**246** (4.98)		6010C		1	KJK	03/30/15 17:46	2.01	100	CC52701
Mercury	**1.11** (0.132)		7471B		5	BJV	03/30/15 15:25	0.75	40	CC52702
Nickel	**17.0** (2.49)		6010C		1	KJK	03/30/15 17:46	2.01	100	CC52701
Selenium	ND (4.98)		6010C		1	KJK	03/30/15 17:46	2.01	100	CC52701
Silver	**1.30** (0.50)		6010C		1	KJK	03/30/15 17:46	2.01	100	CC52701
Thallium	ND (0.40)		7010		4	JP	04/06/15 21:23	2.01	100	CC52701
Vanadium	**109** (1.00)		6010C		1	KJK	03/30/15 17:46	2.01	100	CC52701
Zinc	**280** (2.49)		6010C		1	KJK	03/30/15 17:46	2.01	100	CC52701

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-204 6ft-8ft
Date Sampled: 03/24/15 12:50
Percent Solids: 100

ESS Laboratory Work Order: 1503415
ESS Laboratory Sample ID: 1503415-24
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (4.74)		6010C		1	KJK	03/30/15 17:51	2.11	100	CC52701
Arsenic	**16.5** (2.37)		6010C		1	KJK	03/30/15 17:51	2.11	100	CC52701
Barium	**33.4** (2.37)		6010C		1	KJK	03/30/15 17:51	2.11	100	CC52701
Beryllium	**0.33** (0.10)		6010C		1	KJK	03/30/15 17:51	2.11	100	CC52701
Cadmium	**0.77** (0.47)		6010C		1	KJK	03/30/15 17:51	2.11	100	CC52701
Chromium	**32.0** (0.95)		6010C		1	KJK	03/30/15 17:51	2.11	100	CC52701
Lead	**93.7** (4.74)		6010C		1	KJK	03/30/15 17:51	2.11	100	CC52701
Mercury	**0.187** (0.033)		7471B		1	BJV	03/30/15 13:45	0.6	40	CC52702
Nickel	**10.3** (2.37)		6010C		1	KJK	03/30/15 17:51	2.11	100	CC52701
Selenium	ND (4.74)		6010C		1	KJK	03/30/15 17:51	2.11	100	CC52701
Silver	ND (0.47)		6010C		1	KJK	03/30/15 17:51	2.11	100	CC52701
Thallium	ND (0.38)		7010		4	JP	04/06/15 21:29	2.11	100	CC52701
Vanadium	**36.8** (0.95)		6010C		1	KJK	03/30/15 17:51	2.11	100	CC52701
Zinc	**129** (2.37)		6010C		1	KJK	03/30/15 17:51	2.11	100	CC52701

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-212 0ft-0.5ft
Date Sampled: 03/24/15 14:20
Percent Solids: 100

ESS Laboratory Work Order: 1503415
ESS Laboratory Sample ID: 1503415-25
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (4.95)		6010C		1	KJK	03/30/15 17:55	2.02	100	CC52701
Arsenic	**17.2** (2.48)		6010C		1	KJK	03/30/15 17:55	2.02	100	CC52701
Barium	**20.2** (2.48)		6010C		1	KJK	03/30/15 17:55	2.02	100	CC52701
Beryllium	**0.23** (0.11)		6010C		1	KJK	03/30/15 17:55	2.02	100	CC52701
Cadmium	ND (0.50)		6010C		1	KJK	03/30/15 17:55	2.02	100	CC52701
Chromium	**20.0** (0.99)		6010C		1	KJK	03/30/15 17:55	2.02	100	CC52701
Lead	**94.1** (4.95)		6010C		1	KJK	03/30/15 17:55	2.02	100	CC52701
Mercury	**0.249** (0.031)		7471B		1	BJV	03/30/15 13:47	0.63	40	CC52702
Nickel	**8.39** (2.48)		6010C		1	KJK	03/30/15 17:55	2.02	100	CC52701
Selenium	ND (4.95)		6010C		1	KJK	03/30/15 17:55	2.02	100	CC52701
Silver	ND (0.50)		6010C		1	KJK	03/30/15 17:55	2.02	100	CC52701
Thallium	ND (0.40)		7010		4	JP	04/06/15 21:34	2.02	100	CC52701
Vanadium	**28.2** (0.99)		6010C		1	KJK	03/30/15 17:55	2.02	100	CC52701
Zinc	**120** (2.48)		6010C		1	KJK	03/30/15 17:55	2.02	100	CC52701

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-212 0.5ft-2ft
Date Sampled: 03/24/15 14:20
Percent Solids: 100

ESS Laboratory Work Order: 1503415
ESS Laboratory Sample ID: 1503415-26
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (4.76)		6010C		1	KJK	03/30/15 18:13	2.1	100	CC52701
Arsenic	**9.78** (2.38)		6010C		1	KJK	03/30/15 18:13	2.1	100	CC52701
Barium	**19.5** (2.38)		6010C		1	KJK	03/30/15 18:13	2.1	100	CC52701
Beryllium	**0.29** (0.10)		6010C		1	KJK	03/30/15 18:13	2.1	100	CC52701
Cadmium	ND (0.48)		6010C		1	KJK	03/30/15 18:13	2.1	100	CC52701
Chromium	**17.7** (0.95)		6010C		1	KJK	03/30/15 18:13	2.1	100	CC52701
Lead	**87.7** (4.76)		6010C		1	KJK	03/30/15 18:13	2.1	100	CC52701
Mercury	**0.188** (0.032)		7471B		1	BJV	03/30/15 13:48	0.61	40	CC52702
Nickel	**8.71** (2.38)		6010C		1	KJK	03/30/15 18:13	2.1	100	CC52701
Selenium	ND (4.76)		6010C		1	KJK	03/30/15 18:13	2.1	100	CC52701
Silver	ND (0.48)		6010C		1	KJK	03/30/15 18:13	2.1	100	CC52701
Thallium	ND (0.38)		7010		4	JP	04/06/15 21:40	2.1	100	CC52701
Vanadium	**22.4** (0.95)		6010C		1	KJK	03/30/15 18:13	2.1	100	CC52701
Zinc	**44.3** (2.38)		6010C		1	KJK	03/30/15 18:13	2.1	100	CC52701

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-216 0ft-0.5ft
Date Sampled: 03/24/15 15:15
Percent Solids: 100

ESS Laboratory Work Order: 1503415
ESS Laboratory Sample ID: 1503415-27
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.09)		7010		5	KJK	04/03/15 11:57	2.3	100	CC52701
Arsenic	**52.2** (2.17)		6010C		1	KJK	03/30/15 18:17	2.3	100	CC52701
Barium	**43.7** (2.17)		6010C		1	KJK	03/30/15 18:17	2.3	100	CC52701
Beryllium	**0.40** (0.10)		6010C		1	KJK	03/30/15 18:17	2.3	100	CC52701
Cadmium	**0.66** (0.43)		6010C		1	KJK	03/30/15 18:17	2.3	100	CC52701
Chromium	**55.5** (0.87)		6010C		1	KJK	03/30/15 18:17	2.3	100	CC52701
Lead	**268** (4.35)		6010C		1	KJK	03/30/15 18:17	2.3	100	CC52701
Mercury	**0.467** (0.030)		7471B		1	BJV	03/30/15 13:50	0.67	40	CC52702
Nickel	**18.0** (2.17)		6010C		1	KJK	03/30/15 18:17	2.3	100	CC52701
Selenium	**5.19** (2.17)		7010		5	KJK	04/02/15 10:16	2.3	100	CC52701
Silver	**0.89** (0.43)		6010C		1	KJK	03/30/15 18:17	2.3	100	CC52701
Thallium	ND (0.35)		7010		4	JP	04/06/15 21:45	2.3	100	CC52701
Vanadium	**65.8** (0.87)		6010C		1	KJK	03/30/15 18:17	2.3	100	CC52701
Zinc	**265** (2.17)		6010C		1	KJK	03/30/15 18:17	2.3	100	CC52701

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-216 4ft-6ft
Date Sampled: 03/24/15 15:15
Percent Solids: 100

ESS Laboratory Work Order: 1503415
ESS Laboratory Sample ID: 1503415-28
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (4.72)		6010C		1	KJK	03/30/15 18:22	2.12	100	CC52701
Arsenic	**5.37** (2.36)		6010C		1	KJK	03/30/15 18:22	2.12	100	CC52701
Barium	**18.9** (2.36)		6010C		1	KJK	03/30/15 18:22	2.12	100	CC52701
Beryllium	**0.35** (0.10)		6010C		1	KJK	03/30/15 18:22	2.12	100	CC52701
Cadmium	ND (0.47)		6010C		1	KJK	03/30/15 18:22	2.12	100	CC52701
Chromium	**16.9** (0.94)		6010C		1	KJK	03/30/15 18:22	2.12	100	CC52701
Lead	**5.18** (4.72)		6010C		1	KJK	03/30/15 18:22	2.12	100	CC52701
Mercury	ND (0.030)		7471B		1	BJV	03/30/15 13:52	0.65	40	CC52702
Nickel	**9.99** (2.36)		6010C		1	KJK	03/30/15 18:22	2.12	100	CC52701
Selenium	ND (4.72)		6010C		1	KJK	03/30/15 18:22	2.12	100	CC52701
Silver	ND (0.47)		6010C		1	KJK	03/30/15 18:22	2.12	100	CC52701
Thallium	ND (0.38)		7010		4	JP	04/06/15 21:51	2.12	100	CC52701
Vanadium	**23.6** (0.94)		6010C		1	KJK	03/30/15 18:22	2.12	100	CC52701
Zinc	**27.5** (2.36)		6010C		1	KJK	03/30/15 18:22	2.12	100	CC52701

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-216 2ft-4ft
Date Sampled: 03/24/15 15:15
Percent Solids: 100

ESS Laboratory Work Order: 1503415
ESS Laboratory Sample ID: 1503415-29
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.09)		7010		5	KJK	04/01/15 23:25	2.3	100	CC52701
Arsenic	**11.5** (2.17)		6010C		1	KJK	03/30/15 18:26	2.3	100	CC52701
Barium	**28.3** (2.17)		6010C		1	KJK	03/30/15 18:26	2.3	100	CC52701
Beryllium	**0.42** (0.10)		6010C		1	KJK	03/30/15 18:26	2.3	100	CC52701
Cadmium	ND (0.43)		6010C		1	KJK	03/30/15 18:26	2.3	100	CC52701
Chromium	**22.5** (0.87)		6010C		1	KJK	03/30/15 18:26	2.3	100	CC52701
Lead	**73.8** (4.35)		6010C		1	KJK	03/30/15 18:26	2.3	100	CC52701
Mercury	**0.188** (0.030)		7471B		1	BJV	03/30/15 13:53	0.67	40	CC52702
Nickel	**12.1** (2.17)		6010C		1	KJK	03/30/15 18:26	2.3	100	CC52701
Selenium	ND (4.35)		6010C		1	KJK	03/30/15 18:26	2.3	100	CC52701
Silver	ND (0.43)		6010C		1	KJK	03/30/15 18:26	2.3	100	CC52701
Thallium	ND (0.35)		7010		4	JP	04/06/15 22:07	2.3	100	CC52701
Vanadium	**28.9** (0.87)		6010C		1	KJK	03/30/15 18:26	2.3	100	CC52701
Zinc	**72.7** (2.17)		6010C		1	KJK	03/30/15 18:26	2.3	100	CC52701

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-217 0ft-0.5ft
Date Sampled: 03/24/15 16:10
Percent Solids: 100

ESS Laboratory Work Order: 1503415
ESS Laboratory Sample ID: 1503415-30
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	**1.57** (1.19)		7010		5	KJK	04/01/15 23:31	2.1	100	CC52701
Arsenic	**164** (2.38)		6010C		1	KJK	03/30/15 18:30	2.1	100	CC52701
Barium	**73.5** (2.38)		6010C		1	KJK	03/30/15 18:30	2.1	100	CC52701
Beryllium	**0.48** (0.10)		6010C		1	KJK	03/30/15 18:30	2.1	100	CC52701
Cadmium	ND (0.48)		6010C		1	KJK	03/30/15 18:30	2.1	100	CC52701
Chromium	**56.1** (0.95)		6010C		1	KJK	03/30/15 18:30	2.1	100	CC52701
Lead	**791** (4.76)		6010C		1	KJK	03/30/15 18:30	2.1	100	CC52701
Mercury	**0.979** (0.160)		7471B		5	BJV	03/30/15 15:27	0.62	40	CC52702
Nickel	**25.0** (2.38)		6010C		1	KJK	03/30/15 18:30	2.1	100	CC52701
Selenium	**52.8** (11.9)		7010		25	KJK	04/02/15 10:33	2.1	100	CC52701
Silver	**1.23** (0.48)		6010C		1	KJK	03/30/15 18:30	2.1	100	CC52701
Thallium	ND (0.38)		7010		4	JP	04/06/15 22:13	2.1	100	CC52701
Vanadium	**61.3** (0.95)		6010C		1	KJK	03/30/15 18:30	2.1	100	CC52701
Zinc	**393** (2.38)		6010C		1	KJK	03/30/15 18:30	2.1	100	CC52701

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-217 0ft-3ft
Date Sampled: 03/24/15 16:10
Percent Solids: 100

ESS Laboratory Work Order: 1503415
ESS Laboratory Sample ID: 1503415-31
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	**1.54** (1.24)		7010		5	KJK	04/01/15 23:37	2.02	100	CC52701
Arsenic	**92.1** (2.48)		6010C		1	KJK	03/30/15 18:36	2.02	100	CC52701
Barium	**47.6** (2.48)		6010C		1	KJK	03/30/15 18:36	2.02	100	CC52701
Beryllium	**0.44** (0.11)		6010C		1	KJK	03/30/15 18:36	2.02	100	CC52701
Cadmium	**1.12** (0.50)		6010C		1	KJK	03/30/15 18:36	2.02	100	CC52701
Chromium	**41.5** (0.99)		6010C		1	KJK	03/30/15 18:36	2.02	100	CC52701
Lead	**545** (4.95)		6010C		1	KJK	03/30/15 18:36	2.02	100	CC52701
Mercury	**0.969** (0.152)		7471B		5	BJV	03/30/15 15:28	0.65	40	CC52702
Nickel	**15.1** (2.48)		6010C		1	KJK	03/30/15 18:36	2.02	100	CC52701
Selenium	**22.6** (2.50)		7010		5	JP	03/31/15 14:07	2	100	CC52816
Silver	**0.64** (0.50)		6010C		1	KJK	03/30/15 18:36	2.02	100	CC52701
Thallium	ND (0.40)		7010		4	JP	04/06/15 22:19	2.02	100	CC52701
Vanadium	**38.0** (0.99)		6010C		1	KJK	03/30/15 18:36	2.02	100	CC52701
Zinc	**515** (2.48)		6010C		1	KJK	03/30/15 18:36	2.02	100	CC52701

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-217 6ft-8ft
Date Sampled: 03/24/15 16:10
Percent Solids: 100

ESS Laboratory Work Order: 1503415
ESS Laboratory Sample ID: 1503415-32
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (4.13)		6010C		1	KJK	03/30/15 18:41	2.42	100	CC52701
Arsenic	**5.33** (2.07)		6010C		1	KJK	03/30/15 18:41	2.42	100	CC52701
Barium	**19.4** (2.07)		6010C		1	KJK	03/30/15 18:41	2.42	100	CC52701
Beryllium	**0.32** (0.09)		6010C		1	KJK	03/30/15 18:41	2.42	100	CC52701
Cadmium	ND (0.41)		6010C		1	KJK	03/30/15 18:41	2.42	100	CC52701
Chromium	**16.2** (0.83)		6010C		1	KJK	03/30/15 18:41	2.42	100	CC52701
Lead	**5.15** (4.13)		6010C		1	KJK	03/30/15 18:41	2.42	100	CC52701
Mercury	ND (0.033)		7471B		1	BJV	03/30/15 14:02	0.6	40	CC52702
Nickel	**9.93** (2.07)		6010C		1	KJK	03/30/15 18:41	2.42	100	CC52701
Selenium	ND (4.13)		6010C		1	KJK	03/30/15 18:41	2.42	100	CC52701
Silver	ND (0.41)		6010C		1	KJK	03/30/15 18:41	2.42	100	CC52701
Thallium	ND (0.33)		7010		4	JP	04/06/15 22:24	2.42	100	CC52701
Vanadium	**23.7** (0.83)		6010C		1	KJK	03/30/15 18:41	2.42	100	CC52701
Zinc	**28.3** (2.07)		6010C		1	KJK	03/30/15 18:41	2.42	100	CC52701

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-202 0ft-0.5ft
Date Sampled: 03/24/15 11:30
Percent Solids: 89
Initial Volume: 25.3
Final Volume: 2
Extraction Method: 3540C

ESS Laboratory Work Order: 1503415
ESS Laboratory Sample ID: 1503415-33
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 3/30/15 18:30
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0089)		8082A		1	03/31/15 15:19		CC53006
Aroclor 1221	ND (0.0089)		8082A		1	03/31/15 15:19		CC53006
Aroclor 1232	ND (0.0089)		8082A		1	03/31/15 15:19		CC53006
Aroclor 1242	ND (0.0089)		8082A		1	03/31/15 15:19		CC53006
Aroclor 1248	**0.554** (0.0889)		8082A		10	04/01/15 0:28		CC53006
Aroclor 1254	**0.737** (0.0889)		8082A		10	04/01/15 0:28		CC53006
Aroclor 1260	**0.339** (0.0889)		8082A		10	04/01/15 0:28		CC53006
Aroclor 1262	ND (0.0089)		8082A		1	03/31/15 15:19		CC53006
Aroclor 1268	ND (0.0089)		8082A		1	03/31/15 15:19		CC53006

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*74 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*34 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*60 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*53 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-203 0ft-0.5ft
Date Sampled: 03/24/15 12:30
Percent Solids: 94
Initial Volume: 25.8
Final Volume: 2
Extraction Method: 3540C

ESS Laboratory Work Order: 1503415
ESS Laboratory Sample ID: 1503415-34
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 3/30/15 18:30
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0082)		8082A		1	03/31/15 15:37		CC53006
Aroclor 1221	ND (0.0082)		8082A		1	03/31/15 15:37		CC53006
Aroclor 1232	ND (0.0082)		8082A		1	03/31/15 15:37		CC53006
Aroclor 1242	ND (0.0082)		8082A		1	03/31/15 15:37		CC53006
Aroclor 1248	**0.496** (0.0823)		8082A		10	04/01/15 0:47		CC53006
Aroclor 1254	**0.667** (0.0823)		8082A		10	04/01/15 0:47		CC53006
Aroclor 1260	**0.274** (0.0823)		8082A		10	04/01/15 0:47		CC53006
Aroclor 1262	ND (0.0082)		8082A		1	03/31/15 15:37		CC53006
Aroclor 1268	ND (0.0082)		8082A		1	03/31/15 15:37		CC53006

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*121 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*54 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*70 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*62 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-203 0ft-3ft
Date Sampled: 03/24/15 12:30
Percent Solids: 97
Initial Volume: 25.7
Final Volume: 2
Extraction Method: 3540C

ESS Laboratory Work Order: 1503415
ESS Laboratory Sample ID: 1503415-35
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 3/30/15 18:30
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.402)		8082A		50	04/01/15 1:06		CC53006
Aroclor 1221	ND (0.402)		8082A		50	04/01/15 1:06		CC53006
Aroclor 1232	ND (0.402)		8082A		50	04/01/15 1:06		CC53006
Aroclor 1242	ND (0.402)		8082A		50	04/01/15 1:06		CC53006
Aroclor 1248	**5.10** (0.402)		8082A		50	04/01/15 1:06		CC53006
Aroclor 1254	**2.83** (0.402)		8082A		50	04/01/15 1:06		CC53006
Aroclor 1260	**0.699** (0.402)		8082A		50	04/01/15 1:06		CC53006
Aroclor 1262	ND (0.402)		8082A		50	04/01/15 1:06		CC53006
Aroclor 1268	ND (0.402)		8082A		50	04/01/15 1:06		CC53006

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-204 0ft-0.5ft
Date Sampled: 03/24/15 12:50
Percent Solids: 94
Initial Volume: 26.1
Final Volume: 2
Extraction Method: 3540C

ESS Laboratory Work Order: 1503415
ESS Laboratory Sample ID: 1503415-36
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 3/30/15 18:30
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0082)		8082A		1	03/31/15 16:15		CC53006
Aroclor 1221	ND (0.0082)		8082A		1	03/31/15 16:15		CC53006
Aroclor 1232	ND (0.0082)		8082A		1	03/31/15 16:15		CC53006
Aroclor 1242	ND (0.0082)		8082A		1	03/31/15 16:15		CC53006
Aroclor 1248	**0.577** (0.0816)		8082A		10	04/01/15 1:25		CC53006
Aroclor 1254	**0.637** (0.0816)		8082A		10	04/01/15 1:25		CC53006
Aroclor 1260	**0.243** (0.0816)		8082A		10	04/01/15 1:25		CC53006
Aroclor 1262	ND (0.0082)		8082A		1	03/31/15 16:15		CC53006
Aroclor 1268	ND (0.0082)		8082A		1	03/31/15 16:15		CC53006

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*124 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*48 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*64 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*60 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-204 2ft-4ft
Date Sampled: 03/24/15 12:50
Percent Solids: 92
Initial Volume: 26.2
Final Volume: 2
Extraction Method: 3540C

ESS Laboratory Work Order: 1503415
ESS Laboratory Sample ID: 1503415-37
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 3/30/15 18:30
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.167)		8082A		20	04/01/15 1:44		CC53006
Aroclor 1221	ND (0.167)		8082A		20	04/01/15 1:44		CC53006
Aroclor 1232	ND (0.167)		8082A		20	04/01/15 1:44		CC53006
Aroclor 1242	ND (0.167)		8082A		20	04/01/15 1:44		CC53006
Aroclor 1248	**1.77** (0.167)		8082A		20	04/01/15 1:44		CC53006
Aroclor 1254	**2.07** (0.167)		8082A		20	04/01/15 1:44		CC53006
Aroclor 1260	**0.741** (0.167)		8082A		20	04/01/15 1:44		CC53006
Aroclor 1262	ND (0.167)		8082A		20	04/01/15 1:44		CC53006
Aroclor 1268	ND (0.167)		8082A		20	04/01/15 1:44		CC53006

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-212 0ft-0.5ft
Date Sampled: 03/24/15 14:20
Percent Solids: 100
Initial Volume: 26.2
Final Volume: 2
Extraction Method: 3540C

ESS Laboratory Work Order: 1503415
ESS Laboratory Sample ID: 1503415-38
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 3/30/15 18:30
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0076)		8082A		1	03/31/15 16:52		CC53006
Aroclor 1221	ND (0.0076)		8082A		1	03/31/15 16:52		CC53006
Aroclor 1232	ND (0.0076)		8082A		1	03/31/15 16:52		CC53006
Aroclor 1242	ND (0.0076)		8082A		1	03/31/15 16:52		CC53006
Aroclor 1248	**0.0576** (0.0076)		8082A		1	03/31/15 16:52		CC53006
Aroclor 1254	**0.0856** (0.0076)		8082A		1	03/31/15 16:52		CC53006
Aroclor 1260	**0.0356** (0.0076)		8082A		1	03/31/15 16:52		CC53006
Aroclor 1262	ND (0.0076)		8082A		1	03/31/15 16:52		CC53006
Aroclor 1268	ND (0.0076)		8082A		1	03/31/15 16:52		CC53006

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*84 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*68 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*91 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*85 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-216 0ft-0.5ft
Date Sampled: 03/24/15 15:15
Percent Solids: 98
Initial Volume: 25.9
Final Volume: 2
Extraction Method: 3540C

ESS Laboratory Work Order: 1503415
ESS Laboratory Sample ID: 1503415-39
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 3/30/15 18:30
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0079)		8082A		1	03/31/15 17:11		CC53006
Aroclor 1221	ND (0.0079)		8082A		1	03/31/15 17:11		CC53006
Aroclor 1232	ND (0.0079)		8082A		1	03/31/15 17:11		CC53006
Aroclor 1242	ND (0.0079)		8082A		1	03/31/15 17:11		CC53006
Aroclor 1248	**0.256** (0.0396)		8082A		5	04/01/15 2:03		CC53006
Aroclor 1254	**0.343** (0.0396)		8082A		5	04/01/15 2:03		CC53006
Aroclor 1260	**0.180** (0.0396)		8082A		5	04/01/15 2:03		CC53006
Aroclor 1262	ND (0.0079)		8082A		1	03/31/15 17:11		CC53006
Aroclor 1268	ND (0.0079)		8082A		1	03/31/15 17:11		CC53006

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*105 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*62 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*52 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*53 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-216 2ft-4ft
Date Sampled: 03/24/15 15:15
Percent Solids: 99
Initial Volume: 25.7
Final Volume: 2
Extraction Method: 3540C

ESS Laboratory Work Order: 1503415
ESS Laboratory Sample ID: 1503415-40
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 3/30/15 18:30
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0079)		8082A		1	03/31/15 17:30		CC53006
Aroclor 1221	ND (0.0079)		8082A		1	03/31/15 17:30		CC53006
Aroclor 1232	ND (0.0079)		8082A		1	03/31/15 17:30		CC53006
Aroclor 1242	ND (0.0079)		8082A		1	03/31/15 17:30		CC53006
Aroclor 1248	ND (0.0079)		8082A		1	03/31/15 17:30		CC53006
Aroclor 1254	**0.0087** (0.0079)		8082A		1	03/31/15 17:30		CC53006
Aroclor 1260	ND (0.0079)		8082A		1	03/31/15 17:30		CC53006
Aroclor 1262	ND (0.0079)		8082A		1	03/31/15 17:30		CC53006
Aroclor 1268	ND (0.0079)		8082A		1	03/31/15 17:30		CC53006

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*77 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*72 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*86 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*78 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-217 0ft-0.5ft
Date Sampled: 03/24/15 16:10
Percent Solids: 99
Initial Volume: 25.4
Final Volume: 2
Extraction Method: 3540C

ESS Laboratory Work Order: 1503415
ESS Laboratory Sample ID: 1503415-41
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 3/30/15 18:30
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0080)		8082A		1	03/31/15 17:49		CC53006
Aroclor 1221	ND (0.0080)		8082A		1	03/31/15 17:49		CC53006
Aroclor 1232	ND (0.0080)		8082A		1	03/31/15 17:49		CC53006
Aroclor 1242	ND (0.0080)		8082A		1	03/31/15 17:49		CC53006
Aroclor 1248	**0.0718** (0.0080)		8082A		1	03/31/15 17:49		CC53006
Aroclor 1254	**0.0971** (0.0080)		8082A		1	03/31/15 17:49		CC53006
Aroclor 1260	**0.0535** (0.0080)		8082A		1	03/31/15 17:49		CC53006
Aroclor 1262	ND (0.0080)		8082A		1	03/31/15 17:49		CC53006
Aroclor 1268	ND (0.0080)		8082A		1	03/31/15 17:49		CC53006

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*83 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*65 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*59 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*56 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-217 0ft-3ft
Date Sampled: 03/24/15 16:10
Percent Solids: 98
Initial Volume: 25.4
Final Volume: 2
Extraction Method: 3540C

ESS Laboratory Work Order: 1503415
ESS Laboratory Sample ID: 1503415-42
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 3/30/15 18:30
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0080)		8082A		1	03/31/15 18:08		CC53006
Aroclor 1221	ND (0.0080)		8082A		1	03/31/15 18:08		CC53006
Aroclor 1232	ND (0.0080)		8082A		1	03/31/15 18:08		CC53006
Aroclor 1242	ND (0.0080)		8082A		1	03/31/15 18:08		CC53006
Aroclor 1248	**0.0418** (0.0080)		8082A		1	03/31/15 18:08		CC53006
Aroclor 1254	**0.0272** (0.0080)		8082A		1	03/31/15 18:08		CC53006
Aroclor 1260	**0.0324** (0.0080)		8082A		1	03/31/15 18:08		CC53006
Aroclor 1262	ND (0.0080)		8082A		1	03/31/15 18:08		CC53006
Aroclor 1268	ND (0.0080)		8082A		1	03/31/15 18:08		CC53006

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*67 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*49 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*61 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*59 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503415

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Total Metals										
Batch CC52701 - 3050B										
Blank										
Antimony	ND	5.00	mg/kg wet							
Antimony	ND	0.25	mg/kg wet							
Arsenic	ND	2.50	mg/kg wet							
Barium	ND	2.50	mg/kg wet							
Beryllium	ND	0.11	mg/kg wet							
Cadmium	ND	0.50	mg/kg wet							
Chromium	ND	1.00	mg/kg wet							
Lead	ND	5.00	mg/kg wet							
Nickel	ND	2.50	mg/kg wet							
Selenium	ND	5.00	mg/kg wet							
Selenium	ND	0.50	mg/kg wet							
Silver	ND	0.50	mg/kg wet							
Thallium	ND	0.10	mg/kg wet							
Vanadium	ND	1.00	mg/kg wet							
Zinc	ND	2.50	mg/kg wet							
LCS										
Antimony	60.5	9.09	mg/kg wet	49.70		122	24-282			
Antimony	59.1	18.2	mg/kg wet	49.70		119	24-282			
Arsenic	127	9.09	mg/kg wet	133.0		95	80-120			
Barium	200	9.09	mg/kg wet	229.0		88	80-120			
Beryllium	91.2	0.40	mg/kg wet	95.80		95	80-120			
Cadmium	108	1.82	mg/kg wet	123.0		88	80-120			
Chromium	56.7	3.64	mg/kg wet	63.20		90	80-120			
Lead	105	18.2	mg/kg wet	108.0		97	80-120			
Nickel	264	9.09	mg/kg wet	285.0		93	80-120			
Selenium	74.2	18.2	mg/kg wet	81.40		91	80-120			
Selenium	85.7	18.2	mg/kg wet	81.40		105	80-120			
Silver	73.7	1.82	mg/kg wet	74.80		99	80-120			
Thallium	46.6	10.9	mg/kg wet	50.10		93	80-120			
Vanadium	147	3.64	mg/kg wet	148.0		99	80-120			
Zinc	195	9.09	mg/kg wet	203.0		96	80-120			
LCS Dup										
Antimony	64.6	18.9	mg/kg wet	49.70		130	24-282	9	20	
Antimony	61.6	9.43	mg/kg wet	49.70		124	24-282	2	20	
Arsenic	142	9.43	mg/kg wet	133.0		107	80-120	12	20	
Barium	226	9.43	mg/kg wet	229.0		99	80-120	12	20	
Beryllium	95.9	0.42	mg/kg wet	95.80		100	80-120	5	20	
Cadmium	113	1.89	mg/kg wet	123.0		92	80-120	4	20	
Chromium	60.6	3.77	mg/kg wet	63.20		96	80-120	7	20	
Lead	109	18.9	mg/kg wet	108.0		101	80-120	4	20	
Nickel	273	9.43	mg/kg wet	285.0		96	80-120	3	20	
Selenium	76.5	18.9	mg/kg wet	81.40		94	80-120	3	20	
Selenium	84.5	18.9	mg/kg wet	81.40		104	80-120	1	20	
Silver	78.0	1.89	mg/kg wet	74.80		104	80-120	6	20	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503415

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Total Metals										
Batch CC52701 - 3050B										
Thallium	46.6	3.77	mg/kg wet	50.10		93	80-120	0.2	20	
Vanadium	142	3.77	mg/kg wet	148.0		96	80-120	3	20	
Zinc	199	9.43	mg/kg wet	203.0		98	80-120	2	20	
Duplicate **Source: 1503415-17**										
Antimony	0.791	1.15	mg/kg dry		0.693			13	35	
Arsenic	29.5	2.29	mg/kg dry		29.9			1	35	
Barium	69.7	2.29	mg/kg dry		69.4			0.4	35	
Beryllium	0.691	0.10	mg/kg dry		0.679			2	35	
Cadmium	1.05	0.46	mg/kg dry		1.02			2	35	
Chromium	88.3	0.92	mg/kg dry		87.0			1	35	
Lead	236	4.59	mg/kg dry		237			0.4	35	
Nickel	25.9	2.29	mg/kg dry		26.6			3	35	
Selenium	ND	4.59	mg/kg dry		2.28			200	35	
Silver	1.38	0.46	mg/kg dry		1.42			2	35	
Thallium	ND	0.37	mg/kg dry		ND				35	
Vanadium	80.8	0.92	mg/kg dry		80.7			0.2	35	
Zinc	395	2.29	mg/kg dry		394			0.3	35	
Duplicate **Source: 1503415-32**										
Antimony	ND	4.67	mg/kg dry		ND				35	
Arsenic	6.14	2.34	mg/kg dry		5.33			14	35	
Barium	18.8	2.34	mg/kg dry		19.4			3	35	
Beryllium	0.326	0.10	mg/kg dry		0.320			2	35	
Cadmium	ND	0.47	mg/kg dry		ND				35	
Chromium	15.9	0.93	mg/kg dry		16.2			2	35	
Lead	4.16	4.67	mg/kg dry		5.15			21	35	
Nickel	9.75	2.34	mg/kg dry		9.93			2	35	
Selenium	ND	4.67	mg/kg dry		1.09			200	35	
Silver	ND	0.47	mg/kg dry		ND				35	
Thallium	ND	0.37	mg/kg dry		ND				35	
Vanadium	24.8	0.93	mg/kg dry		23.7			4	35	
Zinc	27.7	2.34	mg/kg dry		28.3			2	35	
Matrix Spike **Source: 1503415-17**										
Antimony	6.52	4.85	mg/kg dry	24.27	0.693	24	75-125			M-
Arsenic	50.0	2.43	mg/kg dry	24.27	29.9	83	75-125			
Barium	89.8	2.43	mg/kg dry	24.27	69.4	84	75-125			
Beryllium	2.64	0.11	mg/kg dry	2.427	0.679	81	75-125			
Cadmium	10.4	0.49	mg/kg dry	12.14	1.02	78	75-125			
Chromium	106	0.97	mg/kg dry	24.27	87.0	80	75-125			
Lead	253	4.85	mg/kg dry	24.27	237	64	75-125			M-
Nickel	43.4	2.43	mg/kg dry	24.27	26.6	69	75-125			M-
Selenium	37.0	4.85	mg/kg dry	48.54	2.28	72	75-125			M-
Silver	11.8	0.49	mg/kg dry	12.14	1.42	85	75-125			
Thallium	9.61	1.94	mg/kg dry	24.27	ND	40	75-125			M-
Vanadium	99.4	0.97	mg/kg dry	24.27	80.7	77	75-125			
Zinc	408	2.43	mg/kg dry	24.27	394	59	75-125			M-

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503415

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Total Metals										
Batch CC52701 - 3050B										
Matrix Spike **Source: 1503415-32**										
Antimony	3.62	4.76	mg/kg dry	23.81	ND	15	75-125			M-
Arsenic	28.5	2.38	mg/kg dry	23.81	5.33	97	75-125			
Barium	40.9	2.38	mg/kg dry	23.81	19.4	91	75-125			
Beryllium	2.48	0.10	mg/kg dry	2.381	0.320	91	75-125			
Cadmium	9.91	0.48	mg/kg dry	11.90	ND	83	75-125			
Chromium	37.6	0.95	mg/kg dry	23.81	16.2	90	75-125			
Lead	24.7	4.76	mg/kg dry	23.81	5.15	82	75-125			
Nickel	29.6	2.38	mg/kg dry	23.81	9.93	83	75-125			
Selenium	40.2	4.76	mg/kg dry	47.62	1.09	82	75-125			
Silver	11.0	0.48	mg/kg dry	11.90	ND	92	75-125			
Thallium	23.4	1.90	mg/kg dry	23.81	ND	98	75-125			
Vanadium	46.7	0.95	mg/kg dry	23.81	23.7	96	75-125			
Zinc	49.8	2.38	mg/kg dry	23.81	28.3	90	75-125			
Batch CC52702 - 7471A										
Blank										
Mercury	ND	0.033	mg/kg wet							
LCS										
Mercury	29.3	3.96	mg/kg wet	24.90		118	80-120			
LCS Dup										
Mercury	29.7	3.30	mg/kg wet	24.90		119	80-120	1	20	
Duplicate **Source: 1503415-17**										
Mercury	0.354	0.028	mg/kg dry		0.307			14	35	
Duplicate **Source: 1503415-32**										
Mercury	ND	0.032	mg/kg dry		ND				35	
Matrix Spike **Source: 1503415-17**										
Mercury	0.327	0.030	mg/kg dry	0.1791	0.307	11	75-125			M-
Matrix Spike **Source: 1503415-32**										
Mercury	0.146	0.028	mg/kg dry	0.1714	ND	85	75-125			
Batch CC52816 - 3050B										
Blank										
Selenium	ND	0.50	mg/kg wet							
LCS										
Selenium	71.2	17.2	mg/kg wet	81.40		87	80-120			
LCS Dup										
Selenium	82.9	19.2	mg/kg wet	81.40		102	80-120	15	20	
5035/8260B Volatile Organic Compounds / Low Level										
Batch CC52627 - 5035										
Blank										
1,1,1,2-Tetrachloroethane	ND	0.0050	mg/kg wet							
1,1,1-Trichloroethane	ND	0.0050	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503415

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch CC52627 - 5035										
1,1,2,2-Tetrachloroethane	ND	0.0020	mg/kg wet							
1,1,2-Trichloroethane	ND	0.0050	mg/kg wet							
1,1-Dichloroethane	ND	0.0050	mg/kg wet							
1,1-Dichloroethene	ND	0.0050	mg/kg wet							
1,1-Dichloropropene	ND	0.0050	mg/kg wet							
1,2,3-Trichlorobenzene	ND	0.0050	mg/kg wet							
1,2,3-Trichloropropane	ND	0.0050	mg/kg wet							
1,2,4-Trichlorobenzene	ND	0.0050	mg/kg wet							
1,2,4-Trimethylbenzene	ND	0.0050	mg/kg wet							
1,2-Dibromo-3-Chloropropane	ND	0.0050	mg/kg wet							
1,2-Dibromoethane	ND	0.0050	mg/kg wet							
1,2-Dichlorobenzene	ND	0.0050	mg/kg wet							
1,2-Dichloroethane	ND	0.0050	mg/kg wet							
1,2-Dichloropropane	ND	0.0050	mg/kg wet							
1,3,5-Trimethylbenzene	ND	0.0050	mg/kg wet							
1,3-Dichlorobenzene	ND	0.0050	mg/kg wet							
1,3-Dichloropropane	ND	0.0050	mg/kg wet							
1,4-Dichlorobenzene	ND	0.0050	mg/kg wet							
1,4-Dioxane	ND	0.100	mg/kg wet							
2,2-Dichloropropane	ND	0.0050	mg/kg wet							
2-Butanone	ND	0.0100	mg/kg wet							
2-Chlorotoluene	ND	0.0050	mg/kg wet							
2-Hexanone	ND	0.0100	mg/kg wet							
4-Chlorotoluene	ND	0.0050	mg/kg wet							
4-Isopropyltoluene	ND	0.0050	mg/kg wet							
4-Methyl-2-Pentanone	ND	0.0100	mg/kg wet							
Acetone	ND	0.0100	mg/kg wet							
Benzene	ND	0.0050	mg/kg wet							
Bromobenzene	ND	0.0050	mg/kg wet							
Bromochloromethane	ND	0.0050	mg/kg wet							
Bromodichloromethane	ND	0.0050	mg/kg wet							
Bromoform	ND	0.0050	mg/kg wet							
Bromomethane	ND	0.0100	mg/kg wet							
Carbon Disulfide	ND	0.0050	mg/kg wet							
Carbon Tetrachloride	ND	0.0050	mg/kg wet							
Chlorobenzene	ND	0.0050	mg/kg wet							
Chloroethane	ND	0.0100	mg/kg wet							
Chloroform	ND	0.0050	mg/kg wet							
Chloromethane	ND	0.0100	mg/kg wet							
cis-1,2-Dichloroethene	ND	0.0050	mg/kg wet							
cis-1,3-Dichloropropene	ND	0.0050	mg/kg wet							
Dibromochloromethane	ND	0.0020	mg/kg wet							
Dibromomethane	ND	0.0050	mg/kg wet							
Dichlorodifluoromethane	ND	0.0100	mg/kg wet							
Diethyl Ether	ND	0.0050	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503415

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch CC52627 - 5035										
Di-isopropyl ether	ND	0.0050	mg/kg wet							
Ethyl tertiary-butyl ether	ND	0.0050	mg/kg wet							
Ethylbenzene	ND	0.0050	mg/kg wet							
Hexachlorobutadiene	ND	0.0050	mg/kg wet							
Isopropylbenzene	ND	0.0050	mg/kg wet							
Methyl tert-Butyl Ether	ND	0.0050	mg/kg wet							
Methylene Chloride	ND	0.0100	mg/kg wet							
Naphthalene	ND	0.0050	mg/kg wet							
n-Butylbenzene	ND	0.0050	mg/kg wet							
n-Propylbenzene	ND	0.0050	mg/kg wet							
sec-Butylbenzene	ND	0.0050	mg/kg wet							
Styrene	ND	0.0050	mg/kg wet							
tert-Butylbenzene	ND	0.0050	mg/kg wet							
Tertiary-amyl methyl ether	ND	0.0050	mg/kg wet							
Tetrachloroethene	ND	0.0050	mg/kg wet							
Tetrahydrofuran	ND	0.0050	mg/kg wet							
Toluene	ND	0.0050	mg/kg wet							
trans-1,2-Dichloroethene	ND	0.0050	mg/kg wet							
trans-1,3-Dichloropropene	ND	0.0050	mg/kg wet							
Trichloroethene	ND	0.0050	mg/kg wet							
Trichlorofluoromethane	ND	0.0050	mg/kg wet							
Vinyl Chloride	ND	0.0100	mg/kg wet							
Xylene O	ND	0.0050	mg/kg wet							
Xylene P,M	ND	0.0100	mg/kg wet							
Surrogate: 1,2-Dichloroethane-d4	*0.0484*		mg/kg wet	*0.05000*		*97*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0461*		mg/kg wet	*0.05000*		*92*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0447*		mg/kg wet	*0.05000*		*89*	*70-130*			
Surrogate: Toluene-d8	*0.0466*		mg/kg wet	*0.05000*		*93*	*70-130*			
LCS										
1,1,1,2-Tetrachloroethane	0.0567	0.0050	mg/kg wet	0.05000		113	70-130			
1,1,1-Trichloroethane	0.0535	0.0050	mg/kg wet	0.05000		107	70-130			
1,1,2,2-Tetrachloroethane	0.0496	0.0020	mg/kg wet	0.05000		99	70-130			
1,1,2-Trichloroethane	0.0477	0.0050	mg/kg wet	0.05000		95	70-130			
1,1-Dichloroethane	0.0470	0.0050	mg/kg wet	0.05000		94	70-130			
1,1-Dichloroethene	0.0459	0.0050	mg/kg wet	0.05000		92	70-130			
1,1-Dichloropropene	0.0460	0.0050	mg/kg wet	0.05000		92	70-130			
1,2,3-Trichlorobenzene	0.0533	0.0050	mg/kg wet	0.05000		107	70-130			
1,2,3-Trichloropropane	0.0539	0.0050	mg/kg wet	0.05000		108	70-130			
1,2,4-Trichlorobenzene	0.0518	0.0050	mg/kg wet	0.05000		104	70-130			
1,2,4-Trimethylbenzene	0.0496	0.0050	mg/kg wet	0.05000		99	70-130			
1,2-Dibromo-3-Chloropropane	0.0544	0.0050	mg/kg wet	0.05000		109	70-130			
1,2-Dibromoethane	0.0528	0.0050	mg/kg wet	0.05000		106	70-130			
1,2-Dichlorobenzene	0.0503	0.0050	mg/kg wet	0.05000		101	70-130			
1,2-Dichloroethane	0.0494	0.0050	mg/kg wet	0.05000		99	70-130			
1,2-Dichloropropane	0.0456	0.0050	mg/kg wet	0.05000		91	70-130			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503415

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch CC52627 - 5035										
1,3,5-Trimethylbenzene	0.0518	0.0050	mg/kg wet	0.05000		104	70-130			
1,3-Dichlorobenzene	0.0502	0.0050	mg/kg wet	0.05000		100	70-130			
1,3-Dichloropropane	0.0535	0.0050	mg/kg wet	0.05000		107	70-130			
1,4-Dichlorobenzene	0.0512	0.0050	mg/kg wet	0.05000		102	70-130			
1,4-Dioxane	0.890	0.100	mg/kg wet	1.000		89	70-130			
2,2-Dichloropropane	0.0549	0.0050	mg/kg wet	0.05000		110	70-130			
2-Butanone	0.239	0.0100	mg/kg wet	0.2500		95	70-130			
2-Chlorotoluene	0.0501	0.0050	mg/kg wet	0.05000		100	70-130			
2-Hexanone	0.279	0.0100	mg/kg wet	0.2500		112	70-130			
4-Chlorotoluene	0.0505	0.0050	mg/kg wet	0.05000		101	70-130			
4-Isopropyltoluene	0.0502	0.0050	mg/kg wet	0.05000		100	70-130			
4-Methyl-2-Pentanone	0.246	0.0100	mg/kg wet	0.2500		98	70-130			
Acetone	0.277	0.0100	mg/kg wet	0.2500		111	70-130			
Benzene	0.0473	0.0050	mg/kg wet	0.05000		95	70-130			
Bromobenzene	0.0515	0.0050	mg/kg wet	0.05000		103	70-130			
Bromochloromethane	0.0493	0.0050	mg/kg wet	0.05000		99	70-130			
Bromodichloromethane	0.0522	0.0050	mg/kg wet	0.05000		104	70-130			
Bromoform	0.0548	0.0050	mg/kg wet	0.05000		110	70-130			
Bromomethane	0.0927	0.0100	mg/kg wet	0.05000		185	70-130			B+
Carbon Disulfide	0.0510	0.0050	mg/kg wet	0.05000		102	70-130			
Carbon Tetrachloride	0.0572	0.0050	mg/kg wet	0.05000		114	70-130			
Chlorobenzene	0.0505	0.0050	mg/kg wet	0.05000		101	70-130			
Chloroethane	0.0441	0.0100	mg/kg wet	0.05000		88	70-130			
Chloroform	0.0502	0.0050	mg/kg wet	0.05000		100	70-130			
Chloromethane	0.0556	0.0100	mg/kg wet	0.05000		111	70-130			
cis-1,2-Dichloroethene	0.0483	0.0050	mg/kg wet	0.05000		97	70-130			
cis-1,3-Dichloropropene	0.0553	0.0050	mg/kg wet	0.05000		111	70-130			
Dibromochloromethane	0.0535	0.0020	mg/kg wet	0.05000		107	70-130			
Dibromomethane	0.0492	0.0050	mg/kg wet	0.05000		98	70-130			
Dichlorodifluoromethane	0.0525	0.0100	mg/kg wet	0.05000		105	70-130			
Diethyl Ether	0.0481	0.0050	mg/kg wet	0.05000		96	70-130			
Di-isopropyl ether	0.0461	0.0050	mg/kg wet	0.05000		92	70-130			
Ethyl tertiary-butyl ether	0.0441	0.0050	mg/kg wet	0.05000		88	70-130			
Ethylbenzene	0.0505	0.0050	mg/kg wet	0.05000		101	70-130			
Hexachlorobutadiene	0.0592	0.0050	mg/kg wet	0.05000		118	70-130			
Isopropylbenzene	0.0501	0.0050	mg/kg wet	0.05000		100	70-130			
Methyl tert-Butyl Ether	0.0480	0.0050	mg/kg wet	0.05000		96	70-130			
Methylene Chloride	0.0470	0.0100	mg/kg wet	0.05000		94	70-130			
Naphthalene	0.0460	0.0050	mg/kg wet	0.05000		92	70-130			
n-Butylbenzene	0.0503	0.0050	mg/kg wet	0.05000		101	70-130			
n-Propylbenzene	0.0491	0.0050	mg/kg wet	0.05000		98	70-130			
sec-Butylbenzene	0.0500	0.0050	mg/kg wet	0.05000		100	70-130			
Styrene	0.0520	0.0050	mg/kg wet	0.05000		104	70-130			
tert-Butylbenzene	0.0503	0.0050	mg/kg wet	0.05000		101	70-130			
Tertiary-amyl methyl ether	0.0465	0.0050	mg/kg wet	0.05000		93	70-130			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503415

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch CC52627 - 5035										
Tetrachloroethene	0.0524	0.0050	mg/kg wet	0.05000		105	70-130			
Tetrahydrofuran	0.0429	0.0050	mg/kg wet	0.05000		86	70-130			
Toluene	0.0474	0.0050	mg/kg wet	0.05000		95	70-130			
trans-1,2-Dichloroethene	0.0439	0.0050	mg/kg wet	0.05000		88	70-130			
trans-1,3-Dichloropropene	0.0548	0.0050	mg/kg wet	0.05000		110	70-130			
Trichloroethene	0.0486	0.0050	mg/kg wet	0.05000		97	70-130			
Trichlorofluoromethane	0.0468	0.0050	mg/kg wet	0.05000		94	70-130			
Vinyl Chloride	0.0512	0.0100	mg/kg wet	0.05000		102	70-130			
Xylene O	0.0505	0.0050	mg/kg wet	0.05000		101	70-130			
Xylene P,M	0.102	0.0100	mg/kg wet	0.1000		102	70-130			
Surrogate: 1,2-Dichloroethane-d4	*0.0475*		mg/kg wet	*0.05000*		*95*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0472*		mg/kg wet	*0.05000*		*94*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0458*		mg/kg wet	*0.05000*		*92*	*70-130*			
Surrogate: Toluene-d8	*0.0481*		mg/kg wet	*0.05000*		*96*	*70-130*			
LCS Dup										
1,1,1,2-Tetrachloroethane	0.0522	0.0050	mg/kg wet	0.05000		104	70-130	8	25	
1,1,1-Trichloroethane	0.0485	0.0050	mg/kg wet	0.05000		97	70-130	10	25	
1,1,2,2-Tetrachloroethane	0.0449	0.0020	mg/kg wet	0.05000		90	70-130	10	25	
1,1,2-Trichloroethane	0.0436	0.0050	mg/kg wet	0.05000		87	70-130	9	25	
1,1-Dichloroethane	0.0423	0.0050	mg/kg wet	0.05000		85	70-130	11	25	
1,1-Dichloroethene	0.0412	0.0050	mg/kg wet	0.05000		82	70-130	11	25	
1,1-Dichloropropene	0.0414	0.0050	mg/kg wet	0.05000		83	70-130	10	25	
1,2,3-Trichlorobenzene	0.0479	0.0050	mg/kg wet	0.05000		96	70-130	11	25	
1,2,3-Trichloropropane	0.0478	0.0050	mg/kg wet	0.05000		96	70-130	12	25	
1,2,4-Trichlorobenzene	0.0468	0.0050	mg/kg wet	0.05000		94	70-130	10	25	
1,2,4-Trimethylbenzene	0.0443	0.0050	mg/kg wet	0.05000		89	70-130	11	25	
1,2-Dibromo-3-Chloropropane	0.0473	0.0050	mg/kg wet	0.05000		95	70-130	14	25	
1,2-Dibromoethane	0.0485	0.0050	mg/kg wet	0.05000		97	70-130	9	25	
1,2-Dichlorobenzene	0.0447	0.0050	mg/kg wet	0.05000		89	70-130	12	25	
1,2-Dichloroethane	0.0451	0.0050	mg/kg wet	0.05000		90	70-130	9	25	
1,2-Dichloropropane	0.0411	0.0050	mg/kg wet	0.05000		82	70-130	11	25	
1,3,5-Trimethylbenzene	0.0463	0.0050	mg/kg wet	0.05000		93	70-130	11	25	
1,3-Dichlorobenzene	0.0449	0.0050	mg/kg wet	0.05000		90	70-130	11	25	
1,3-Dichloropropane	0.0495	0.0050	mg/kg wet	0.05000		99	70-130	8	25	
1,4-Dichlorobenzene	0.0452	0.0050	mg/kg wet	0.05000		90	70-130	12	25	
1,4-Dioxane	0.856	0.100	mg/kg wet	1.000		86	70-130	4	20	
2,2-Dichloropropane	0.0489	0.0050	mg/kg wet	0.05000		98	70-130	11	25	
2-Butanone	0.218	0.0100	mg/kg wet	0.2500		87	70-130	9	25	
2-Chlorotoluene	0.0449	0.0050	mg/kg wet	0.05000		90	70-130	11	25	
2-Hexanone	0.254	0.0100	mg/kg wet	0.2500		101	70-130	10	25	
4-Chlorotoluene	0.0452	0.0050	mg/kg wet	0.05000		90	70-130	11	25	
4-Isopropyltoluene	0.0444	0.0050	mg/kg wet	0.05000		89	70-130	12	25	
4-Methyl-2-Pentanone	0.221	0.0100	mg/kg wet	0.2500		88	70-130	11	25	
Acetone	0.250	0.0100	mg/kg wet	0.2500		100	70-130	10	25	
Benzene	0.0426	0.0050	mg/kg wet	0.05000		85	70-130	10	25	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503415

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch CC52627 - 5035										
Bromobenzene	0.0456	0.0050	mg/kg wet	0.05000		91	70-130	12	25	
Bromochloromethane	0.0451	0.0050	mg/kg wet	0.05000		90	70-130	9	25	
Bromodichloromethane	0.0472	0.0050	mg/kg wet	0.05000		94	70-130	10	25	
Bromoform	0.0498	0.0050	mg/kg wet	0.05000		100	70-130	10	25	
Bromomethane	0.0760	0.0100	mg/kg wet	0.05000		152	70-130	20	25	B+
Carbon Disulfide	0.0460	0.0050	mg/kg wet	0.05000		92	70-130	10	25	
Carbon Tetrachloride	0.0511	0.0050	mg/kg wet	0.05000		102	70-130	11	25	
Chlorobenzene	0.0468	0.0050	mg/kg wet	0.05000		94	70-130	8	25	
Chloroethane	0.0394	0.0100	mg/kg wet	0.05000		79	70-130	11	25	
Chloroform	0.0450	0.0050	mg/kg wet	0.05000		90	70-130	11	25	
Chloromethane	0.0499	0.0100	mg/kg wet	0.05000		100	70-130	11	25	
cis-1,2-Dichloroethene	0.0444	0.0050	mg/kg wet	0.05000		89	70-130	8	25	
cis-1,3-Dichloropropene	0.0498	0.0050	mg/kg wet	0.05000		100	70-130	11	25	
Dibromochloromethane	0.0484	0.0020	mg/kg wet	0.05000		97	70-130	10	25	
Dibromomethane	0.0452	0.0050	mg/kg wet	0.05000		90	70-130	8	25	
Dichlorodifluoromethane	0.0470	0.0100	mg/kg wet	0.05000		94	70-130	11	25	
Diethyl Ether	0.0435	0.0050	mg/kg wet	0.05000		87	70-130	10	25	
Di-isopropyl ether	0.0417	0.0050	mg/kg wet	0.05000		83	70-130	10	25	
Ethyl tertiary-butyl ether	0.0373	0.0050	mg/kg wet	0.05000		75	70-130	17	25	
Ethylbenzene	0.0468	0.0050	mg/kg wet	0.05000		94	70-130	8	25	
Hexachlorobutadiene	0.0523	0.0050	mg/kg wet	0.05000		105	70-130	12	25	
Isopropylbenzene	0.0449	0.0050	mg/kg wet	0.05000		90	70-130	11	25	
Methyl tert-Butyl Ether	0.0416	0.0050	mg/kg wet	0.05000		83	70-130	14	25	
Methylene Chloride	0.0408	0.0100	mg/kg wet	0.05000		82	70-130	14	25	
Naphthalene	0.0419	0.0050	mg/kg wet	0.05000		84	70-130	9	25	
n-Butylbenzene	0.0453	0.0050	mg/kg wet	0.05000		91	70-130	11	25	
n-Propylbenzene	0.0439	0.0050	mg/kg wet	0.05000		88	70-130	11	25	
sec-Butylbenzene	0.0447	0.0050	mg/kg wet	0.05000		89	70-130	11	25	
Styrene	0.0472	0.0050	mg/kg wet	0.05000		94	70-130	10	25	
tert-Butylbenzene	0.0451	0.0050	mg/kg wet	0.05000		90	70-130	11	25	
Tertiary-amyl methyl ether	0.0396	0.0050	mg/kg wet	0.05000		79	70-130	16	25	
Tetrachloroethene	0.0481	0.0050	mg/kg wet	0.05000		96	70-130	8	25	
Tetrahydrofuran	0.0412	0.0050	mg/kg wet	0.05000		82	70-130	4	25	
Toluene	0.0426	0.0050	mg/kg wet	0.05000		85	70-130	11	25	
trans-1,2-Dichloroethene	0.0398	0.0050	mg/kg wet	0.05000		80	70-130	10	25	
trans-1,3-Dichloropropene	0.0491	0.0050	mg/kg wet	0.05000		98	70-130	11	25	
Trichloroethene	0.0438	0.0050	mg/kg wet	0.05000		88	70-130	10	25	
Trichlorofluoromethane	0.0416	0.0050	mg/kg wet	0.05000		83	70-130	12	25	
Vinyl Chloride	0.0449	0.0100	mg/kg wet	0.05000		90	70-130	13	25	
Xylene O	0.0465	0.0050	mg/kg wet	0.05000		93	70-130	8	25	
Xylene P,M	0.0939	0.0100	mg/kg wet	0.1000		94	70-130	8	25	
Surrogate: 1,2-Dichloroethane-d4	*0.0476*		mg/kg wet	*0.05000*		*95*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0484*		mg/kg wet	*0.05000*		*97*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0455*		mg/kg wet	*0.05000*		*91*	*70-130*			
Surrogate: Toluene-d8	*0.0493*		mg/kg wet	*0.05000*		*99*	*70-130*			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503415

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier

5035/8260B Volatile Organic Compounds / Methanol

Batch CC52745 - 5035

Blank

1,1,1,2-Tetrachloroethane	ND	0.100	mg/kg wet
1,1,1-Trichloroethane	ND	0.0500	mg/kg wet
1,1,2,2-Tetrachloroethane	ND	0.0500	mg/kg wet
1,1,2-Trichloroethane	ND	0.0500	mg/kg wet
1,1-Dichloroethane	ND	0.0500	mg/kg wet
1,1-Dichloroethene	ND	0.0500	mg/kg wet
1,1-Dichloropropene	ND	0.0500	mg/kg wet
1,2,3-Trichlorobenzene	ND	0.0500	mg/kg wet
1,2,3-Trichloropropane	ND	0.0500	mg/kg wet
1,2,4-Trichlorobenzene	ND	0.0500	mg/kg wet
1,2,4-Trimethylbenzene	ND	0.0500	mg/kg wet
1,2-Dibromo-3-Chloropropane	ND	0.200	mg/kg wet
1,2-Dibromoethane	ND	0.0500	mg/kg wet
1,2-Dichlorobenzene	ND	0.0500	mg/kg wet
1,2-Dichloroethane	ND	0.0500	mg/kg wet
1,2-Dichloropropane	ND	0.0500	mg/kg wet
1,3,5-Trimethylbenzene	ND	0.0500	mg/kg wet
1,3-Dichlorobenzene	ND	0.0500	mg/kg wet
1,3-Dichloropropane	ND	0.0500	mg/kg wet
1,4-Dichlorobenzene	ND	0.0500	mg/kg wet
1,4-Dioxane - Screen	ND	5.00	mg/kg wet
2,2-Dichloropropane	ND	0.100	mg/kg wet
2-Butanone	ND	0.200	mg/kg wet
2-Chlorotoluene	ND	0.0500	mg/kg wet
2-Hexanone	ND	0.200	mg/kg wet
4-Chlorotoluene	ND	0.0500	mg/kg wet
4-Isopropyltoluene	ND	0.0500	mg/kg wet
4-Methyl-2-Pentanone	ND	0.200	mg/kg wet
Acetone	0.320	0.200	mg/kg wet
Benzene	ND	0.0500	mg/kg wet
Bromobenzene	ND	0.0500	mg/kg wet
Bromochloromethane	ND	0.0500	mg/kg wet
Bromodichloromethane	ND	0.0500	mg/kg wet
Bromoform	ND	0.0500	mg/kg wet
Bromomethane	ND	0.100	mg/kg wet
Carbon Disulfide	ND	0.0500	mg/kg wet
Carbon Tetrachloride	ND	0.0500	mg/kg wet
Chlorobenzene	ND	0.0500	mg/kg wet
Chloroethane	ND	0.100	mg/kg wet
Chloroform	ND	0.0500	mg/kg wet
Chloromethane	ND	0.100	mg/kg wet
cis-1,2-Dichloroethene	ND	0.0500	mg/kg wet
cis-1,3-Dichloropropene	ND	0.0500	mg/kg wet
Dibromochloromethane	ND	0.0500	mg/kg wet

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503415

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Methanol										
Batch CC52745 - 5035										
Dibromomethane	ND	0.0500	mg/kg wet							
Dichlorodifluoromethane	ND	0.0500	mg/kg wet							
Diethyl Ether	ND	0.0500	mg/kg wet							
Di-isopropyl ether	ND	0.0500	mg/kg wet							
Ethyl tertiary-butyl ether	ND	0.0500	mg/kg wet							
Ethylbenzene	ND	0.0500	mg/kg wet							
Hexachlorobutadiene	ND	0.0500	mg/kg wet							
Isopropylbenzene	ND	0.0500	mg/kg wet							
Methyl tert-Butyl Ether	ND	0.0500	mg/kg wet							
Methylene Chloride	ND	0.200	mg/kg wet							
Naphthalene	ND	0.0500	mg/kg wet							
n-Butylbenzene	ND	0.0500	mg/kg wet							
n-Propylbenzene	ND	0.0500	mg/kg wet							
sec-Butylbenzene	ND	0.0500	mg/kg wet							
Styrene	ND	0.0500	mg/kg wet							
tert-Butylbenzene	ND	0.0500	mg/kg wet							
Tertiary-amyl methyl ether	ND	0.0500	mg/kg wet							
Tetrachloroethene	ND	0.0500	mg/kg wet							
Tetrahydrofuran	ND	0.200	mg/kg wet							
Toluene	ND	0.0500	mg/kg wet							
trans-1,2-Dichloroethene	ND	0.0500	mg/kg wet							
trans-1,3-Dichloropropene	ND	0.0500	mg/kg wet							
Trichloroethene	ND	0.0500	mg/kg wet							
Trichlorofluoromethane	ND	0.0500	mg/kg wet							
Vinyl Chloride	ND	0.0500	mg/kg wet							
Xylene O	ND	0.0500	mg/kg wet							
Xylene P,M	ND	0.100	mg/kg wet							
Surrogate: 1,2-Dichloroethane-d4	*2.47*		mg/kg wet	*2.500*		*99*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*2.40*		mg/kg wet	*2.500*		*96*	*70-130*			
Surrogate: Dibromofluoromethane	*2.66*		mg/kg wet	*2.500*		*106*	*70-130*			
Surrogate: Toluene-d8	*2.43*		mg/kg wet	*2.500*		*97*	*70-130*			
LCS										
1,1,1,2-Tetrachloroethane	2.40	0.100	mg/kg wet	2.500		96	70-130			
1,1,1-Trichloroethane	2.59	0.0500	mg/kg wet	2.500		104	70-130			
1,1,2,2-Tetrachloroethane	2.43	0.0500	mg/kg wet	2.500		97	70-130			
1,1,2-Trichloroethane	2.64	0.0500	mg/kg wet	2.500		105	70-130			
1,1-Dichloroethane	2.44	0.0500	mg/kg wet	2.500		98	70-130			
1,1-Dichloroethene	2.46	0.0500	mg/kg wet	2.500		98	70-130			
1,1-Dichloropropene	2.38	0.0500	mg/kg wet	2.500		95	70-130			
1,2,3-Trichlorobenzene	2.78	0.0500	mg/kg wet	2.500		111	70-130			
1,2,3-Trichloropropane	2.54	0.0500	mg/kg wet	2.500		102	70-130			
1,2,4-Trichlorobenzene	2.62	0.0500	mg/kg wet	2.500		105	70-130			
1,2,4-Trimethylbenzene	2.37	0.0500	mg/kg wet	2.500		95	70-130			
1,2-Dibromo-3-Chloropropane	2.39	0.200	mg/kg wet	2.500		96	70-130			
1,2-Dibromoethane	2.49	0.0500	mg/kg wet	2.500		100	70-130			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503415

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Methanol										
Batch CC52745 - 5035										
1,2-Dichlorobenzene	2.44	0.0500	mg/kg wet	2.500		98	70-130			
1,2-Dichloroethane	2.67	0.0500	mg/kg wet	2.500		107	70-130			
1,2-Dichloropropane	2.52	0.0500	mg/kg wet	2.500		101	70-130			
1,3,5-Trimethylbenzene	2.48	0.0500	mg/kg wet	2.500		99	70-130			
1,3-Dichlorobenzene	2.45	0.0500	mg/kg wet	2.500		98	70-130			
1,3-Dichloropropane	2.52	0.0500	mg/kg wet	2.500		101	70-130			
1,4-Dichlorobenzene	2.43	0.0500	mg/kg wet	2.500		97	70-130			
1,4-Dioxane - Screen	55.4	5.00	mg/kg wet	50.00		111	44-241			
2,2-Dichloropropane	2.83	0.100	mg/kg wet	2.500		113	70-130			
2-Butanone	14.4	0.200	mg/kg wet	12.50		115	70-130			
2-Chlorotoluene	2.31	0.0500	mg/kg wet	2.500		93	70-130			
2-Hexanone	12.1	0.200	mg/kg wet	12.50		97	70-130			
4-Chlorotoluene	2.38	0.0500	mg/kg wet	2.500		95	70-130			
4-Isopropyltoluene	2.40	0.0500	mg/kg wet	2.500		96	70-130			
4-Methyl-2-Pentanone	12.1	0.200	mg/kg wet	12.50		96	70-130			
Acetone	17.6	0.200	mg/kg wet	12.50		141	70-130			B+
Benzene	2.56	0.0500	mg/kg wet	2.500		102	70-130			
Bromobenzene	2.49	0.0500	mg/kg wet	2.500		100	70-130			
Bromochloromethane	2.68	0.0500	mg/kg wet	2.500		107	70-130			
Bromodichloromethane	2.56	0.0500	mg/kg wet	2.500		102	70-130			
Bromoform	2.67	0.0500	mg/kg wet	2.500		107	70-130			
Bromomethane	3.02	0.100	mg/kg wet	2.500		121	70-130			
Carbon Disulfide	2.27	0.0500	mg/kg wet	2.500		91	70-130			
Carbon Tetrachloride	2.64	0.0500	mg/kg wet	2.500		106	70-130			
Chlorobenzene	2.44	0.0500	mg/kg wet	2.500		98	70-130			
Chloroethane	2.48	0.100	mg/kg wet	2.500		99	70-130			
Chloroform	2.62	0.0500	mg/kg wet	2.500		105	70-130			
Chloromethane	2.51	0.100	mg/kg wet	2.500		100	70-130			
cis-1,2-Dichloroethene	2.59	0.0500	mg/kg wet	2.500		104	70-130			
cis-1,3-Dichloropropene	2.88	0.0500	mg/kg wet	2.500		115	70-130			
Dibromochloromethane	2.52	0.0500	mg/kg wet	2.500		101	70-130			
Dibromomethane	2.63	0.0500	mg/kg wet	2.500		105	70-130			
Dichlorodifluoromethane	2.81	0.0500	mg/kg wet	2.500		113	70-130			
Diethyl Ether	2.56	0.0500	mg/kg wet	2.500		103	70-130			
Di-isopropyl ether	2.36	0.0500	mg/kg wet	2.500		94	70-130			
Ethyl tertiary-butyl ether	2.40	0.0500	mg/kg wet	2.500		96	70-130			
Ethylbenzene	2.35	0.0500	mg/kg wet	2.500		94	70-130			
Hexachlorobutadiene	2.72	0.0500	mg/kg wet	2.500		109	70-130			
Isopropylbenzene	2.40	0.0500	mg/kg wet	2.500		96	70-130			
Methyl tert-Butyl Ether	2.50	0.0500	mg/kg wet	2.500		100	70-130			
Methylene Chloride	2.55	0.200	mg/kg wet	2.500		102	70-130			
Naphthalene	2.92	0.0500	mg/kg wet	2.500		117	70-130			
n-Butylbenzene	2.43	0.0500	mg/kg wet	2.500		97	70-130			
n-Propylbenzene	2.35	0.0500	mg/kg wet	2.500		94	70-130			
sec-Butylbenzene	2.41	0.0500	mg/kg wet	2.500		96	70-130			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503415

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Methanol										
Batch CC52745 - 5035										
Styrene	2.46	0.0500	mg/kg wet	2.500		98	70-130			
tert-Butylbenzene	2.41	0.0500	mg/kg wet	2.500		96	70-130			
Tertiary-amyl methyl ether	2.51	0.0500	mg/kg wet	2.500		100	70-130			
Tetrachloroethene	2.60	0.0500	mg/kg wet	2.500		104	70-130			
Tetrahydrofuran	2.47	0.200	mg/kg wet	2.500		99	70-130			
Toluene	2.63	0.0500	mg/kg wet	2.500		105	70-130			
trans-1,2-Dichloroethene	2.35	0.0500	mg/kg wet	2.500		94	70-130			
trans-1,3-Dichloropropene	2.73	0.0500	mg/kg wet	2.500		109	70-130			
Trichloroethene	2.74	0.0500	mg/kg wet	2.500		110	70-130			
Trichlorofluoromethane	2.31	0.0500	mg/kg wet	2.500		92	70-130			
Vinyl Chloride	2.79	0.0500	mg/kg wet	2.500		112	70-130			
Xylene O	2.45	0.0500	mg/kg wet	2.500		98	70-130			
Xylene P,M	4.84	0.100	mg/kg wet	5.000		97	70-130			
Surrogate: 1,2-Dichloroethane-d4	*1.92*		mg/kg wet	*2.500*		*77*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*1.82*		mg/kg wet	*2.500*		*73*	*70-130*			
Surrogate: Dibromofluoromethane	*1.94*		mg/kg wet	*2.500*		*77*	*70-130*			
Surrogate: Toluene-d8	*1.81*		mg/kg wet	*2.500*		*72*	*70-130*			
LCS Dup										
1,1,1,2-Tetrachloroethane	2.39	0.100	mg/kg wet	2.500		95	70-130	0.8	25	
1,1,1-Trichloroethane	2.61	0.0500	mg/kg wet	2.500		104	70-130	0.8	25	
1,1,2,2-Tetrachloroethane	2.41	0.0500	mg/kg wet	2.500		96	70-130	0.9	25	
1,1,2-Trichloroethane	2.77	0.0500	mg/kg wet	2.500		111	70-130	5	25	
1,1-Dichloroethane	2.54	0.0500	mg/kg wet	2.500		102	70-130	4	25	
1,1-Dichloroethene	2.50	0.0500	mg/kg wet	2.500		100	70-130	2	25	
1,1-Dichloropropene	2.31	0.0500	mg/kg wet	2.500		92	70-130	3	25	
1,2,3-Trichlorobenzene	2.84	0.0500	mg/kg wet	2.500		113	70-130	2	25	
1,2,3-Trichloropropane	2.43	0.0500	mg/kg wet	2.500		97	70-130	5	25	
1,2,4-Trichlorobenzene	2.62	0.0500	mg/kg wet	2.500		105	70-130	0.3	25	
1,2,4-Trimethylbenzene	2.35	0.0500	mg/kg wet	2.500		94	70-130	0.9	25	
1,2-Dibromo-3-Chloropropane	2.32	0.200	mg/kg wet	2.500		93	70-130	3	25	
1,2-Dibromoethane	2.52	0.0500	mg/kg wet	2.500		101	70-130	1	25	
1,2-Dichlorobenzene	2.38	0.0500	mg/kg wet	2.500		95	70-130	3	25	
1,2-Dichloroethane	2.58	0.0500	mg/kg wet	2.500		103	70-130	3	25	
1,2-Dichloropropane	2.71	0.0500	mg/kg wet	2.500		108	70-130	7	25	
1,3,5-Trimethylbenzene	2.40	0.0500	mg/kg wet	2.500		96	70-130	3	25	
1,3-Dichlorobenzene	2.38	0.0500	mg/kg wet	2.500		95	70-130	3	25	
1,3-Dichloropropane	2.52	0.0500	mg/kg wet	2.500		101	70-130	0.1	25	
1,4-Dichlorobenzene	2.40	0.0500	mg/kg wet	2.500		96	70-130	1	25	
1,4-Dioxane - Screen	62.1	5.00	mg/kg wet	50.00		124	44-241	11	200	
2,2-Dichloropropane	2.85	0.100	mg/kg wet	2.500		114	70-130	0.9	25	
2-Butanone	14.5	0.200	mg/kg wet	12.50		116	70-130	0.8	25	
2-Chlorotoluene	2.26	0.0500	mg/kg wet	2.500		91	70-130	2	25	
2-Hexanone	12.1	0.200	mg/kg wet	12.50		97	70-130	0.02	25	
4-Chlorotoluene	2.37	0.0500	mg/kg wet	2.500		95	70-130	0.3	25	
4-Isopropyltoluene	2.35	0.0500	mg/kg wet	2.500		94	70-130	2	25	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503415

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Methanol										
Batch CC52745 - 5035										
4-Methyl-2-Pentanone	13.0	0.200	mg/kg wet	12.50		104	70-130	8	25	
Acetone	17.5	0.200	mg/kg wet	12.50		140	70-130	0.7	25	B+
Benzene	2.39	0.0500	mg/kg wet	2.500		96	70-130	7	25	
Bromobenzene	2.42	0.0500	mg/kg wet	2.500		97	70-130	3	25	
Bromochloromethane	2.78	0.0500	mg/kg wet	2.500		111	70-130	4	25	
Bromodichloromethane	2.69	0.0500	mg/kg wet	2.500		107	70-130	5	25	
Bromoform	2.70	0.0500	mg/kg wet	2.500		108	70-130	1	25	
Bromomethane	3.14	0.100	mg/kg wet	2.500		125	70-130	4	25	
Carbon Disulfide	2.32	0.0500	mg/kg wet	2.500		93	70-130	2	25	
Carbon Tetrachloride	2.62	0.0500	mg/kg wet	2.500		105	70-130	0.5	25	
Chlorobenzene	2.44	0.0500	mg/kg wet	2.500		98	70-130	0.2	25	
Chloroethane	2.53	0.100	mg/kg wet	2.500		101	70-130	2	25	
Chloroform	2.71	0.0500	mg/kg wet	2.500		109	70-130	4	25	
Chloromethane	2.54	0.100	mg/kg wet	2.500		101	70-130	1	25	
cis-1,2-Dichloroethene	2.67	0.0500	mg/kg wet	2.500		107	70-130	3	25	
cis-1,3-Dichloropropene	3.00	0.0500	mg/kg wet	2.500		120	70-130	4	25	
Dibromochloromethane	2.52	0.0500	mg/kg wet	2.500		101	70-130	0.1	25	
Dibromomethane	2.79	0.0500	mg/kg wet	2.500		112	70-130	6	25	
Dichlorodifluoromethane	2.77	0.0500	mg/kg wet	2.500		111	70-130	2	25	
Diethyl Ether	2.68	0.0500	mg/kg wet	2.500		107	70-130	5	25	
Di-isopropyl ether	2.48	0.0500	mg/kg wet	2.500		99	70-130	5	25	
Ethyl tertiary-butyl ether	2.52	0.0500	mg/kg wet	2.500		101	70-130	5	25	
Ethylbenzene	2.36	0.0500	mg/kg wet	2.500		94	70-130	0.3	25	
Hexachlorobutadiene	2.78	0.0500	mg/kg wet	2.500		111	70-130	2	25	
Isopropylbenzene	2.36	0.0500	mg/kg wet	2.500		94	70-130	2	25	
Methyl tert-Butyl Ether	2.67	0.0500	mg/kg wet	2.500		107	70-130	7	25	
Methylene Chloride	2.64	0.200	mg/kg wet	2.500		106	70-130	4	25	
Naphthalene	3.12	0.0500	mg/kg wet	2.500		125	70-130	6	25	
n-Butylbenzene	2.38	0.0500	mg/kg wet	2.500		95	70-130	2	25	
n-Propylbenzene	2.30	0.0500	mg/kg wet	2.500		92	70-130	2	25	
sec-Butylbenzene	2.37	0.0500	mg/kg wet	2.500		95	70-130	2	25	
Styrene	2.47	0.0500	mg/kg wet	2.500		99	70-130	0.5	25	
tert-Butylbenzene	2.37	0.0500	mg/kg wet	2.500		95	70-130	2	25	
Tertiary-amyl methyl ether	2.30	0.0500	mg/kg wet	2.500		92	70-130	9	25	
Tetrachloroethene	2.56	0.0500	mg/kg wet	2.500		103	70-130	1	25	
Tetrahydrofuran	2.68	0.200	mg/kg wet	2.500		107	70-130	8	25	
Toluene	2.74	0.0500	mg/kg wet	2.500		110	70-130	4	25	
trans-1,2-Dichloroethene	2.41	0.0500	mg/kg wet	2.500		96	70-130	3	25	
trans-1,3-Dichloropropene	2.87	0.0500	mg/kg wet	2.500		115	70-130	5	25	
Trichloroethene	2.92	0.0500	mg/kg wet	2.500		117	70-130	6	25	
Trichlorofluoromethane	2.18	0.0500	mg/kg wet	2.500		87	70-130	5	25	
Vinyl Chloride	2.86	0.0500	mg/kg wet	2.500		115	70-130	3	25	
Xylene O	2.44	0.0500	mg/kg wet	2.500		98	70-130	0.7	25	
Xylene P,M	4.87	0.100	mg/kg wet	5.000		97	70-130	0.4	25	
Surrogate: 1,2-Dichloroethane-d4	*1.82*		mg/kg wet	*2.500*		*73*	*70-130*			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503415

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Methanol										
Batch CC52745 - 5035										
Surrogate: 4-Bromofluorobenzene	*1.76*		mg/kg wet	*2.500*		*71*	*70-130*			
Surrogate: Dibromofluoromethane	*1.95*		mg/kg wet	*2.500*		*78*	*70-130*			
Surrogate: Toluene-d8	*1.78*		mg/kg wet	*2.500*		*71*	*70-130*			
8082A Polychlorinated Biphenyls (PCB)										
Batch CC53006 - 3540C										
Blank										
Aroclor 1016	ND	0.0080	mg/kg wet							
Aroclor 1221	ND	0.0080	mg/kg wet							
Aroclor 1232	ND	0.0080	mg/kg wet							
Aroclor 1242	ND	0.0080	mg/kg wet							
Aroclor 1248	ND	0.0080	mg/kg wet							
Aroclor 1254	ND	0.0080	mg/kg wet							
Aroclor 1260	ND	0.0080	mg/kg wet							
Aroclor 1262	ND	0.0080	mg/kg wet							
Aroclor 1268	ND	0.0080	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.00260*		mg/kg wet	*0.004000*		*65*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.00229*		mg/kg wet	*0.004000*		*57*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.00316*		mg/kg wet	*0.004000*		*79*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.00307*		mg/kg wet	*0.004000*		*77*	*30-150*			
LCS										
Aroclor 1016	0.0844	0.0080	mg/kg wet	0.08000		106	40-140			
Aroclor 1260	0.0702	0.0080	mg/kg wet	0.08000		88	40-140			
Surrogate: Decachlorobiphenyl	*0.00301*		mg/kg wet	*0.004000*		*75*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.00277*		mg/kg wet	*0.004000*		*69*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.00358*		mg/kg wet	*0.004000*		*90*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.00354*		mg/kg wet	*0.004000*		*89*	*30-150*			
LCS Dup										
Aroclor 1016	0.0885	0.0080	mg/kg wet	0.08000		111	40-140	5	30	
Aroclor 1260	0.0761	0.0080	mg/kg wet	0.08000		95	40-140	8	30	
Surrogate: Decachlorobiphenyl	*0.00266*		mg/kg wet	*0.004000*		*67*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.00272*		mg/kg wet	*0.004000*		*68*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.00350*		mg/kg wet	*0.004000*		*88*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.00348*		mg/kg wet	*0.004000*		*87*	*30-150*			
8270D Semi-Volatile Organic Compounds										
Batch CC52608 - 3546										
Blank										
1,2,4-Trichlorobenzene	ND	0.333	mg/kg wet							
1,2-Dichlorobenzene	ND	0.333	mg/kg wet							
1,3-Dichlorobenzene	ND	0.333	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503415

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch CC52608 - 3546										
1,4-Dichlorobenzene	ND	0.333	mg/kg wet							
2,4,5-Trichlorophenol	ND	0.333	mg/kg wet							
2,4,6-Trichlorophenol	ND	0.333	mg/kg wet							
2,4-Dichlorophenol	ND	0.333	mg/kg wet							
2,4-Dimethylphenol	ND	0.333	mg/kg wet							
2,4-Dinitrophenol	ND	1.67	mg/kg wet							
2,4-Dinitrotoluene	ND	0.333	mg/kg wet							
2,6-Dinitrotoluene	ND	0.333	mg/kg wet							
2-Chloronaphthalene	ND	0.333	mg/kg wet							
2-Chlorophenol	ND	0.333	mg/kg wet							
2-Methylphenol	ND	0.333	mg/kg wet							
2-Nitrophenol	ND	0.333	mg/kg wet							
3,3´-Dichlorobenzidine	ND	0.667	mg/kg wet							
3+4-Methylphenol	ND	0.667	mg/kg wet							
4-Bromophenyl-phenylether	ND	0.333	mg/kg wet							
4-Chloroaniline	ND	0.667	mg/kg wet							
4-Nitrophenol	ND	1.67	mg/kg wet							
Acetophenone	ND	0.667	mg/kg wet							
Aniline	ND	1.67	mg/kg wet							
Azobenzene	ND	0.333	mg/kg wet							
bis(2-Chloroethoxy)methane	ND	0.333	mg/kg wet							
bis(2-Chloroethyl)ether	ND	0.333	mg/kg wet							
bis(2-chloroisopropyl)Ether	ND	0.333	mg/kg wet							
bis(2-Ethylhexyl)phthalate	ND	0.333	mg/kg wet							
Butylbenzylphthalate	ND	0.333	mg/kg wet							
Dibenzofuran	ND	0.333	mg/kg wet							
Diethylphthalate	ND	0.333	mg/kg wet							
Dimethylphthalate	ND	0.333	mg/kg wet							
Di-n-butylphthalate	ND	0.333	mg/kg wet							
Di-n-octylphthalate	ND	0.333	mg/kg wet							
Hexachlorobutadiene	ND	0.333	mg/kg wet							
Hexachloroethane	ND	0.333	mg/kg wet							
Isophorone	ND	0.333	mg/kg wet							
Nitrobenzene	ND	0.333	mg/kg wet							
N-Nitrosodimethylamine	ND	0.333	mg/kg wet							
Pentachlorophenol	ND	1.67	mg/kg wet							
Phenol	ND	0.333	mg/kg wet							
Surrogate: 1,2-Dichlorobenzene-d4	*2.11*		mg/kg wet	*3.333*		*63*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*3.49*		mg/kg wet	*5.000*		*70*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*3.16*		mg/kg wet	*5.000*		*63*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*2.09*		mg/kg wet	*3.333*		*63*	*30-130*			
Surrogate: 2-Fluorophenol	*2.97*		mg/kg wet	*5.000*		*59*	*30-130*			
Surrogate: Nitrobenzene-d5	*2.16*		mg/kg wet	*3.333*		*65*	*30-130*			
Surrogate: Phenol-d6	*3.12*		mg/kg wet	*5.000*		*62*	*30-130*			
Surrogate: p-Terphenyl-d14	*2.87*		mg/kg wet	*3.333*		*86*	*30-130*			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503415

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch CC52608 - 3546										
LCS										
1,2,4-Trichlorobenzene	1.68	0.333	mg/kg wet	3.333		51	40-140			
1,2-Dichlorobenzene	1.61	0.333	mg/kg wet	3.333		48	40-140			
1,3-Dichlorobenzene	1.64	0.333	mg/kg wet	3.333		49	40-140			
1,4-Dichlorobenzene	1.61	0.333	mg/kg wet	3.333		48	40-140			
2,4,5-Trichlorophenol	2.44	0.333	mg/kg wet	3.333		73	30-130			
2,4,6-Trichlorophenol	2.22	0.333	mg/kg wet	3.333		67	30-130			
2,4-Dichlorophenol	1.96	0.333	mg/kg wet	3.333		59	30-130			
2,4-Dimethylphenol	1.90	0.333	mg/kg wet	3.333		57	30-130			
2,4-Dinitrophenol	2.06	1.67	mg/kg wet	3.333		62	30-130			
2,4-Dinitrotoluene	2.34	0.333	mg/kg wet	3.333		70	40-140			
2,6-Dinitrotoluene	2.22	0.333	mg/kg wet	3.333		67	40-140			
2-Chloronaphthalene	1.68	0.333	mg/kg wet	3.333		50	40-140			
2-Chlorophenol	1.65	0.333	mg/kg wet	3.333		50	30-130			
2-Methylphenol	1.72	0.333	mg/kg wet	3.333		51	30-130			
2-Nitrophenol	1.69	0.333	mg/kg wet	3.333		51	30-130			
3,3´-Dichlorobenzidine	2.04	0.667	mg/kg wet	3.333		61	40-140			
3+4-Methylphenol	4.54	0.667	mg/kg wet	6.667		68	30-130			
4-Bromophenyl-phenylether	2.37	0.333	mg/kg wet	3.333		71	40-140			
4-Chloroaniline	1.52	0.667	mg/kg wet	3.333		46	40-140			
4-Nitrophenol	2.06	1.67	mg/kg wet	3.333		62	30-130			
Acetophenone	1.76	0.667	mg/kg wet	3.333		53	40-140			
Aniline	1.38	1.67	mg/kg wet	3.333		42	40-140			
Azobenzene	2.06	0.333	mg/kg wet	3.333		62	40-140			
bis(2-Chloroethoxy)methane	1.69	0.333	mg/kg wet	3.333		51	40-140			
bis(2-Chloroethyl)ether	1.52	0.333	mg/kg wet	3.333		46	40-140			
bis(2-chloroisopropyl)Ether	1.65	0.333	mg/kg wet	3.333		49	40-140			
bis(2-Ethylhexyl)phthalate	2.40	0.333	mg/kg wet	3.333		72	40-140			
Butylbenzylphthalate	2.35	0.333	mg/kg wet	3.333		70	40-140			
Dibenzofuran	1.99	0.333	mg/kg wet	3.333		60	40-140			
Diethylphthalate	2.46	0.333	mg/kg wet	3.333		74	40-140			
Dimethylphthalate	2.26	0.333	mg/kg wet	3.333		68	40-140			
Di-n-butylphthalate	2.47	0.333	mg/kg wet	3.333		74	40-140			
Di-n-octylphthalate	2.41	0.333	mg/kg wet	3.333		72	40-140			
Hexachlorobutadiene	1.71	0.333	mg/kg wet	3.333		51	40-140			
Hexachloroethane	1.62	0.333	mg/kg wet	3.333		49	40-140			
Isophorone	1.68	0.333	mg/kg wet	3.333		50	40-140			
Nitrobenzene	1.62	0.333	mg/kg wet	3.333		48	40-140			
N-Nitrosodimethylamine	1.22	0.333	mg/kg wet	3.333		37	40-140			B-
Pentachlorophenol	2.36	1.67	mg/kg wet	3.333		71	30-130			
Phenol	1.63	0.333	mg/kg wet	3.333		49	30-130			
Surrogate: 1,2-Dichlorobenzene-d4	*1.73*		mg/kg wet	*3.333*		*52*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*4.00*		mg/kg wet	*5.000*		*80*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*2.68*		mg/kg wet	*5.000*		*54*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*1.87*		mg/kg wet	*3.333*		*56*	*30-130*			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503415

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch CC52608 - 3546										
Surrogate: 2-Fluorophenol	*2.45*		mg/kg wet	*5.000*		*49*	*30-130*			
Surrogate: Nitrobenzene-d5	*1.77*		mg/kg wet	*3.333*		*53*	*30-130*			
Surrogate: Phenol-d6	*2.63*		mg/kg wet	*5.000*		*53*	*30-130*			
Surrogate: p-Terphenyl-d14	*2.66*		mg/kg wet	*3.333*		*80*	*30-130*			
LCS Dup										
1,2,4-Trichlorobenzene	1.79	0.333	mg/kg wet	3.333		54	40-140	6	30	
1,2-Dichlorobenzene	1.71	0.333	mg/kg wet	3.333		51	40-140	6	30	
1,3-Dichlorobenzene	1.74	0.333	mg/kg wet	3.333		52	40-140	6	30	
1,4-Dichlorobenzene	1.71	0.333	mg/kg wet	3.333		51	40-140	6	30	
2,4,5-Trichlorophenol	2.56	0.333	mg/kg wet	3.333		77	30-130	5	30	
2,4,6-Trichlorophenol	2.28	0.333	mg/kg wet	3.333		68	30-130	2	30	
2,4-Dichlorophenol	2.01	0.333	mg/kg wet	3.333		60	30-130	3	30	
2,4-Dimethylphenol	1.95	0.333	mg/kg wet	3.333		58	30-130	3	30	
2,4-Dinitrophenol	2.23	1.67	mg/kg wet	3.333		67	30-130	8	30	
2,4-Dinitrotoluene	2.46	0.333	mg/kg wet	3.333		74	40-140	5	30	
2,6-Dinitrotoluene	2.31	0.333	mg/kg wet	3.333		69	40-140	4	30	
2-Chloronaphthalene	1.70	0.333	mg/kg wet	3.333		51	40-140	0.9	30	
2-Chlorophenol	1.75	0.333	mg/kg wet	3.333		52	30-130	6	30	
2-Methylphenol	1.78	0.333	mg/kg wet	3.333		53	30-130	4	30	
2-Nitrophenol	1.80	0.333	mg/kg wet	3.333		54	30-130	6	30	
3,3´-Dichlorobenzidine	2.10	0.667	mg/kg wet	3.333		63	40-140	3	30	
3+4-Methylphenol	4.56	0.667	mg/kg wet	6.667		68	30-130	0.5	30	
4-Bromophenyl-phenylether	2.49	0.333	mg/kg wet	3.333		75	40-140	5	30	
4-Chloroaniline	1.60	0.667	mg/kg wet	3.333		48	40-140	5	30	
4-Nitrophenol	2.15	1.67	mg/kg wet	3.333		64	30-130	4	30	
Acetophenone	1.85	0.667	mg/kg wet	3.333		55	40-140	5	30	
Aniline	1.46	1.67	mg/kg wet	3.333		44	40-140	5	30	
Azobenzene	2.15	0.333	mg/kg wet	3.333		65	40-140	4	30	
bis(2-Chloroethoxy)methane	1.75	0.333	mg/kg wet	3.333		53	40-140	4	30	
bis(2-Chloroethyl)ether	1.61	0.333	mg/kg wet	3.333		48	40-140	5	30	
bis(2-chloroisopropyl)Ether	1.74	0.333	mg/kg wet	3.333		52	40-140	6	30	
bis(2-Ethylhexyl)phthalate	2.51	0.333	mg/kg wet	3.333		75	40-140	5	30	
Butylbenzylphthalate	2.48	0.333	mg/kg wet	3.333		74	40-140	5	30	
Dibenzofuran	2.08	0.333	mg/kg wet	3.333		62	40-140	4	30	
Diethylphthalate	2.60	0.333	mg/kg wet	3.333		78	40-140	5	30	
Dimethylphthalate	2.37	0.333	mg/kg wet	3.333		71	40-140	5	30	
Di-n-butylphthalate	2.55	0.333	mg/kg wet	3.333		77	40-140	3	30	
Di-n-octylphthalate	2.52	0.333	mg/kg wet	3.333		76	40-140	4	30	
Hexachlorobutadiene	1.80	0.333	mg/kg wet	3.333		54	40-140	5	30	
Hexachloroethane	1.73	0.333	mg/kg wet	3.333		52	40-140	7	30	
Isophorone	1.73	0.333	mg/kg wet	3.333		52	40-140	3	30	
Nitrobenzene	1.70	0.333	mg/kg wet	3.333		51	40-140	5	30	
N-Nitrosodimethylamine	1.24	0.333	mg/kg wet	3.333		37	40-140	2	30	B-
Pentachlorophenol	2.55	1.67	mg/kg wet	3.333		77	30-130	8	30	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503415

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch CC52608 - 3546										
Phenol	2.01	0.333	mg/kg wet	3.333		60	30-130	21	30	
Surrogate: 1,2-Dichlorobenzene-d4	*1.82*		mg/kg wet	*3.333*		*55*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*4.17*		mg/kg wet	*5.000*		*83*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*2.77*		mg/kg wet	*5.000*		*55*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*1.88*		mg/kg wet	*3.333*		*56*	*30-130*			
Surrogate: 2-Fluorophenol	*2.56*		mg/kg wet	*5.000*		*51*	*30-130*			
Surrogate: Nitrobenzene-d5	*1.87*		mg/kg wet	*3.333*		*56*	*30-130*			
Surrogate: Phenol-d6	*2.71*		mg/kg wet	*5.000*		*54*	*30-130*			
Surrogate: p-Terphenyl-d14	*2.79*		mg/kg wet	*3.333*		*84*	*30-130*			
8270D(SIM) Polynuclear Aromatic Hydrocarbons										
Batch CC52609 - 3546										
Blank										
2-Methylnaphthalene	ND	0.017	mg/kg wet							
Acenaphthene	ND	0.017	mg/kg wet							
Acenaphthylene	ND	0.017	mg/kg wet							
Anthracene	ND	0.017	mg/kg wet							
Benzo(a)anthracene	ND	0.017	mg/kg wet							
Benzo(a)pyrene	ND	0.017	mg/kg wet							
Benzo(b)fluoranthene	ND	0.017	mg/kg wet							
Benzo(g,h,i)perylene	ND	0.017	mg/kg wet							
Benzo(k)fluoranthene	ND	0.017	mg/kg wet							
Chrysene	ND	0.017	mg/kg wet							
Dibenzo(a,h)Anthracene	ND	0.017	mg/kg wet							
Fluoranthene	ND	0.017	mg/kg wet							
Fluorene	ND	0.017	mg/kg wet							
Hexachlorobenzene	ND	0.017	mg/kg wet							
Indeno(1,2,3-cd)Pyrene	ND	0.017	mg/kg wet							
Naphthalene	ND	0.017	mg/kg wet							
Phenanthrene	ND	0.017	mg/kg wet							
Pyrene	ND	0.017	mg/kg wet							
Surrogate: 1,2-Dichlorobenzene-d4	*0.186*		mg/kg wet	*0.3333*		*56*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*0.206*		mg/kg wet	*0.3333*		*62*	*30-130*			
Surrogate: Nitrobenzene-d5	*0.172*		mg/kg wet	*0.3333*		*52*	*30-130*			
Surrogate: p-Terphenyl-d14	*0.243*		mg/kg wet	*0.3333*		*73*	*30-130*			
LCS										
2-Methylnaphthalene	0.144	0.017	mg/kg wet	0.2667		54	40-140			
Acenaphthene	0.178	0.017	mg/kg wet	0.2667		67	40-140			
Acenaphthylene	0.176	0.017	mg/kg wet	0.2667		66	40-140			
Anthracene	0.184	0.017	mg/kg wet	0.2667		69	40-140			
Benzo(a)anthracene	0.176	0.017	mg/kg wet	0.2667		66	40-140			
Benzo(a)pyrene	0.192	0.017	mg/kg wet	0.2667		72	40-140			
Benzo(b)fluoranthene	0.183	0.017	mg/kg wet	0.2667		68	40-140			
Benzo(g,h,i)perylene	0.192	0.017	mg/kg wet	0.2667		72	40-140			
Benzo(k)fluoranthene	0.196	0.017	mg/kg wet	0.2667		74	40-140			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503415

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D(SIM) Polynuclear Aromatic Hydrocarbons										
Batch CC52609 - 3546										
Chrysene	0.200	0.017	mg/kg wet	0.2667		75	40-140			
Dibenzo(a,h)Anthracene	0.182	0.017	mg/kg wet	0.2667		68	40-140			
Fluoranthene	0.191	0.017	mg/kg wet	0.2667		72	40-140			
Fluorene	0.184	0.017	mg/kg wet	0.2667		69	40-140			
Hexachlorobenzene	0.134	0.017	mg/kg wet	0.2667		50	40-140			
Indeno(1,2,3-cd)Pyrene	0.184	0.017	mg/kg wet	0.2667		69	40-140			
Naphthalene	0.142	0.017	mg/kg wet	0.2667		53	40-140			
Phenanthrene	0.176	0.017	mg/kg wet	0.2667		66	40-140			
Pyrene	0.191	0.017	mg/kg wet	0.2667		72	40-140			
Surrogate: 1,2-Dichlorobenzene-d4	*0.198*		mg/kg wet	*0.3333*		*59*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*0.228*		mg/kg wet	*0.3333*		*68*	*30-130*			
Surrogate: Nitrobenzene-d5	*0.183*		mg/kg wet	*0.3333*		*55*	*30-130*			
Surrogate: p-Terphenyl-d14	*0.258*		mg/kg wet	*0.3333*		*78*	*30-130*			
LCS Dup										
2-Methylnaphthalene	0.141	0.017	mg/kg wet	0.2667		53	40-140	2	30	
Acenaphthene	0.181	0.017	mg/kg wet	0.2667		68	40-140	2	30	
Acenaphthylene	0.177	0.017	mg/kg wet	0.2667		66	40-140	0.5	30	
Anthracene	0.190	0.017	mg/kg wet	0.2667		71	40-140	4	30	
Benzo(a)anthracene	0.175	0.017	mg/kg wet	0.2667		66	40-140	0.3	30	
Benzo(a)pyrene	0.192	0.017	mg/kg wet	0.2667		72	40-140	0.07	30	
Benzo(b)fluoranthene	0.191	0.017	mg/kg wet	0.2667		72	40-140	5	30	
Benzo(g,h,i)perylene	0.194	0.017	mg/kg wet	0.2667		73	40-140	0.9	30	
Benzo(k)fluoranthene	0.195	0.017	mg/kg wet	0.2667		73	40-140	0.6	30	
Chrysene	0.203	0.017	mg/kg wet	0.2667		76	40-140	1	30	
Dibenzo(a,h)Anthracene	0.188	0.017	mg/kg wet	0.2667		70	40-140	3	30	
Fluoranthene	0.198	0.017	mg/kg wet	0.2667		74	40-140	3	30	
Fluorene	0.189	0.017	mg/kg wet	0.2667		71	40-140	3	30	
Hexachlorobenzene	0.169	0.017	mg/kg wet	0.2667		63	40-140	23	30	
Indeno(1,2,3-cd)Pyrene	0.188	0.017	mg/kg wet	0.2667		71	40-140	2	30	
Naphthalene	0.141	0.017	mg/kg wet	0.2667		53	40-140	1	30	
Phenanthrene	0.182	0.017	mg/kg wet	0.2667		68	40-140	3	30	
Pyrene	0.192	0.017	mg/kg wet	0.2667		72	40-140	0.6	30	
Surrogate: 1,2-Dichlorobenzene-d4	*0.198*		mg/kg wet	*0.3333*		*59*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*0.232*		mg/kg wet	*0.3333*		*70*	*30-130*			
Surrogate: Nitrobenzene-d5	*0.183*		mg/kg wet	*0.3333*		*55*	*30-130*			
Surrogate: p-Terphenyl-d14	*0.256*		mg/kg wet	*0.3333*		*77*	*30-130*			
Matrix Spike **Source: 1503415-09**										
2-Methylnaphthalene	0.100	0.017	mg/kg dry	0.2663	ND	38	40-140			M-
Acenaphthene	0.132	0.017	mg/kg dry	0.2663	0.025	40	40-140			
Acenaphthylene	0.155	0.017	mg/kg dry	0.2663	0.024	49	40-140			
Anthracene	0.207	0.017	mg/kg dry	0.2663	0.075	50	40-140			
Benzo(a)anthracene	0.302	0.017	mg/kg dry	0.2663	0.151	56	40-140			
Benzo(a)pyrene	0.319	0.017	mg/kg dry	0.2663	0.161	59	40-140			
Benzo(b)fluoranthene	0.363	0.017	mg/kg dry	0.2663	0.194	63	40-140			
Benzo(g,h,i)perylene	0.280	0.017	mg/kg dry	0.2663	0.111	63	40-140			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503415

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D(SIM) Polynuclear Aromatic Hydrocarbons										
Batch CC52609 - 3546										
Benzo(k)fluoranthene	0.215	0.017	mg/kg dry	0.2663	0.065	56	40-140			
Chrysene	0.306	0.017	mg/kg dry	0.2663	0.160	55	40-140			
Dibenzo(a,h)Anthracene	0.213	0.017	mg/kg dry	0.2663	0.027	70	40-140			
Fluoranthene	0.436	0.017	mg/kg dry	0.2663	0.310	47	40-140			
Fluorene	0.162	0.017	mg/kg dry	0.2663	0.024	52	40-140			
Hexachlorobenzene	0.141	0.017	mg/kg dry	0.2663	ND	53	40-140			
Indeno(1,2,3-cd)Pyrene	0.285	0.017	mg/kg dry	0.2663	0.119	63	40-140			
Naphthalene	0.106	0.017	mg/kg dry	0.2663	0.024	31	40-140			M-
Phenanthrene	0.276	0.017	mg/kg dry	0.2663	0.184	34	40-140			M-
Pyrene	0.424	0.017	mg/kg dry	0.2663	0.294	49	40-140			
Surrogate: 1,2-Dichlorobenzene-d4	*0.118*		mg/kg dry	*0.3329*		*35*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*0.165*		mg/kg dry	*0.3329*		*50*	*30-130*			
Surrogate: Nitrobenzene-d5	*0.149*		mg/kg dry	*0.3329*		*45*	*30-130*			
Surrogate: p-Terphenyl-d14	*0.232*		mg/kg dry	*0.3329*		*70*	*30-130*			
Matrix Spike Dup **Source: 1503415-09**										**D+, M+**
2-Methylnaphthalene	0.105	0.017	mg/kg dry	0.2703	ND	39	40-140	3	30	
Acenaphthene	0.174	0.017	mg/kg dry	0.2703	0.025	55	40-140	32	30	
Acenaphthylene	0.160	0.017	mg/kg dry	0.2703	0.024	50	40-140	2	30	
Anthracene	0.353	0.017	mg/kg dry	0.2703	0.075	103	40-140	70	30	
Benzo(a)anthracene	0.567	0.017	mg/kg dry	0.2703	0.151	154	40-140	93	30	
Benzo(a)pyrene	0.549	0.017	mg/kg dry	0.2703	0.161	143	40-140	83	30	
Benzo(b)fluoranthene	0.606	0.017	mg/kg dry	0.2703	0.194	153	40-140	83	30	
Benzo(g,h,i)perylene	0.465	0.017	mg/kg dry	0.2703	0.111	131	40-140	70	30	
Benzo(k)fluoranthene	0.333	0.017	mg/kg dry	0.2703	0.065	99	40-140	56	30	
Chrysene	0.581	0.017	mg/kg dry	0.2703	0.160	156	40-140	96	30	
Dibenzo(a,h)Anthracene	0.249	0.017	mg/kg dry	0.2703	0.027	82	40-140	16	30	
Fluoranthene	0.983	0.017	mg/kg dry	0.2703	0.310	249	40-140	136	30	
Fluorene	0.222	0.017	mg/kg dry	0.2703	0.024	73	40-140	35	30	
Hexachlorobenzene	0.118	0.017	mg/kg dry	0.2703	ND	44	40-140	19	30	
Indeno(1,2,3-cd)Pyrene	0.460	0.017	mg/kg dry	0.2703	0.119	126	40-140	67	30	
Naphthalene	0.120	0.017	mg/kg dry	0.2703	0.024	36	40-140	14	30	
Phenanthrene	0.668	0.017	mg/kg dry	0.2703	0.184	179	40-140	135	30	
Pyrene	0.909	0.017	mg/kg dry	0.2703	0.294	227	40-140	130	30	
Surrogate: 1,2-Dichlorobenzene-d4	*0.128*		mg/kg dry	*0.3379*		*38*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*0.158*		mg/kg dry	*0.3379*		*47*	*30-130*			
Surrogate: Nitrobenzene-d5	*0.133*		mg/kg dry	*0.3379*		*39*	*30-130*			
Surrogate: p-Terphenyl-d14	*0.224*		mg/kg dry	*0.3379*		*66*	*30-130*			
Classical Chemistry										
Batch CC52616 - General Preparation										
Duplicate **Source: 1503415-15**										
Corrosivity (pH)	8.38		S.U.		8.37			0.1	200	
Batch CC52617 - General Preparation										
Duplicate **Source: 1503415-15**										

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503415

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Classical Chemistry										
Batch CC52617 - General Preparation										
Eh (ORP)	274		mv		275			0.3	20	
Batch CC52618 - General Preparation										
Blank										
Reactive Cyanide	ND	2.0	mg/kg							
Reactive Sulfide	ND	2.0	mg/kg							
LCS										
Reactive Cyanide	3.8	2.0	mg/kg	100.3		4	0.68-5.41			
Reactive Sulfide	0.2	2.0	mg/kg	10.00		2	0-44			
Batch CC52807 - General Preparation										
Blank										
Hexavalent Chromium	ND	0.7	mg/kg wet							
LCS										
Hexavalent Chromium	32.4	0.7	mg/kg wet	33.32		97	80-120			
LCS Dup										
Hexavalent Chromium	32.6	0.7	mg/kg wet	33.32		98	80-120	0.5	20	
Duplicate **Source: 1503415-05**										
Hexavalent Chromium	ND	1.2	mg/kg dry		ND				20	
Matrix Spike **Source: 1503415-05**										
Hexavalent Chromium	55.9	1.2	mg/kg dry	58.90	ND	95	75-125			
Matrix Spike **Source: 1503415-05**										
Hexavalent Chromium	2720	56.4	mg/kg dry	2887	ND	94	75-125			
Reference										
Hexavalent Chromium	99.8	2.0	mg/kg wet	125.0		80	61-139			
MADEP-EPH Extractable Petroleum Hydrocarbons										
Batch CC52536 - 3546										
Blank										
C19-C36 Aliphatics1	ND	15.0	mg/kg wet							
C9-C18 Aliphatics1	ND	15.0	mg/kg wet							
Decane (C10)	ND	0.5	mg/kg wet							
Docosane (C22)	ND	0.5	mg/kg wet							
Dodecane (C12)	ND	0.5	mg/kg wet							
Eicosane (C20)	ND	0.5	mg/kg wet							
Hexacosane (C26)	ND	0.5	mg/kg wet							
Hexadecane (C16)	ND	0.5	mg/kg wet							
Hexatriacontane (C36)	ND	0.5	mg/kg wet							
Nonadecane (C19)	ND	0.5	mg/kg wet							
Nonane (C9)	ND	0.5	mg/kg wet							
Octacosane (C28)	ND	0.5	mg/kg wet							
Octadecane (C18)	ND	0.5	mg/kg wet							
Tetracosane (C24)	ND	0.5	mg/kg wet							
Tetradecane (C14)	ND	0.5	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503415

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
MADEP-EPH Extractable Petroleum Hydrocarbons										
Batch CC52536 - 3546										
Triacontane (C30)	ND	0.5	mg/kg wet							
Surrogate: 1-Chlorooctadecane	*1.20*		mg/kg wet	*2.000*		*60*	*40-140*			
Blank										
2-Methylnaphthalene	ND	0.20	mg/kg wet							
Acenaphthene	ND	0.40	mg/kg wet							
Acenaphthylene	ND	0.20	mg/kg wet							
Anthracene	ND	0.40	mg/kg wet							
Benzo(a)anthracene	ND	0.40	mg/kg wet							
Benzo(a)pyrene	ND	0.40	mg/kg wet							
Benzo(b)fluoranthene	ND	0.40	mg/kg wet							
Benzo(g,h,i)perylene	ND	0.40	mg/kg wet							
Benzo(k)fluoranthene	ND	0.40	mg/kg wet							
C11-C22 Unadjusted Aromatics1	ND	15.0	mg/kg wet							
Chrysene	ND	0.40	mg/kg wet							
Dibenzo(a,h)Anthracene	ND	0.20	mg/kg wet							
Fluoranthene	ND	0.40	mg/kg wet							
Fluorene	ND	0.40	mg/kg wet							
Indeno(1,2,3-cd)Pyrene	ND	0.40	mg/kg wet							
Naphthalene	ND	0.40	mg/kg wet							
Phenanthrene	ND	0.40	mg/kg wet							
Pyrene	ND	0.40	mg/kg wet							
Surrogate: 2-Bromonaphthalene	*1.94*		mg/kg wet	*2.000*		*97*	*40-140*			
Surrogate: 2-Fluorobiphenyl	*1.80*		mg/kg wet	*2.000*		*90*	*40-140*			
Surrogate: O-Terphenyl	*1.44*		mg/kg wet	*2.000*		*72*	*40-140*			
LCS										
C19-C36 Aliphatics1	14.5	15.0	mg/kg wet	16.00		91	40-140			
C9-C18 Aliphatics1	8.4	15.0	mg/kg wet	12.00		70	40-140			
Decane (C10)	1.0	0.5	mg/kg wet	2.000		50	40-140			
Docosane (C22)	1.6	0.5	mg/kg wet	2.000		82	40-140			
Dodecane (C12)	1.0	0.5	mg/kg wet	2.000		51	40-140			
Eicosane (C20)	1.6	0.5	mg/kg wet	2.000		80	40-140			
Hexacosane (C26)	1.7	0.5	mg/kg wet	2.000		84	40-140			
Hexadecane (C16)	1.5	0.5	mg/kg wet	2.000		73	40-140			
Hexatriacontane (C36)	1.7	0.5	mg/kg wet	2.000		85	40-140			
Nonadecane (C19)	1.6	0.5	mg/kg wet	2.000		81	40-140			
Nonane (C9)	0.8	0.5	mg/kg wet	2.000		39	30-140			
Octacosane (C28)	1.6	0.5	mg/kg wet	2.000		82	40-140			
Octadecane (C18)	1.6	0.5	mg/kg wet	2.000		78	40-140			
Tetracosane (C24)	1.6	0.5	mg/kg wet	2.000		79	40-140			
Tetradecane (C14)	1.3	0.5	mg/kg wet	2.000		63	40-140			
Triacontane (C30)	1.6	0.5	mg/kg wet	2.000		81	40-140			
Surrogate: 1-Chlorooctadecane	*1.23*		mg/kg wet	*2.000*		*61*	*40-140*			
LCS										

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503415

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
MADEP-EPH Extractable Petroleum Hydrocarbons										
Batch CC52536 - 3546										
2-Methylnaphthalene	1.37	0.20	mg/kg wet	2.000		68	40-140			
Acenaphthene	1.45	0.40	mg/kg wet	2.000		73	40-140			
Acenaphthylene	1.48	0.20	mg/kg wet	2.000		74	40-140			
Anthracene	1.71	0.40	mg/kg wet	2.000		85	40-140			
Benzo(a)anthracene	1.85	0.40	mg/kg wet	2.000		92	40-140			
Benzo(a)pyrene	2.01	0.40	mg/kg wet	2.000		100	40-140			
Benzo(b)fluoranthene	1.87	0.40	mg/kg wet	2.000		93	40-140			
Benzo(g,h,i)perylene	1.89	0.40	mg/kg wet	2.000		94	40-140			
Benzo(k)fluoranthene	1.77	0.40	mg/kg wet	2.000		89	40-140			
C11-C22 Unadjusted Aromatics1	38.3	15.0	mg/kg wet	34.00		113	40-140			
Chrysene	1.87	0.40	mg/kg wet	2.000		93	40-140			
Dibenzo(a,h)Anthracene	1.87	0.20	mg/kg wet	2.000		94	40-140			
Fluoranthene	1.77	0.40	mg/kg wet	2.000		89	40-140			
Fluorene	1.54	0.40	mg/kg wet	2.000		77	40-140			
Indeno(1,2,3-cd)Pyrene	1.91	0.40	mg/kg wet	2.000		95	40-140			
Naphthalene	1.27	0.40	mg/kg wet	2.000		64	40-140			
Phenanthrene	1.65	0.40	mg/kg wet	2.000		82	40-140			
Pyrene	1.80	0.40	mg/kg wet	2.000		90	40-140			
Surrogate: 2-Bromonaphthalene	*1.85*		mg/kg wet	*2.000*		*92*	*40-140*			
Surrogate: 2-Fluorobiphenyl	*1.79*		mg/kg wet	*2.000*		*90*	*40-140*			
Surrogate: O-Terphenyl	*1.53*		mg/kg wet	*2.000*		*76*	*40-140*			
LCS										
2-Methylnaphthalene Breakthrough	0.0		%				0-5			
Naphthalene Breakthrough	0.0		%				0-5			
LCS Dup										
C19-C36 Aliphatics1	14.7	15.0	mg/kg wet	16.00		92	40-140	1	25	
C9-C18 Aliphatics1	8.6	15.0	mg/kg wet	12.00		72	40-140	3	25	
Decane (C10)	1.1	0.5	mg/kg wet	2.000		54	40-140	7	25	
Docosane (C22)	1.7	0.5	mg/kg wet	2.000		84	40-140	2	25	
Dodecane (C12)	1.1	0.5	mg/kg wet	2.000		54	40-140	6	25	
Eicosane (C20)	1.6	0.5	mg/kg wet	2.000		82	40-140	3	25	
Hexacosane (C26)	1.7	0.5	mg/kg wet	2.000		86	40-140	3	25	
Hexadecane (C16)	1.5	0.5	mg/kg wet	2.000		75	40-140	3	25	
Hexatriacontane (C36)	1.7	0.5	mg/kg wet	2.000		87	40-140	2	25	
Nonadecane (C19)	1.7	0.5	mg/kg wet	2.000		83	40-140	2	25	
Nonane (C9)	0.8	0.5	mg/kg wet	2.000		42	30-140	7	25	
Octacosane (C28)	1.7	0.5	mg/kg wet	2.000		84	40-140	2	25	
Octadecane (C18)	1.6	0.5	mg/kg wet	2.000		80	40-140	3	25	
Tetracosane (C24)	1.6	0.5	mg/kg wet	2.000		80	40-140	2	25	
Tetradecane (C14)	1.3	0.5	mg/kg wet	2.000		65	40-140	4	25	
Triacontane (C30)	1.7	0.5	mg/kg wet	2.000		83	40-140	2	25	
Surrogate: 1-Chlorooctadecane	*1.29*		mg/kg wet	*2.000*		*65*	*40-140*			
LCS Dup										

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503415

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
MADEP-EPH Extractable Petroleum Hydrocarbons										
Batch CC52536 - 3546										
2-Methylnaphthalene	1.41	0.20	mg/kg wet	2.000		70	40-140	3	20	
Acenaphthene	1.48	0.40	mg/kg wet	2.000		74	40-140	2	20	
Acenaphthylene	1.53	0.20	mg/kg wet	2.000		76	40-140	3	20	
Anthracene	1.70	0.40	mg/kg wet	2.000		85	40-140	0.5	20	
Benzo(a)anthracene	1.88	0.40	mg/kg wet	2.000		94	40-140	2	20	
Benzo(a)pyrene	2.09	0.40	mg/kg wet	2.000		105	40-140	4	20	
Benzo(b)fluoranthene	1.89	0.40	mg/kg wet	2.000		95	40-140	2	20	
Benzo(g,h,i)perylene	1.89	0.40	mg/kg wet	2.000		94	40-140	0	20	
Benzo(k)fluoranthene	1.84	0.40	mg/kg wet	2.000		92	40-140	4	20	
C11-C22 Unadjusted Aromatics1	31.1	15.0	mg/kg wet	34.00		92	40-140	21	25	
Chrysene	1.80	0.40	mg/kg wet	2.000		90	40-140	4	20	
Dibenzo(a,h)Anthracene	1.88	0.20	mg/kg wet	2.000		94	40-140	0.6	20	
Fluoranthene	1.74	0.40	mg/kg wet	2.000		87	40-140	2	20	
Fluorene	1.57	0.40	mg/kg wet	2.000		79	40-140	2	20	
Indeno(1,2,3-cd)Pyrene	2.06	0.40	mg/kg wet	2.000		103	40-140	8	20	
Naphthalene	1.38	0.40	mg/kg wet	2.000		69	40-140	8	20	
Phenanthrene	1.63	0.40	mg/kg wet	2.000		82	40-140	1	20	
Pyrene	1.76	0.40	mg/kg wet	2.000		88	40-140	3	20	
Surrogate: 2-Bromonaphthalene	*1.87*		mg/kg wet	*2.000*		*94*	*40-140*			
Surrogate: 2-Fluorobiphenyl	*1.84*		mg/kg wet	*2.000*		*92*	*40-140*			
Surrogate: O-Terphenyl	*1.48*		mg/kg wet	*2.000*		*74*	*40-140*			
LCS Dup										
2-Methylnaphthalene Breakthrough	0.0		%				0-5		200	
Naphthalene Breakthrough	0.0		%				0-5		200	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase ESS Laboratory Work Order: 1503415

Notes and Definitions

M-	Matrix Spike recovery is below lower control limit (M-).
B-	Blank Spike recovery is below lower control limit (B-).
B+	Blank Spike recovery is above upper control limit (B+).
C-	Continuing Calibration recovery is below lower control limit (C-).
C+	Continuing Calibration recovery is above upper control limit (C+).
D	Diluted.
D+	Relative percent difference for duplicate is outside of criteria (D+).
E	Reported above the quantitation limit; Estimated value (E).
EL	Elevated Method Reporting Limits due to sample matrix (EL).
H	Estimated value. Sample hold times were exceeded (H).
B	Present in Method Blank (B).
IC	Internal Standard(s) outside of criteria. Sample was reanalyzed to confirm (IC).
Z-10a	Soil pH measured in water at 16.8 ºC.
M+	Matrix Spike recovery is above upper control limit (M+).
Q	Calibration required quadratic regression (Q).
S-	Surrogate recovery(ies) below lower control limit (S-).
S+	Surrogate recovery(ies) above upper control limit (S+).
SD	Surrogate recovery(ies) diluted below the MRL (SD).
U	Analyte included in the analysis, but not detected
WL	Results obtained from a deionized water leach of the sample.
Z-08	See Attached
Z-10	Soil pH measured in water at 16.4 ºC.
I	Internal Standard(s) outside of criteria (I).
ND	Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
I/V	Initial Volume
F/V	Final Volume
§	Subcontracted analysis; see attached report
1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of target analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.
Avg	Results reported as a mathematical average.
NR	No Recovery
[CALC]	Calculated Analyte
SUB	Subcontracted analysis; see attached report
[2C]	Result was taken from the second column. Dual column analysis.

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503415

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Department of Defense (DoD) Environmental Laboratory Accreditation Program (ELAP)
A2LA Accredited: Testing Cert# 2864.01
http://www.a2la.org/scopepdf/2864-01.pdf

Rhode Island Potable and Non Potable Water: LAI00179
http://www.health.ri.gov/find/labs/analytical/ESS.pdf

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750
http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutofStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI0002
http://www.maine.gov/dhhs/mecdc/environmental-health/water/dwp-services/labcert/documents/AllLabs.xls

Massachusetts Potable and Non Potable Water: M-RI002
http://public.dep.state.ma.us/Labcert/Labcert.aspx

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424
http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313
http://www.wadsworth.org/labcert/elap/comm.html

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006
http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752
http://www.depweb.state.pa.us/portal/server.pt/community/labs/13780/laboratory_accreditation_program/590095

CHEMISTRY

A2LA Accredited: Testing Cert # 2864.01
Lead in Paint, Phthalates, Lead in Children's Metals Products (Including Jewelry)
http://www.A2LA.org/dirsearchnew/newsearch.cfm

CPSC ID# 1141
Lead Paint, Lead in Children's Metals Jewelry
http://www.cpsc.gov/cgi-bin/labapplist.aspx

LABORATORY TESTING DATA SHEET

Project Name Wynn Everett | Project Location Everett, MA | Reviewed By [signature]

Project No. 01.0171521.13 **ESS-1503415** | Assigned By D. Scanlon

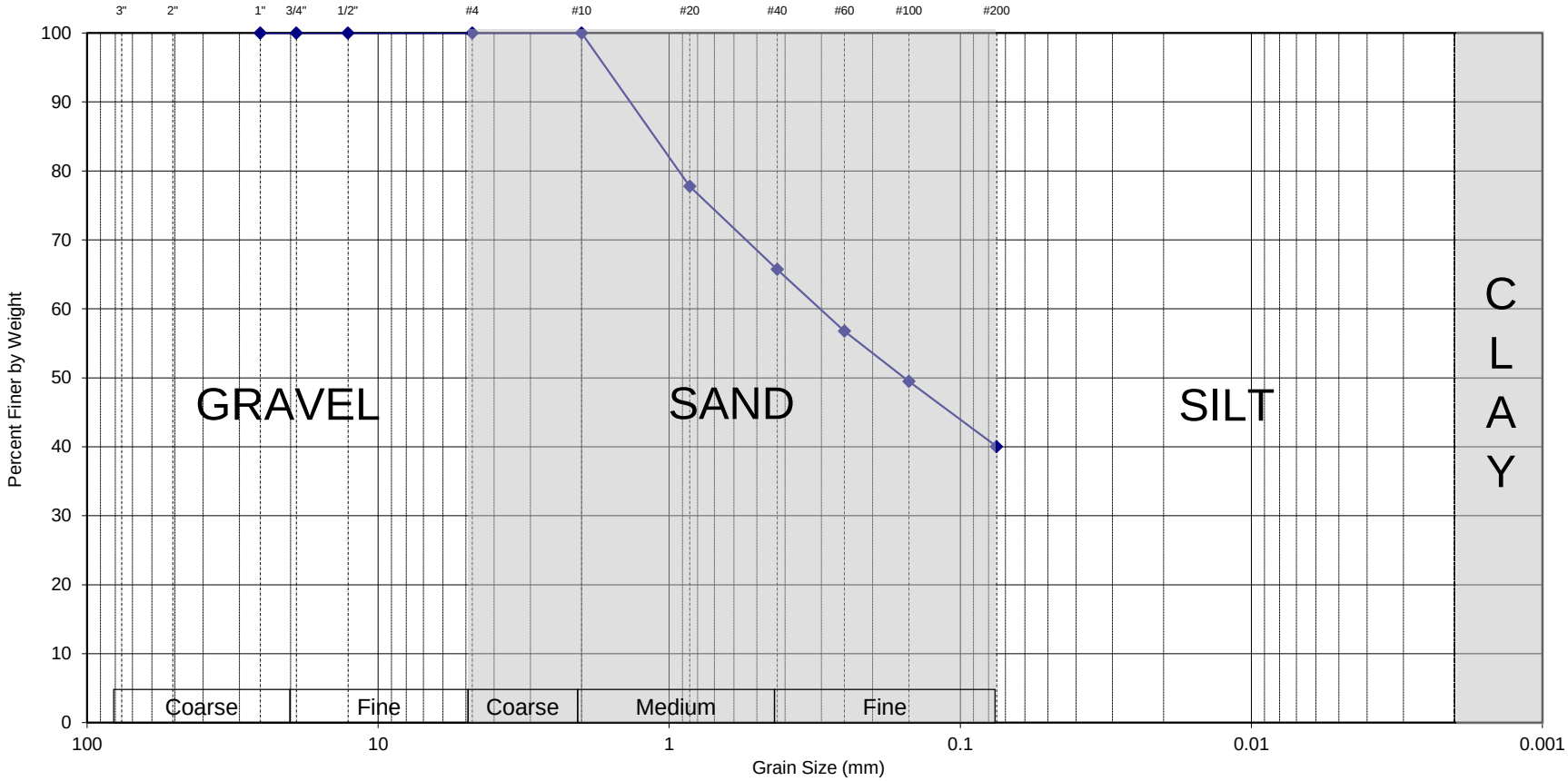
Project Manager D. Leone/C. Taylor | Report Date 3/27/15 | Date Reviewed *3/27/15*

Boring ID	Depth (ft)	ESS Sample ID	Lab No.	Identification Tests								Strength Tests				Laboratory Log and Soil Description
				Water Content %	LL %	PL %	Sieve -200 %	Hyd -2µ %	ORG %	G_s	Dry unit wt. pcf	Torvane or Type Test	Failure Criteria	$\sigma_1 - \sigma_3$ psf	Strain %	
GZ-203	0-3	1503415-05	15-S-240	205.1			40.0									Gray & Black f-m SAND and Organic SILT
GZ-217	0-3	1503415-15	15-S-241	62.4			53.3									Gray & Black Organic SILT and f-m SAND, trace Gravel

THIELSCH ENGINEERING

195 Frances Avenue
Cranston, RI 02910 401-467-6454

U.S. STANDARD SIEVE AND HYDROMETER



Gravel	Sand	Fines
0.0%	60.0%	40.0%

Lab #	Sample ID	ESS Sample ID	Sample Date	Description	WC	LL	PL	PI
15-S-240	B-203	1503415-05	3/24/15	Gray & Black f-m SAND and Organic SILT	205			

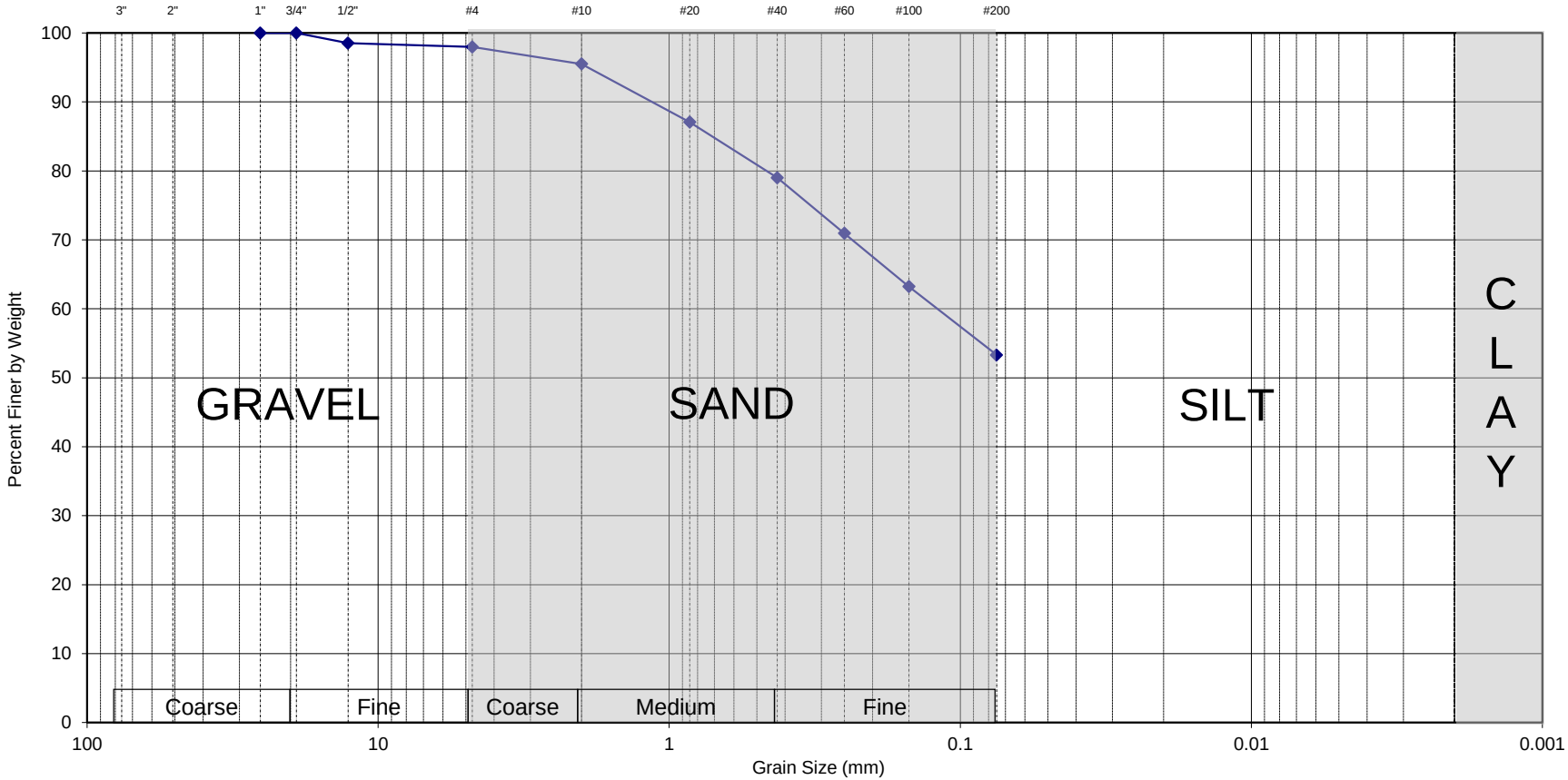
Sieve Size	% Passing
¾"	100.0
½"	100.0
#4	100.0
#10	100.0
#20	77.7
#40	65.7
#60	56.8
#100	49.5
#200	40.0

THIELSCH ENGINEERING
195 Frances Ave., Cranston, RI 02109
401-467-6454

Wynn Everett
ESS Project 1503415
GZA File # 01.0171521.13

Tested by:	MK/MS	Date:	3/27/15
Reviewed by:	MBP	Date:	3/27/15

U.S. STANDARD SIEVE AND HYDROMETER



Gravel	Sand	Fines
2.0%	44.7%	53.3%

Lab #	Sample ID	ESS Sample ID	Sample Date	Description	WC	LL	PL	PI
15-S-241	B-217	1503415-15	3/24/15	Gray & Black Organic SILT and f-m SAND, trace Gravel	62			

Sieve Size	% Passing
¾"	100.0
½"	98.5
#4	98.0
#10	95.5
#20	87.1
#40	79.0
#60	70.9
#100	63.2
#200	53.3

THIELSCH ENGINEERING
195 Frances Ave., Cranston, RI 02109
401-467-6454

Wynn Everett
ESS Project 1503415
GZA File # 01.0171521.13

Tested by:	MK/MS	Date:	3/27/15
Reviewed by:	MBP	Date:	3/27/15

SOILS LABORATORY TESTING ASSIGNMENT SHEET

THIELSCH ENGINEERING 401-467-6454 195 Frances Ave., Cranston, RI 02910

Project Name **Wynn Everett** Client _____ Assigned By _____

CTS Project No. **74-14-0002.01** Site Location _____ Collected By _____

ESS Project No. **1503415** Date Assigned _____ Received By _____

Project Manager **Christine Taylor** Date Received _____ Date Required **5 DAY - 4/1/15**

Sample Information					Lab No.	Identification Tests							Permeability		Compaction			Strength		Consol.	Notes
Boring/ Test Pit No.	Sample No.	Depth Ft.	Sample Date	ESS SAMPLE ID		Water Cont. %	LL & PL %	Org. %	Sieve -200 %	Hyd -2μ %	G_s	γ_t pcf	Sand	Clay	Mod.	Std.	CBR	Tor-vane	Type Test $\bar{\sigma}_c$ or σ^c	Cc/ 1+eo	
						D2216	D4318	D2974	D422		D854		D2434	D5084	D1557	D698	D1883		D2166/ D4767/ D2850	D2435	#
GZ-203	0'-3'		3/24/15	1503415-05		X			X												
GZ-217	0'-3'		3/24/15	1503415-15		X			X												

Notes: _____

Sample and Cooler Receipt Checklist

Client: GZA GeoEnvironmental, Inc.
Client Project ID: _____
Shipped/Delivered Via: ESS Courier

ESS Project ID: 15030415
Date Project Due: 4/1/15
Days For Project: 5 Day

Items to be checked upon receipt:

1. Air Bill Manifest Present?	* No	10. Are the samples properly preserved?	Yes
Air No.:		11. Proper sample containers used?	Yes
2. Were Custody Seals Present?	No	12. Any air bubbles in the VOA vials?	N/A
3. Were Custody Seals Intact?	N/A	13. Holding times exceeded?	No
4. Is Radiation count < 100 CPM?	Yes	14. Sufficient sample volumes?	Yes
5. Is a cooler present?	Yes	15. Any Subcontracting needed?	* Yes
Cooler Temp: **3.6**		16. Are ESS labels on correct containers?	**Yes|No**
Iced With: **Ice**		17. Were samples received intact?	**Yes|No**
6. Was COC included with samples?	Yes	ESS Sample IDs:	
7. Was COC signed and dated by client?	Yes	Sub Lab:	
8. Does the COC match the sample	Yes	Analysis:	
9. Is COC complete and correct?	Yes	TAT:	

18. Was there need to call project manager to discuss status? If yes, please explain.
Samples 33-42 added per EH on 3/27/15

Who was called?: _____ By whom? _____

Sample Number	Properly Preserved	Container Type	# of Containers	Preservative
1	Yes	8 oz Soil Jar	2	NP
2	Yes	2 oz Soil Jar	1	NP
2	Yes	8 oz Soil Jar	2	NP
3	Yes	8 oz Soil Jar	2	NP
4	Yes	2 oz Soil Jar	1	NP
4	Yes	8 oz Soil Jar	2	NP
5	Yes	4 oz Soil Jar	1	NP
5	Yes	40 ml - VOA	1	MeOH
5	Yes	40 ml - VOA	2	other
5	Yes	8 oz Soil Jar	2	NP
5	Yes	Other Glass	1	NP
6	Yes	8 oz Soil Jar	2	NP
7	Yes	8 oz Soil Jar	2	NP
8	Yes	2 oz Soil Jar	1	NP
8	Yes	8 oz Soil Jar	2	NP
9	Yes	8 oz Soil Jar	2	NP
10	Yes	2 oz Soil Jar	1	NP
10	Yes	8 oz Soil Jar	2	NP
11	Yes	8 oz Soil Jar	2	NP
12	Yes	2 oz Soil Jar	1	NP
12	Yes	8 oz Soil Jar	2	NP
13	Yes	8 oz Soil Jar	2	NP
14	Yes	8 oz Soil Jar	2	NP
15	Yes	4 oz Soil Jar	1	NP
15	Yes	40 ml - VOA	1	MeOH

Sample and Cooler Receipt Checklist

Client: GZA GeoEnvironmental, Inc. ESS Project ID: 15030415

15	Yes	40 ml - VOA	2	other
15	Yes	8 oz Soil Jar	2	NP
15	Yes	Other Glass	1	NP
16	Yes	2 oz Soil Jar	1	NP
16	Yes	8 oz Soil Jar	2	NP
17	Yes	8 oz Soil Jar	1	NP
18	Yes	8 oz Soil Jar	1	NP
19	Yes	8 oz Soil Jar	1	NP
20	Yes	8 oz Soil Jar	1	NP
21	Yes	8 oz Soil Jar	1	NP
22	Yes	8 oz Soil Jar	1	NP
23	Yes	8 oz Soil Jar	1	NP
24	Yes	8 oz Soil Jar	1	NP
25	Yes	8 oz Soil Jar	1	NP
26	Yes	8 oz Soil Jar	1	NP
27	Yes	8 oz Soil Jar	1	NP
28	Yes	8 oz Soil Jar	1	NP
29	Yes	8 oz Soil Jar	1	NP
30	Yes	8 oz Soil Jar	1	NP
31	Yes	8 oz Soil Jar	1	NP
32	Yes	8 oz Soil Jar	1	NP
33	Yes	8 oz Soil Jar	1	NP
34	Yes	8 oz Soil Jar	1	NP
35	Yes	8 oz Soil Jar	1	NP
36	Yes	8 oz Soil Jar	1	NP
37	Yes	8 oz Soil Jar	1	NP
38	Yes	8 oz Soil Jar	1	NP
39	Yes	8 oz Soil Jar	1	NP
40	Yes	8 oz Soil Jar	1	NP
41	Yes	8 oz Soil Jar	1	NP
42	Yes	8 oz Soil Jar	1	NP

Completed By: _____ Date/Time: 3/27/15 1403

Reviewed By: _____ Date/Time: _____

Sample and Cooler Receipt Checklist

Client: GZA GeoEnvironmental, Inc.
Client Project ID: _____
Shipped/Delivered Via: ESS Courier

ESS Project ID: 15030415
Date Project Due: 4/1/15
Days For Project: 5 Day

Items to be checked upon receipt:

1. Air Bill Manifest Present?	* No	10. Are the samples properly preserved?	Yes
Air No.:		11. Proper sample containers used?	Yes
2. Were Custody Seals Present?	No	12. Any air bubbles in the VOA vials?	N/A
3. Were Custody Seals Intact?	N/A	13. Holding times exceeded?	No
4. Is Radiation count < 100 CPM?	Yes	14. Sufficient sample volumes?	Yes
5. Is a cooler present?	Yes	15. Any Subcontracting needed?	* Yes
Cooler Temp: **3.6**		16. Are ESS labels on correct containers?	**Yes|No**
Iced With: **Ice**		17. Were samples received intact?	**Yes|No**
6. Was COC included with samples?	Yes	ESS Sample IDs: 05, 15	
7. Was COC signed and dated by client?	Yes	Sub Lab: CTS	
8. Does the COC match the sample	Yes	Analysis: Grain Size % Water	
9. Is COC complete and correct?	Yes	TAT: STD 5DAY	

18. Was there need to call project manager to discuss status? If yes, please explain.
LL Vials forgot 3/25/15 @ 1429 ar 3/25/15

Who was called?:_____ By whom? _____

Sample Number	Properly Preserved	Container Type	# of Containers	Preservative
1	Yes	8 oz Soil Jar	2	NP
2	Yes	2 oz Soil Jar	1	NP
2	Yes	8 oz Soil Jar	2	NP
3	Yes	8 oz Soil Jar	2	NP
4	Yes	2 oz Soil Jar	1	NP
4	Yes	8 oz Soil Jar	2	NP
5	Yes	4 oz Soil Jar	1	NP
5	Yes	40 ml - VOA	1	MeOH
5	Yes	40 ml - VOA	2	other
5	Yes	8 oz Soil Jar	2	NP
5	Yes	Other Glass	1	NP
6	Yes	8 oz Soil Jar	2	NP
7	Yes	8 oz Soil Jar	2	NP
8	Yes	2 oz Soil Jar	1	NP
8	Yes	8 oz Soil Jar	2	NP
9	Yes	8 oz Soil Jar	2	NP
10	Yes	2 oz Soil Jar	1	NP
10	Yes	8 oz Soil Jar	2	NP
11	Yes	8 oz Soil Jar	2	NP
12	Yes	2 oz Soil Jar	1	NP
12	Yes	8 oz Soil Jar	2	NP
13	Yes	8 oz Soil Jar	2	NP
14	Yes	8 oz Soil Jar	2	NP
15	Yes	4 oz Soil Jar	1	NP
15	Yes	40 ml - VOA	1	MeOH

Sample and Cooler Receipt Checklist

Client: GZA GeoEnvironmental, Inc. ESS Project ID: 15030415

15	Yes	40 ml - VOA	2	other
15	Yes	8 oz Soil Jar	2	NP
15	Yes	Other Glass	1	NP
16	Yes	2 oz Soil Jar	1	NP
16	Yes	8 oz Soil Jar	2	NP
17	Yes	8 oz Soil Jar	1	NP
18	Yes	8 oz Soil Jar	1	NP
19	Yes	8 oz Soil Jar	1	NP
20	Yes	8 oz Soil Jar	1	NP
21	Yes	8 oz Soil Jar	1	NP
22	Yes	8 oz Soil Jar	1	NP
23	Yes	8 oz Soil Jar	1	NP
24	Yes	8 oz Soil Jar	1	NP
25	Yes	8 oz Soil Jar	1	NP
26	Yes	8 oz Soil Jar	1	NP
27	Yes	8 oz Soil Jar	1	NP
28	Yes	8 oz Soil Jar	1	NP
29	Yes	8 oz Soil Jar	1	NP
30	Yes	8 oz Soil Jar	1	NP
31	Yes	8 oz Soil Jar	1	NP
32	Yes	8 oz Soil Jar	1	NP

Completed By: _____ Date/Time: 3/25/15 1412

Reviewed By: _____ Date/Time: 3/25/15 1417

ESS Laboratory

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CHAIN OF CUSTODY

ESS LAB PROJECT ID: 1503415

Turn Time ___X___Standard Rush_____ Approved By: _____

Reporting Limits -

State where samples were collected: **MA** RI CT NH NJ NY ME Other_____

Is this project for any of the following: (please circle)
MA-MCP CT-RCP NJ-DKQP RGP DOD Other____

Electonic Deliverable Yes ✓ No____
Format: Excel ✓ Access___ PDF___ Other_____

GZA Project Manager: David E. Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Ave
Norwood, MA 02062
(781) 278-3700

Project No.: 01.0171521.13 Task 001

Project Name: Wynn - Everett

Contract Pricing ____
Special Pricing WO#: _____

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	Analysis: MCP-14 Metals	PAHs by SIM	TOC	SVOCs	PCBs (Aroclors)	EPH	Hexavalent Chromium	Reactivity (Sulfide and Cyanide)	VOCs	% water	Grain Size Analysis	Comment #
1 17	3-24-15	1130	6	S	GZ-202 (0'-0.5')		X	X	X	X	X	X						
2 18	↓	1130	6	S	GZ-202 (2'-4')		X	X										
3 19		1230	6	S	GZ-203 (0'-0.5')		X	X	X	X	X	X						
4 20		1230	6	S	GZ-203 (4'-6')		X	X										
5 21		1230	6	S	GZ-203 (0'-3')		X		X	X	X	X	X	X	X	X	X	(1)
6 22		1250	6	S	GZ-204 (0'-0.5')		X	X	X	X	X	X						
7 23		1250	6	S	GZ-204 (2'-4')		X	X	X	X	X	X						
8 24		1250	6	S	GZ-204 (6'-8')		X	X										
9 25		1420	6	S	GZ-212 (0'-0.5')		X	X	X	X	X	X						
10 26	↓	1420	6	S	GZ-212 (0.5'-2')		X	X										

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-_____

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present ✓ Yes ____No

Seals Intact _____ Yes _____No NA: 0845

Cooler Temperature: 2-6°C+3.6° BB 3/25/15 0630

Sampled by : Daniel Scanlon (Daniel.Scanlon@gza.com)

Comments: (1) TCLP 20X Rule Applies

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
[signature]	3-24-15 @ 18:20	[signature] 3/25/15	[signature] 3/25/15 0845		[signature] 3/25/15 1207

Page 1 of 2

ESS Laboratory

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CHAIN OF CUSTODY

ESS LAB PROJECT ID 583415

Turn Time ___X___ Standard Rush_____ Approved By: _____

Reporting Limits -

State where samples were collected: **MA** RI CT NH NJ NY ME Other_____

Is this project for any of the following: (please circle)
MA-MCP CT-RCP NJ-DKQP RGP DOD Other____

Electonic Deliverable Yes ✓ No____
Format: Excel ✓ Access___ PDF___ Other_____

GZA Project Manager: David E. Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Ave
Norwood, MA 02062
(781) 278-3700

Project No.: 01.0171521.13 Task 001
Project Name: Wynn - Everett
Contract Pricing ____
Special Pricing WO#: _____

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	Analysis: MCP-14 Metals	PAHs by SIM	TOC	SVOCs	PCBs (Aroclors)	EPH	Hexavalent Chromium	Reactivity (Sulfide and Cyanide)	VOCs	% water	Grain Size Analysis	Comment #
11 27	3-24-15	1515	G	S	GZ-216 (0'-0.5')		X	X	X	X	X	X						
12 28	↓	1515	G	S	GZ-216 (4'-6')		X	X										
13 29		1515	G	S	GZ-216 (2'-4')		X	X	X	X	X	X						
14 30		16:10	G	S	GZ-217 (0'-0.5')		X	X	X	X	X	X						
15 31		16:10	G	S	GZ-217 (0'-3')		X		X	X	X	X	X	X	X	X	X	(1)
16 32	↓	16:10	G	S	GZ-217 (6'-8')		X	X										

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-_____

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present _____Yes _____No

Seals Intact 2 Coolers _____ Yes _____No NA: 0845

Cooler Temperature: 2.8&3.6°C 3B 3/25/15

Sampled by : Daniel Scanlon (Daniel.Scanlon@gza.com)

Comments: (1) TCLP 20X Rule Applies

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
[signature]	3-24-15 1820	[signature] 3/25/15	[signature] 3/25/15 0845		[signature] 3/25/15 1207

CERTIFICATE OF ANALYSIS

David E Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Avenue
Norwood, MA 02062

RE: Wynn Everett Sediment Phase (01.0171521.13 Task 001)
ESS Laboratory Work Order Number: 1503442

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.



Laurel Stoddard
Laboratory Director

REVIEWED
By ESS Laboratory at 1:56 pm, Apr 02, 2015

Analytical Summary
The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with NELAC Standards, A2LA and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.

Subcontracted Analyses

TestAmerica Laboratories, Inc. - Burlington, VT	Total Organic Carbon

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503442

SAMPLE RECEIPT

The following samples were received on March 26, 2015 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has performed and reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Data Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

For EPH soil samples, the aromatic range results have been corrected for identified cartridge contaminant in accordance with the CAM protocol.

Lab Number	Sample Name	Matrix	Analysis
1503442-01	GZ-209 0ft-0.5ft	Soil	TOC-LK
1503442-02	GZ-209 2ft-4ft	Soil	TOC-LK
1503442-03	GZ-208 0ft-0.5ft	Soil	TOC-LK
1503442-04	GZ-207 0ft-0.5ft	Soil	TOC-LK
1503442-05	GZ-207 0ft-3ft	Soil	TOC-LK
1503442-06	GZ-206 0ft-0.5ft	Soil	TOC-LK
1503442-07	GZ-206 4ft-6ft	Soil	TOC-LK
1503442-08	GZ-206 0ft-3ft	Soil	TOC-LK
1503442-09	GZ-205 0ft-0.5ft	Soil	TOC-LK
1503442-10	GZ-205 0ft-3ft	Soil	TOC-LK
1503442-11	GZ-213 0ft-0.5ft	Soil	TOC-LK
1503442-12	GZ-213 0ft-3ft	Soil	TOC-LK
1503442-13	GZ-218 0ft-0.5ft	Soil	TOC-LK
1503442-14	GZ-218 0.5ft-2ft	Soil	TOC-LK
1503442-15	GZ-219 0ft-0.5ft	Soil	TOC-LK
1503442-16	GZ-219 0ft-3ft	Soil	TOC-LK

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503442

PROJECT NARRATIVE

No unusual observations noted.

End of Project Narrative.

DATA USABILITY LINKS

Definitions of Quality Control Parameters

Semivolatile Organics Internal Standard Information

Semivolatile Organics Surrogate Information

Volatile Organics Internal Standard Information

Volatile Organics Surrogate Information

EPH and VPH Alkane Lists

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503442

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

1010A - Flashpoint
6010C - ICP
6020A - ICP MS
7010 - Graphite Furnace
7196A - Hexavalent Chromium
7470A - Aqueous Mercury
7471B - Solid Mercury
8011 - EDB/DBCP/TCP
8015D - GRO/DRO
8081B - Pesticides
8082A - PCB
8100M - TPH
8151A - Herbicides
8260B - VOA
8270D - SVOA
8270D SIM - SVOA Low Level
9014 - Cyanide
9038 - Sulfate
9040C - Aqueous pH
9045D - Solid pH (Corrosivity)
9050A - Specific Conductance
9056A - Anions (IC)
9060A - TOC
9095B - Paint Filter
MADEP 04-1.1 - EPH / VPH

Prep Methods

3005A - Aqueous ICP and Graphite Furnace Digestion
3020A - Aqueous ICP MS Digestion
3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
3060A - Solid Hexavalent Chromium Digestion
3510C - Separatory Funnel Extraction
3520C - Liquid / Liquid Extraction
3540C - Manual Soxhlet Extraction
3541 - Automated Soxhlet Extraction
3546 - Microwave Extraction
3580A - Waste Dilution
5030B - Aqueous Purge and Trap
5030C - Aqueous Purge and Trap
5035 - Solid Purge and Trap

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-209 0ft-0.5ft
Date Sampled: 03/25/15 09:30
Percent Solids: N/A

ESS Laboratory Work Order: 1503442
ESS Laboratory Sample ID: 1503442-01
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**55300** (1000)		TOC-LK		1	SUB	03/28/15 0:11	mg/kg	CC53123

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-209 2ft-4ft
Date Sampled: 03/25/15 09:30
Percent Solids: N/A

ESS Laboratory Work Order: 1503442
ESS Laboratory Sample ID: 1503442-02
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**64800** (1000)		TOC-LK		1	SUB	03/28/15 0:17	mg/kg	CC53123

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-208 0ft-0.5ft
Date Sampled: 03/25/15 10:00
Percent Solids: N/A

ESS Laboratory Work Order: 1503442
ESS Laboratory Sample ID: 1503442-03
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**49100** (1000)		TOC-LK		1	SUB	03/28/15 0:24	mg/kg	CC53123

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-207 0ft-0.5ft
Date Sampled: 03/25/15 10:45
Percent Solids: N/A

ESS Laboratory Work Order: 1503442
ESS Laboratory Sample ID: 1503442-04
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**54200** (1000)		TOC-LK		1	SUB	03/28/15 0:30	mg/kg	CC53123

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-207 0ft-3ft
Date Sampled: 03/25/15 10:45
Percent Solids: N/A

ESS Laboratory Work Order: 1503442
ESS Laboratory Sample ID: 1503442-05
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**71500** (1000)		TOC-LK		1	SUB	03/28/15 0:36	mg/kg	CC53123

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-206 0ft-0.5ft
Date Sampled: 03/25/15 11:10
Percent Solids: N/A

ESS Laboratory Work Order: 1503442
ESS Laboratory Sample ID: 1503442-06
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**53400** (1000)		TOC-LK		1	SUB	03/28/15 0:43	mg/kg	CC53123

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-206 4ft-6ft
Date Sampled: 03/25/15 11:10
Percent Solids: N/A

ESS Laboratory Work Order: 1503442
ESS Laboratory Sample ID: 1503442-07
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**52600** (1000)		TOC-LK		1	SUB	03/28/15 0:49	mg/kg	CC53123

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-206 0ft-3ft
Date Sampled: 03/25/15 11:10
Percent Solids: N/A

ESS Laboratory Work Order: 1503442
ESS Laboratory Sample ID: 1503442-08
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**80100** (1000)		TOC-LK		1	SUB	03/28/15 0:55	mg/kg	CC53123

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-205 0ft-0.5ft
Date Sampled: 03/25/15 11:45
Percent Solids: N/A

ESS Laboratory Work Order: 1503442
ESS Laboratory Sample ID: 1503442-09
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**45600** (1000)		TOC-LK		1	SUB	03/28/15 1:02	mg/kg	CC53123

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-205 0ft-3ft
Date Sampled: 03/25/15 11:45
Percent Solids: N/A

ESS Laboratory Work Order: 1503442
ESS Laboratory Sample ID: 1503442-10
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**58000** (1000)		TOC-LK		1	SUB	03/28/15 1:08	mg/kg	CC53123

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-213 0ft-0.5ft
Date Sampled: 03/25/15 13:52
Percent Solids: N/A

ESS Laboratory Work Order: 1503442
ESS Laboratory Sample ID: 1503442-11
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**32900** (1000)		TOC-LK		1	SUB	03/28/15 1:14	mg/kg	CC53123

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-213 0ft-3ft
Date Sampled: 03/25/15 13:52
Percent Solids: N/A

ESS Laboratory Work Order: 1503442
ESS Laboratory Sample ID: 1503442-12
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**28500** (1000)		TOC-LK		1	SUB	03/28/15 1:21	mg/kg	CC53123

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-218 0ft-0.5ft
Date Sampled: 03/25/15 14:23
Percent Solids: N/A

ESS Laboratory Work Order: 1503442
ESS Laboratory Sample ID: 1503442-13
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**39100** (1000)		TOC-LK		1	SUB	03/28/15 1:27	mg/kg	CC53123

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-218 0.5ft-2ft
Date Sampled: 03/25/15 14:23
Percent Solids: N/A

ESS Laboratory Work Order: 1503442
ESS Laboratory Sample ID: 1503442-14
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**25300** (1000)		TOC-LK		1	SUB	03/28/15 1:33	mg/kg	CC53123

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-219 0ft-0.5ft
Date Sampled: 03/25/15 15:06
Percent Solids: N/A

ESS Laboratory Work Order: 1503442
ESS Laboratory Sample ID: 1503442-15
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**35000** (1000)		TOC-LK		1	SUB	03/28/15 1:40	mg/kg	CC53123

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-219 0ft-3ft
Date Sampled: 03/25/15 15:06
Percent Solids: N/A

ESS Laboratory Work Order: 1503442
ESS Laboratory Sample ID: 1503442-16
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**21100** (1000)		TOC-LK		1	SUB	03/28/15 1:46	mg/kg	CC53123

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase ESS Laboratory Work Order: 1503442

Notes and Definitions

ND	Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
I/V	Initial Volume
F/V	Final Volume
§	Subcontracted analysis; see attached report
1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of target analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.
Avg	Results reported as a mathematical average.
NR	No Recovery
[CALC]	Calculated Analyte
SUB	Subcontracted analysis; see attached report
[2C]	Result was taken from the second column. Dual column analysis.

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503442

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Department of Defense (DoD) Environmental Laboratory Accreditation Program (ELAP)
A2LA Accredited: Testing Cert# 2864.01
http://www.a2la.org/scopepdf/2864-01.pdf

Rhode Island Potable and Non Potable Water: LAI00179
http://www.health.ri.gov/find/labs/analytical/ESS.pdf

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750
http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutofStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI0002
http://www.maine.gov/dhhs/mecdc/environmental-health/water/dwp-services/labcert/documents/AllLabs.xls

Massachusetts Potable and Non Potable Water: M-RI002
http://public.dep.state.ma.us/Labcert/Labcert.aspx

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424
http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313
http://www.wadsworth.org/labcert/elap/comm.html

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006
http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752
http://www.depweb.state.pa.us/portal/server.pt/community/labs/13780/laboratory_accreditation_program/590095

CHEMISTRY

A2LA Accredited: Testing Cert # 2864.01
Lead in Paint, Phthalates, Lead in Children's Metals Products (Including Jewelry)
http://www.A2LA.org/dirsearchnew/newsearch.cfm

CPSC ID# 1141
Lead Paint, Lead in Children's Metals Jewelry
http://www.cpsc.gov/cgi-bin/labapplist.aspx

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING



ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Burlington
30 Community Drive
Suite 11
South Burlington, VT 05403
Tel: (802)660-1990

TestAmerica Job ID: 200-27279-1
TestAmerica Sample Delivery Group: 1503442
Client Project/Site: 1503442

For:
ESS Laboratory
185 Frances Ave.
Cranston, Rhode Island 02910

Attn: Ms. Elizabeth Ouk

Authorized for release by:
3/31/2015 11:54:03 AM

Kathryn Kelly, Project Manager I
(802)660-1990
kathryn.kelly@testamericainc.com

LINKS
Review your project results through TotalAccess
Have a Question? Ask The Expert
Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Qualifiers

General Chemistry

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Job ID: 200-27279-1

Laboratory: TestAmerica Burlington

Narrative

CASE NARRATIVE

Client: ESS Laboratory

Project: 1503442

Report Number: 200-27279-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The samples were received on 03/27/2015; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 4.6° C.

TOTAL ORGANIC CARBON

Samples 1503442-01, 1503442-02, 1503442-03, 1503442-04, 1503442-05, 1503442-06, 1503442-07, 1503442-08, 1503442-09, 1503442-10, 1503442-11, 1503442-12, 1503442-13, 1503442-14, 1503442-15 and 1503442-16 were analyzed for total organic carbon in accordance with Lloyd Kahn Method. The samples were analyzed on 03/28/2015.

Total Organic Carbon was detected in method blank MB 200-86237/10 at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. Refer to the QC report for details.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: ESS Laboratory
Project/Site: 1503442

TestAmerica Job ID: 200-27279-1
SDG: 1503442

Client Sample ID: 1503442-01 — Lab Sample ID: 200-27279-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	55300	B	1000	120	mg/Kg	1		Lloyd Kahn	Total/NA

Client Sample ID: 1503442-02 — Lab Sample ID: 200-27279-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	64800	B	1000	120	mg/Kg	1		Lloyd Kahn	Total/NA

Client Sample ID: 1503442-03 — Lab Sample ID: 200-27279-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	49100	B	1000	120	mg/Kg	1		Lloyd Kahn	Total/NA

Client Sample ID: 1503442-04 — Lab Sample ID: 200-27279-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	54200	B	1000	120	mg/Kg	1		Lloyd Kahn	Total/NA

Client Sample ID: 1503442-05 — Lab Sample ID: 200-27279-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	71500	B	1000	120	mg/Kg	1		Lloyd Kahn	Total/NA

Client Sample ID: 1503442-06 — Lab Sample ID: 200-27279-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	53400	B	1000	120	mg/Kg	1		Lloyd Kahn	Total/NA

Client Sample ID: 1503442-07 — Lab Sample ID: 200-27279-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	52600	B	1000	120	mg/Kg	1		Lloyd Kahn	Total/NA

Client Sample ID: 1503442-08 — Lab Sample ID: 200-27279-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	80100	B	1000	120	mg/Kg	1		Lloyd Kahn	Total/NA

Client Sample ID: 1503442-09 — Lab Sample ID: 200-27279-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	45600	B	1000	120	mg/Kg	1		Lloyd Kahn	Total/NA

Client Sample ID: 1503442-10 — Lab Sample ID: 200-27279-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	58000	B	1000	120	mg/Kg	1		Lloyd Kahn	Total/NA

Client Sample ID: 1503442-11 — Lab Sample ID: 200-27279-11

This Detection Summary does not include radiochemical test results.

Client Sample ID: 1503442-11 (Continued) — Lab Sample ID: 200-27279-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	32900	B	1000	120	mg/Kg	1		Lloyd Kahn	Total/NA

Client Sample ID: 1503442-12 — Lab Sample ID: 200-27279-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	28500	B	1000	120	mg/Kg	1		Lloyd Kahn	Total/NA

Client Sample ID: 1503442-13 — Lab Sample ID: 200-27279-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	39100	B	1000	120	mg/Kg	1		Lloyd Kahn	Total/NA

Client Sample ID: 1503442-14 — Lab Sample ID: 200-27279-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	25300	B	1000	120	mg/Kg	1		Lloyd Kahn	Total/NA

Client Sample ID: 1503442-15 — Lab Sample ID: 200-27279-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	35000	B	1000	120	mg/Kg	1		Lloyd Kahn	Total/NA

Client Sample ID: 1503442-16 — Lab Sample ID: 200-27279-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	21100	B	1000	120	mg/Kg	1		Lloyd Kahn	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: 1503442-01 — **Lab Sample ID: 200-27279-1**
Date Collected: 03/25/15 09:30
Date Received: 03/27/15 10:45
Matrix: Sediment

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	55300	B	1000	120	mg/Kg			03/28/15 00:11	1

Client Sample ID: 1503442-02 — **Lab Sample ID: 200-27279-2**
Date Collected: 03/25/15 09:30
Date Received: 03/27/15 10:45
Matrix: Sediment

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	64800	B	1000	120	mg/Kg			03/28/15 00:17	1

Client Sample ID: 1503442-03 — **Lab Sample ID: 200-27279-3**
Date Collected: 03/25/15 10:00
Date Received: 03/27/15 10:45
Matrix: Sediment

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	49100	B	1000	120	mg/Kg			03/28/15 00:24	1

Client Sample ID: 1503442-04 — **Lab Sample ID: 200-27279-4**
Date Collected: 03/25/15 10:45
Date Received: 03/27/15 10:45
Matrix: Sediment

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	54200	B	1000	120	mg/Kg			03/28/15 00:30	1

Client Sample ID: 1503442-05 — **Lab Sample ID: 200-27279-5**
Date Collected: 03/25/15 10:45
Date Received: 03/27/15 10:45
Matrix: Sediment

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	71500	B	1000	120	mg/Kg			03/28/15 00:36	1

Client Sample ID: 1503442-06 — **Lab Sample ID: 200-27279-6**
Date Collected: 03/25/15 11:10
Date Received: 03/27/15 10:45
Matrix: Sediment

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	53400	B	1000	120	mg/Kg			03/28/15 00:43	1

Client Sample ID: 1503442-07 — **Lab Sample ID: 200-27279-7**
Date Collected: 03/25/15 11:10
Date Received: 03/27/15 10:45
Matrix: Sediment

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	52600	B	1000	120	mg/Kg			03/28/15 00:49	1

Client Sample ID: 1503442-08 — **Lab Sample ID: 200-27279-8**
Date Collected: 03/25/15 11:10 — **Matrix: Sediment**
Date Received: 03/27/15 10:45

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	80100	B	1000	120	mg/Kg			03/28/15 00:55	1

Client Sample ID: 1503442-09 — **Lab Sample ID: 200-27279-9**
Date Collected: 03/25/15 11:45 — **Matrix: Sediment**
Date Received: 03/27/15 10:45

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	45600	B	1000	120	mg/Kg			03/28/15 01:02	1

Client Sample ID: 1503442-10 — **Lab Sample ID: 200-27279-10**
Date Collected: 03/25/15 11:45 — **Matrix: Sediment**
Date Received: 03/27/15 10:45

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	58000	B	1000	120	mg/Kg			03/28/15 01:08	1

Client Sample ID: 1503442-11 — **Lab Sample ID: 200-27279-11**
Date Collected: 03/25/15 13:52 — **Matrix: Sediment**
Date Received: 03/27/15 10:45

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	32900	B	1000	120	mg/Kg			03/28/15 01:14	1

Client Sample ID: 1503442-12 — **Lab Sample ID: 200-27279-12**
Date Collected: 03/25/15 13:52 — **Matrix: Sediment**
Date Received: 03/27/15 10:45

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	28500	B	1000	120	mg/Kg			03/28/15 01:21	1

Client Sample ID: 1503442-13 — **Lab Sample ID: 200-27279-13**
Date Collected: 03/25/15 14:23 — **Matrix: Sediment**
Date Received: 03/27/15 10:45

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	39100	B	1000	120	mg/Kg			03/28/15 01:27	1

Client Sample ID: 1503442-14 — **Lab Sample ID: 200-27279-14**
Date Collected: 03/25/15 14:23 — **Matrix: Sediment**
Date Received: 03/27/15 10:45

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	25300	B	1000	120	mg/Kg			03/28/15 01:33	1

Client: ESS Laboratory
Project/Site: 1503442

TestAmerica Job ID: 200-27279-1
SDG: 1503442

Client Sample ID: 1503442-15
Date Collected: 03/25/15 15:06
Date Received: 03/27/15 10:45

Lab Sample ID: 200-27279-15
Matrix: Sediment

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	35000	B	1000	120	mg/Kg			03/28/15 01:40	1

Client Sample ID: 1503442-16
Date Collected: 03/25/15 15:06
Date Received: 03/27/15 10:45

Lab Sample ID: 200-27279-16
Matrix: Sediment

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	21100	B	1000	120	mg/Kg			03/28/15 01:46	1

Client: ESS Laboratory
Project/Site: 1503442

TestAmerica Job ID: 200-27279-1
SDG: 1503442

Method: Lloyd Kahn - Organic Carbon, Total (TOC)

Lab Sample ID: MB 200-86237/10
Matrix: Sediment
Analysis Batch: 86237

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	165.0	J	1000	120	mg/Kg			03/27/15 23:33	1

Lab Sample ID: LCS 200-86237/11
Matrix: Sediment
Analysis Batch: 86237

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	20100	20150		mg/Kg		100	75 - 125

QC Association Summary

Client: ESS Laboratory
Project/Site: 1503442

TestAmerica Job ID: 200-27279-1
SDG: 1503442

General Chemistry

Analysis Batch: 86237

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
200-27279-1	1503442-01	Total/NA	Sediment	Lloyd Kahn	
200-27279-2	1503442-02	Total/NA	Sediment	Lloyd Kahn	
200-27279-3	1503442-03	Total/NA	Sediment	Lloyd Kahn	
200-27279-4	1503442-04	Total/NA	Sediment	Lloyd Kahn	
200-27279-5	1503442-05	Total/NA	Sediment	Lloyd Kahn	
200-27279-6	1503442-06	Total/NA	Sediment	Lloyd Kahn	
200-27279-7	1503442-07	Total/NA	Sediment	Lloyd Kahn	
200-27279-8	1503442-08	Total/NA	Sediment	Lloyd Kahn	
200-27279-9	1503442-09	Total/NA	Sediment	Lloyd Kahn	
200-27279-10	1503442-10	Total/NA	Sediment	Lloyd Kahn	
200-27279-11	1503442-11	Total/NA	Sediment	Lloyd Kahn	
200-27279-12	1503442-12	Total/NA	Sediment	Lloyd Kahn	
200-27279-13	1503442-13	Total/NA	Sediment	Lloyd Kahn	
200-27279-14	1503442-14	Total/NA	Sediment	Lloyd Kahn	
200-27279-15	1503442-15	Total/NA	Sediment	Lloyd Kahn	
200-27279-16	1503442-16	Total/NA	Sediment	Lloyd Kahn	
LCS 200-86237/11	Lab Control Sample	Total/NA	Sediment	Lloyd Kahn	
MB 200-86237/10	Method Blank	Total/NA	Sediment	Lloyd Kahn	

Lab Chronicle

Client: ESS Laboratory
Project/Site: 1503442

TestAmerica Job ID: 200-27279-1
SDG: 1503442

Client Sample ID: 1503442-01
Lab Sample ID: 200-27279-1
Date Collected: 03/25/15 09:30
Matrix: Sediment
Date Received: 03/27/15 10:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Lloyd Kahn		1	86237	03/28/15 00:11	MDK	TAL BUR

Client Sample ID: 1503442-02
Lab Sample ID: 200-27279-2
Date Collected: 03/25/15 09:30
Matrix: Sediment
Date Received: 03/27/15 10:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Lloyd Kahn		1	86237	03/28/15 00:17	MDK	TAL BUR

Client Sample ID: 1503442-03
Lab Sample ID: 200-27279-3
Date Collected: 03/25/15 10:00
Matrix: Sediment
Date Received: 03/27/15 10:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Lloyd Kahn		1	86237	03/28/15 00:24	MDK	TAL BUR

Client Sample ID: 1503442-04
Lab Sample ID: 200-27279-4
Date Collected: 03/25/15 10:45
Matrix: Sediment
Date Received: 03/27/15 10:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Lloyd Kahn		1	86237	03/28/15 00:30	MDK	TAL BUR

Client Sample ID: 1503442-05
Lab Sample ID: 200-27279-5
Date Collected: 03/25/15 10:45
Matrix: Sediment
Date Received: 03/27/15 10:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Lloyd Kahn		1	86237	03/28/15 00:36	MDK	TAL BUR

Client Sample ID: 1503442-06
Lab Sample ID: 200-27279-6
Date Collected: 03/25/15 11:10
Matrix: Sediment
Date Received: 03/27/15 10:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Lloyd Kahn		1	86237	03/28/15 00:43	MDK	TAL BUR

Lab Chronicle

Client: ESS Laboratory
Project/Site: 1503442

TestAmerica Job ID: 200-27279-1
SDG: 1503442

Client Sample ID: 1503442-07 — Lab Sample ID: 200-27279-7

Date Collected: 03/25/15 11:10 — **Matrix: Sediment**
Date Received: 03/27/15 10:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Lloyd Kahn		1	86237	03/28/15 00:49	MDK	TAL BUR

Client Sample ID: 1503442-08 — Lab Sample ID: 200-27279-8

Date Collected: 03/25/15 11:10 — **Matrix: Sediment**
Date Received: 03/27/15 10:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Lloyd Kahn		1	86237	03/28/15 00:55	MDK	TAL BUR

Client Sample ID: 1503442-09 — Lab Sample ID: 200-27279-9

Date Collected: 03/25/15 11:45 — **Matrix: Sediment**
Date Received: 03/27/15 10:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Lloyd Kahn		1	86237	03/28/15 01:02	MDK	TAL BUR

Client Sample ID: 1503442-10 — Lab Sample ID: 200-27279-10

Date Collected: 03/25/15 11:45 — **Matrix: Sediment**
Date Received: 03/27/15 10:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Lloyd Kahn		1	86237	03/28/15 01:08	MDK	TAL BUR

Client Sample ID: 1503442-11 — Lab Sample ID: 200-27279-11

Date Collected: 03/25/15 13:52 — **Matrix: Sediment**
Date Received: 03/27/15 10:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Lloyd Kahn		1	86237	03/28/15 01:14	MDK	TAL BUR

Client Sample ID: 1503442-12 — Lab Sample ID: 200-27279-12

Date Collected: 03/25/15 13:52 — **Matrix: Sediment**
Date Received: 03/27/15 10:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Lloyd Kahn		1	86237	03/28/15 01:21	MDK	TAL BUR

Lab Chronicle

Client: ESS Laboratory
Project/Site: 1503442

TestAmerica Job ID: 200-27279-1
SDG: 1503442

Client Sample ID: 1503442-13
Date Collected: 03/25/15 14:23
Date Received: 03/27/15 10:45

Lab Sample ID: 200-27279-13
Matrix: Sediment

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Lloyd Kahn		1	86237	03/28/15 01:27	MDK	TAL BUR

Client Sample ID: 1503442-14
Date Collected: 03/25/15 14:23
Date Received: 03/27/15 10:45

Lab Sample ID: 200-27279-14
Matrix: Sediment

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Lloyd Kahn		1	86237	03/28/15 01:33	MDK	TAL BUR

Client Sample ID: 1503442-15
Date Collected: 03/25/15 15:06
Date Received: 03/27/15 10:45

Lab Sample ID: 200-27279-15
Matrix: Sediment

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Lloyd Kahn		1	86237	03/28/15 01:40	MDK	TAL BUR

Client Sample ID: 1503442-16
Date Collected: 03/25/15 15:06
Date Received: 03/27/15 10:45

Lab Sample ID: 200-27279-16
Matrix: Sediment

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Lloyd Kahn		1	86237	03/28/15 01:46	MDK	TAL BUR

Laboratory References:

TAL BUR = TestAmerica Burlington, 30 Community Drive, Suite 11, South Burlington, VT 05403, TEL (802)660-1990

Certification Summary

Client: ESS Laboratory
Project/Site: 1503442

TestAmerica Job ID: 200-27279-1
SDG: 1503442

Laboratory: TestAmerica Burlington

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Connecticut	State Program	1	PH-0751	09-30-15
DE Haz. Subst. Cleanup Act (HSCA)	State Program	3	NA	02-13-16
Florida	NELAP	4	E87467	06-30-15
L-A-B	DoD ELAP		L2336	02-26-17
Maine	State Program	1	VT00008	04-17-15 *
Minnesota	NELAP	5	050-999-436	12-31-15
New Hampshire	NELAP	1	2006	12-18-15
New Jersey	NELAP	2	VT972	06-30-15
New York	NELAP	2	10391	03-31-15 *
Pennsylvania	NELAP	3	68-00489	04-30-15 *
Rhode Island	State Program	1	LAO00298	12-30-15
US Fish & Wildlife	Federal		LE-058448-0	02-28-16
USDA	Federal		P330-11-00093	10-28-16
Vermont	State Program	1	VT-4000	12-31-15
Virginia	NELAP	3	460209	12-14-15

* Certification renewal pending - certification considered valid.

Method Summary

Client: ESS Laboratory
Project/Site: 1503442

TestAmerica Job ID: 200-27279-1
SDG: 1503442

Method	Method Description	Protocol	Laboratory
Lloyd Kahn	Organic Carbon, Total (TOC)	EPA	TAL BUR

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

TAL BUR = TestAmerica Burlington, 30 Community Drive, Suite 11, South Burlington, VT 05403, TEL (802)660-1990

Sample Summary

Client: ESS Laboratory
Project/Site: 1503442

TestAmerica Job ID: 200-27279-1
SDG: 1503442

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
200-27279-1	1503442-01	Sediment	03/25/15 09:30	03/27/15 10:45
200-27279-2	1503442-02	Sediment	03/25/15 09:30	03/27/15 10:45
200-27279-3	1503442-03	Sediment	03/25/15 10:00	03/27/15 10:45
200-27279-4	1503442-04	Sediment	03/25/15 10:45	03/27/15 10:45
200-27279-5	1503442-05	Sediment	03/25/15 10:45	03/27/15 10:45
200-27279-6	1503442-06	Sediment	03/25/15 11:10	03/27/15 10:45
200-27279-7	1503442-07	Sediment	03/25/15 11:10	03/27/15 10:45
200-27279-8	1503442-08	Sediment	03/25/15 11:10	03/27/15 10:45
200-27279-9	1503442-09	Sediment	03/25/15 11:45	03/27/15 10:45
200-27279-10	1503442-10	Sediment	03/25/15 11:45	03/27/15 10:45
200-27279-11	1503442-11	Sediment	03/25/15 13:52	03/27/15 10:45
200-27279-12	1503442-12	Sediment	03/25/15 13:52	03/27/15 10:45
200-27279-13	1503442-13	Sediment	03/25/15 14:23	03/27/15 10:45
200-27279-14	1503442-14	Sediment	03/25/15 14:23	03/27/15 10:45
200-27279-15	1503442-15	Sediment	03/25/15 15:06	03/27/15 10:45
200-27279-16	1503442-16	Sediment	03/25/15 15:06	03/27/15 10:45

ESS Laboratory — T. America — CHAIN OF CUSTODY

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston RI 02910-2211
Tel. (401)461-7181 Fax (401)461-4486
www.esslaboratory.com

ESS Lab # 1503442

Turn Time ____Standard Other____**5 DAY**

Regulatory State: **MA** RI CT NH NJ NY ME Other_____

Is this project for any of the following:(please circle)
MA-MCP Navy USACE CT DEP Other_____

Reporting Limits - _____

Electonic Deliverables **Excel** Access **PDF** *

200-27279 Chain of Custody

Co Name: **ESS Laboratory**	Project #:	Project Name: **1503442**	
Contact Person: **Christine Taylor**	Proj. Location:		
Address:	City , State:	Zip:	PO #: B02192
Tel.: ext. 3039	email: ctaylor@thielsch.com	email: smorrell@thielsch.com	

ESS Lab ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample ID	Pres Code	# of Containers	Type of Container	Vol of Container	Analysis: TOC Lloyd
	3/25/15	0930	G	SED	1503442-01	1	1	G	2oz	X
	3/25/15	0930	G	SED	1503442-02	1	1	G	2oz	X
	3/25/15	1000	G	SED	1503442-03	1	1	G	2oz	X
	3/25/15	1045	G	SED	1503442-04	1	1	G	2oz	X
	3/25/15	1045	G	SED	1503442-05	1	1	G	2oz	X
	3/25/15	1110	G	SED	1503442-06	1	1	G	2oz	X
	3/25/15	1110	G	SED	1503442-07	1	1	G	2oz	X
	3/25/15	1110	G	SED	1503442-08	1	1	G	2oz	X
	3/25/15	1145	G	SED	1503442-09	1	1	G	2oz	X
	3/25/15	1145	G	SED	1503442-10	1	1	G	2oz	X

Container Type. P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present _____Yes _____No

Seals Intact ____ Yes _____No NA:____

Cooler Temperature: _____

Internal Use Only

[ ] Pickup

[ ] Technician____

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-_____

Sampled by :

Comments: **COC 1 of 2**

Relinquished by: (Signature, Date & Time)	Received by: (Signature, Date & Time)	Relinquished by: (Signature, Date & Time)	Received by: (Signature, Date & Time)
14:15 2-26-15		16:00 3/26/15	3/27/15 1045 TABIV
Relinquished by: (Signature, Date & Time)	Received by: (Signature, Date & Time)	Relinquished by: (Signature, Date & Time)	Received by: (Signature, Date & Time)

* By circling MA-MCP, client acknowledges sampels were collected in accordance with MADEP CAM VIIA

Please fax to the laboratory all changes to Chain of Custody

Report Method Blank & Laboratory Control Sample Results

ESS Laboratory — T. America — CHAIN OF CUSTODY

ESS Lab # 1503442

Division of Thielsch Engineering, Inc.

185 Frances Avenue,Cranston RI 02910-2211
Tel. (401)461-7181 Fax (401)461-4486
www.esslaboratory.com

Turn Time _____Standard Other **5 DAY**

Regulatory State: **MA** RI CT NH NJ NY ME Other_____

Is this project for any of the following:(please circle)
MA-MCP Navy USACE CT DEP Other_____

Reporting Limits - _____

Electonic Deliverables **Excel** Access **PDF** *

Co Name: **ESS Laboratory**	Project #:	Project Name: **1503442**	
Contact Person: **Christine Taylor**	Proj. Location:		
Address:	City , State:	Zip:	PO #: B02192
Tel. ext. 3039	email: ctaylor@thielsch.com	email: smorrell@thielsch.com	

ESS Lab ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample ID	Pres Code	# of Containers	Type of Container	Vol of Container	Analysis: TOC Lloyd Kahn
	3/25/15	1352	G	SED	1503442-11	1	1	G	2oz	X
	3/25/15	1352	G	SED	1503442-12	1	1	G	2oz	X
	3/25/15	1423	G	SED	1503442-13	1	1	G	2oz	X
	3/25/15	1423	G	SED	1503442-14	1	1	G	2oz	X
	3/25/15	1506	G	SED	1503442-15	1	1	G	2oz	X
	3/25/15	1506	G	SED	1503442-16	1	1	G	2oz	X

Container Type. P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix. S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present _____Yes _____No

Seals Intact ____ Yes _____No NA:____

Cooler Temperature: _____

Internal Use Only

[ ] Pickup

[ ] Technician____

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-_____

Sampled by :

Comments: **COC 2 of 2**

Relinquished by: (Signature, Date & Time)	Received by: (Signature, Date & Time)	Relinquished by: (Signature, Date & Time)	Received by: (Signature, Date & Time)
14:13 3-26-15		16:00 3/26/15	TASN 1045 3/27/15
Relinquished by: (Signature, Date & Time)	Received by: (Signature, Date & Time)	Relinquished by: (Signature, Date & Time)	Received by: (Signature, Date & Time)

* By circling MA-MCP, client acknowledges sampels were collected in accordance with MADEP CAM VIIA

Please fax to the laboratory all changes to Chain of Custody

Report Method Blank & Laboratory Control Sample Results



ORIGIN ID:BXCA (781) 466-6900
PAUL HOBART
TESTAMERICA
240 BEAR HILL ROAD
SUITE 104
WALTHAM, MA 02451
UNITED STATES US

SHIP DATE: 26MAR15
ACTWGT: 23.4 LB
CAD: 590687/CAFE2807

BILL RECIPIENT

TO SAMPLE RECEIVING
TESTAMERICA BURLINGTON
30 COMMUNITY DRIVE
SUITE 11
SOUTH BURLINGTON VT 05403
(802) 660-1990 REF:
INV:
PO: DEPT:

FedEx Express

FRI - 27 MAR 10:30A
PRIORITY OVERNIGHT

TRK# 0201 4258 8388 7599

EK BTVA

05403
VT-US BTV

art # 156148-434 RIT2 07/14

Login Sample Receipt Checklist

Client: ESS Laboratory

Job Number: 200-27279-1
SDG Number: 1503442

Login Number: 27279
List Number: 1
Creator: Goodrich, Kenneth L

List Source: TestAmerica Burlington

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	NO NUMBERS
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	4.6ºC
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Not requested on COC.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Sample and Cooler Receipt Checklist

Client: GZA GeoEnvironmental, Inc.
Client Project ID: _____
Shipped/Delivered Via: ESS Courier

ESS Project ID: 15030442
Date Project Due: 4/2/15
Days For Project: 5 Day

Items to be checked upon receipt:

1. Air Bill Manifest Present?	* No	10. Are the samples properly preserved?	Yes
Air No.:		11. Proper sample containers used?	Yes
2. Were Custody Seals Present?	No	12. Any air bubbles in the VOA vials?	N/A
3. Were Custody Seals Intact?	N/A	13. Holding times exceeded?	No
4. Is Radiation count < 100 CPM?	Yes	14. Sufficient sample volumes?	Yes
5. Is a cooler present?	Yes	15. Any Subcontracting needed?	* Yes
Cooler Temp: **4.2**		16. Are ESS labels on correct containers?	Yes|No
Iced With: **Ice**		17. Were samples received intact?	Yes|No
6. Was COC included with samples?	Yes	ESS Sample IDs:	01-16
7. Was COC signed and dated by client?	Yes	Sub Lab:	Test America
8. Does the COC match the sample	Yes	Analysis:	TOC-LK
9. Is COC complete and correct?	Yes	TAT:	5 DAY

18. Was there need to call project manager to discuss status? If yes, please explain.

_____

_____

_____

Who was called?:_____ By whom? _____

Sample Number	Properly Preserved	Container Type	# of Containers	Preservative
1	Yes	2 oz Soil Jar	1	NP
2	Yes	2 oz Soil Jar	1	NP
3	Yes	2 oz Soil Jar	1	NP
4	Yes	2 oz Soil Jar	1	NP
5	Yes	2 oz Soil Jar	1	NP
6	Yes	2 oz Soil Jar	1	NP
7	Yes	2 oz Soil Jar	1	NP
8	Yes	2 oz Soil Jar	1	NP
9	Yes	2 oz Soil Jar	1	NP
10	Yes	2 oz Soil Jar	1	NP
11	Yes	2 oz Soil Jar	1	NP
12	Yes	2 oz Soil Jar	1	NP
13	Yes	2 oz Soil Jar	1	NP
14	Yes	2 oz Soil Jar	1	NP
15	Yes	2 oz Soil Jar	1	NP
16	Yes	2 oz Soil Jar	1	NP

Completed By: _____ Date/Time: 3/26/15 1104

Reviewed By: _____ Date/Time: 3/26/15 1121

ESS Laboratory

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS LAB PROJECT ID 157342

Turn Time ___X___Standard Rush_____ Approved By: _____

Reporting Limits -

State where samples were collected: **MA** RI CT NH NJ NY ME Other_____

Is this project for any of the following: (please circle)
MA-MCP CT-RCP NJ-DKQP RGP DOD Other____

Electonic Deliverable Yes____ No____
Format: Excel___ Access___ PDF___ Other_____

GZA Project Manager: David E. Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Ave
Norwood, MA 02062
(781) 278-3700

Project No.: 01.0171521.13 Task 001

Project Name: Wynn - Everett

Contract Pricing _____
Special Pricing WO#: _____

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	MCP 14 Metals	PAHs by SIM	TOC	SVOCs	PCBs (Aroclors)	EPH	Hexavalent Chromium	Reactivity (Sulfide and Cyanide)	VOCs	% water	Grain Size Analysis	Comment #
						Analysis												
1	3-25-15	0930	G	S	GZ-209 (0'-0.5')		X	X	X	X	X	X						
					GZ-209 (0.5'-2')		HOLD AND FREEZE											
2					GZ-209 (2'-4')		X	X	X	X	X	X						
					GZ-209 (4'-6')		HOLD AND FREEZE											
		↓			GZ-209 (6'-8')		X	X										
3		10:00			GZ-208 (0'-0.5')		X	X	X	X	X	X						
					GZ-208 (0.5'-2')		HOLD AND FREEZE											
					GZ-208 (2'-4')		HOLD AND FREEZE											
					GZ-208 (4'-6')		X	X										
	↓	↓	↓	↓	GZ-208 (6'-8')		HOLD AND FREEZE											

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-_____

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present X Yes _____No

Seals Intact _____ Yes _____No NA: X

Cooler Temperature: 3.8°/4.2° IR 3/26/15

Sampled by : Daniel Scanlon (Daniel.Scanlon@gza.com)

Comments: (1) TCLP 20X Rule Applies
TOC only are being reported with this WO - cmt 4/1/15

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
	3/25/15 @ 1800	0855 Bob Bucan 3/26/15	0845 Bob Bucan 3/26/15		3/26/15 1011

ESS Laboratory

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS LAB PROJECT ID: 1503442

Turn Time ___X___Standard Rush_____ Approved By: _____

Reporting Limits -

State where samples were collected: **MA** RI CT NH NJ NY ME Other_____

Is this project for any of the following: (please circle)
MA-MCP CT-RCP NJ-DKQP RGP DOD Other____

Electonic Deliverable Yes____ No____
Format: Excel___ Access___ PDF___ Other_____

GZA Project Manager: David E. Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Ave
Norwood, MA 02062
(781) 278-3700

Project No.: 01.0171521.13 Task 001

Project Name: Wynn - Everett

Contract Pricing _____
Special Pricing WO#: _____

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	Analysis: MCP-14 Metals	PAHs by SIM	TOC	SVOCs	PCBs (Aroclors)	EPH	Hexavalent Chromium	Reactivity (Sulfide and Cyanide)	VOCs	% water	Grain Size Analysis	Comment #
4	3-25-15	1045	G	S	GZ-207 (0'-0.5')		X	X	X	X	X	X						
					GZ-207 (0.5'-2')		HOLD AND FREEZE											
					GZ-207 (2'-4')		HOLD AND FREEZE											
					GZ-207 (4'-6')		X	X										
		↓			GZ-207 (6-7.5')		X	X										
5		1045			GZ-207 (0'-3')		X		X	X	X	X	X	X	X	X	X	(1)
6		1110			GZ-206 (0'-0.5')		X	X	X	X	X	X						
					GZ-206 (0.5'-2')		HOLD AND FREEZE											
					GZ-206 (2'-4')		HOLD AND FREEZE											
7	↓	↓	↓	↓	GZ-206 (4'-6')		X	X	X	X	X	X						

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-_____

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present __X__ Yes _____ No

Seals Intact _____ Yes _____ No NA: K

Cooler Temperature: 3.5°/4.2° ICE

Sampled by : Daniel Scanlon (Daniel.Scanlon@gza.com)

Comments: (1) TCLP 20X Rule Applies

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
	3-25-15	Bill Bucan 3/26/15 0845	Bill Bucan 3/26/15 0845		3/26/15 1014

1800

ESS Laboratory
Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS LAB PROJECT ID: 1503442

Turn Time ___X___Standard Rush_____ Approved By: _____

Reporting Limits -

State where samples were collected: **MA** RI CT NH NJ NY ME Other_____

Is this project for any of the following: (please circle)
MA-MCP CT-RCP NJ-DKQP RGP DOD Other____

Electonic Deliverable Yes____ No____
Format: Excel___ Access___ PDF___ Other_____

GZA Project Manager: David E. Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Ave
Norwood, MA 02062
(781) 278-3700

Project No.: 01.0171521.13 Task 001

Project Name: Wynn - Everett

Contract Pricing _____
Special Pricing WO#: _____

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	MCP 14 Metals	PAHs by SIM	TOC	SVOCs	PCBs (Aroclors)	EPH	Hexavalent Chromium	Reactivity (Sulfide and Cyanide)	VOCs	% water	Grain Size Analysis	Comment #
	3-25-15	1110	G	S	GZ-206 (6'-8')		HOLD	AND	FREEZE									
8		1110			GZ-206 (0'-3')		X		X	X	X	X	X	X	X	X	X	(1)
9		1145			GZ-205 (0'-0.5')		X	X	X	X	X	X						
					GZ-205 (0.5'-2')		HOLD	AND	FREEZE									
					GZ-205 (2'-4')		HOLD	AND	FREEZE									
					GZ-205 (4'-6')		X	X										
					GZ-205 (6'-8')		X	X										
10		↓			GZ-205 (0'-3')		X		X	X	X	X	X	X	X	X	X	(1)
11		1352			GZ-213 (0'-0.5')		X	X	X	X	X	X						
	↓	1352	↓	↓	GZ-213 (0.5'-2')		HOLD	AND	FREEZE									

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-_____

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present X Yes _____No
Seals Intact _____ Yes _____No NA: X
Cooler Temperature: 3.8°/4.2° @3/26/15

Sampled by : Daniel Scanlon (Daniel.Scanlon@gza.com)

Comments: (1) TCLP 20X Rule Applies

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Daniel Scanlon	3-25-15 @1800	Bill Bracan 3/26/15 0830	Bill Bracan 3/26/15 0845		3/26/15 1011

Page 3 of 5

ESS Laboratory

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS LAB PROJECT ID: 1503442

Turn Time ___X___Standard Rush_____ Approved By: _____

Reporting Limits -

State where samples were collected: **MA** RI CT NH NJ NY ME Other_____

Is this project for any of the following: (please circle)
MA-MCP CT-RCP NJ-DKQP RGP DOD Other____

Electonic Deliverable Yes____ No____
Format: Excel___ Access___ PDF___ Other_____

GZA Project Manager: David E. Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Ave
Norwood, MA 02062
(781) 278-3700

Project No.: 01.0171521.13 Task 001

Project Name: Wynn - Everett

Contract Pricing _____
Special Pricing WO#: _____

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	Analysis: # of Containers	MCP-14 Metals	PAHs by SIM	TOC	SVOCs	PCBs (Aroclors)	EPH	Hexavalent Chromium	Reactivity (Sulfide and Cyanide)	VOCs	% water	Grain Size Analysis	Comment #
	3-25-15	1352	G	S	GZ-213 (2'-4')		HOLD	AND	FREEZE									
					GZ-213 (4'-6')		X	X										
12					GZ-213 (0'-3')		X		X	X	X	X	X	X	X	X	X	(1)
13		1423			GZ-218 (0'-0.5')		X	X	X	X	X	X						
14					GZ-218 (0.5'-2')		X	X	X	X	X	X						
					GZ-218 (2'-4')		HOLD	AND	FREEZE									
					GZ-218 (4'-6')		X	X										
15		1506			GZ-219 (0'-0.5')		X	X	X	X	X	X						
					GZ-219 (0.5'-2')		HOLD	AND	FREEZE									
					GZ-219 (2'-4')		HOLD	AND	FREEZE									

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-_____

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present X Yes ____No

Seals Intact ____ Yes ____No NA: X

Cooler Temperature: 3.8°/4.2°IR 3/26/15

Sampled by : Daniel Scanlon (Daniel.Scanlon@gza.com)

Comments: (1) TCLP 20X Rule Applies

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
	3/25/15 @1800	Bill Busam 3/26/15 0810	Bill Busam 3/26/15 0845		3/26/15 1011

Page 4 of 5

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www.esslaboratory.com

CHAIN OF CUSTODY

ESS LAB PROJECT ID: 1503442

Turn Time ___X___ Standard Rush_____ Approved By: _____

Reporting Limits -

State where samples were collected: **MA** RI CT NH NJ NY ME Other_____

Is this project for any of the following: (please circle)
MA-MCP CT-RCP NJ-DKQP RGP DOD Other____

Electonic Deliverable Yes____ No____
Format: Excel___ Access___ PDF___ Other_____

GZA Project Manager: David E. Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Ave
Norwood, MA 02062
(781) 278-3700

Project No.: 01.0171521.13 Task 001

Project Name: Wynn - Everett

Contract Pricing ____
Special Pricing WO#: _____

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	Analysis: # of Containers	MCP-14 Metals	PAHs by SIM	TOC	SVOCs	PCBs (Aroclors)	EPH	Hexavalent Chromium	Reactivity (Sulfide and Cyanide)	VOCs	% water	Grain Size Analysis	Comment #
	3/25/15	1506	G	S	GZ-219 (4'-6')		X	X										
	↓	↓	↓	↓	GZ-219 (6'-8')		HOLD		AND	FOR	TCLP							
16	↓	↓	↓	↓	GZ-219 (0'-3')		X		X	X	X	X	X	X	X	X	X	(1)

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-_____

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present ___X___ Yes _____ No

Seals Intact _____ Yes _____ No NA: X

Cooler Temperature: 3.8°/4.2°C @ 3/26/15

Sampled by : Daniel Scanlon (Daniel.Scanlon@gza.com)

Comments: (1) TCLP 20X Rule Applies

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
[signature]	3/25/15 0/1800	Bill Busean 3/26/15 0830	Bill Busean 3/26/15 0845		[signature] 3/26/15 1011

ESS Laboratory

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Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS LAB PROJECT ID 157342

Turn Time ___X___Standard Rush_____ Approved By: _____

Reporting Limits -

State where samples were collected: **MA** RI CT NH NJ NY ME Other_____

Is this project for any of the following: (please circle)
MA-MCP CT-RCP NJ-DKQP RGP DOD Other____

Electonic Deliverable Yes____ No____
Format: Excel___ Access___ PDF___ Other_____

GZA Project Manager: David E. Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Ave
Norwood, MA 02062
(781) 278-3700

Project No.: 01.0171521.13 Task 001

Project Name: Wynn - Everett

Contract Pricing ____
Special Pricing WO#: _____

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	MCP-14 Metals	PAHs by SIM	TOC	SVOCs	PCBs (Aroclors)	EPH	Hexavalent Chromium	Reactivity (Sulfide and Cyanide)	VOCs	% water	Grain Size Analysis	Comment #
						Analysis												
1	3-25-15	0930	G	S	GZ-209 (0'-0.5')		X	X	X	X	X	X						
					GZ-209 (0.5'-2')		HOLD AND FREEZE											
2					GZ-209 (2-4')		X	X	X	X	X	X						
					GZ-209 (4'-6')		HOLD AND FREEZE											
		↓			GZ-209 (6'-8')		X	X										
3		10:00			GZ-208 (0'-0.5')		X	X	X	X	X	X						
					GZ-208 (0.5'-2')		HOLD AND FREEZE											
					GZ-208 (2'-4')		HOLD AND FREEZE											
					GZ-208 (4'-6')		X	X										
	↓	↓	↓	↓	GZ-208 (6'-8')		HOLD AND FREEZE											

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-_____

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present X Yes _____No

Seals Intact _____ Yes _____No NA: X

Cooler Temperature: 3.8°/4.2° IR 3/26/15

Sampled by : Daniel Scanlon (Daniel.Scanlon@gza.com)

Comments: (1) TCLP 20X Rule Applies

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
	3/25/15 @ 1800	0855 Bill Bracon 3/26/15	0845 Bill Bracon 3/26/15		3/26/15 1011

ESS Laboratory

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Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS LAB PROJECT ID: 1503442

Turn Time ___X___Standard Rush_____ Approved By: _____

Reporting Limits -

State where samples were collected: **MA** RI CT NH NJ NY ME Other_____

Is this project for any of the following: (please circle)
MA-MCP CT-RCP NJ-DKQP RGP DOD Other____

Electonic Deliverable Yes____ No____
Format: Excel___ Access___ PDF___ Other_____

GZA Project Manager: David E. Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Ave
Norwood, MA 02062
(781) 278-3700

Project No.: 01.0171521.13 Task 001

Project Name: Wynn - Everett

Contract Pricing _____
Special Pricing WO#: _____

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	Analysis: MCP-14 Metals	PAHs by SIM	TOC	SVOCs	PCBs (Aroclors)	EPH	Hexavalent Chromium	Reactivity (Sulfide and Cyanide)	VOCs	% water	Grain Size Analysis	Comment #
4	3-25-15	1045	G	S	GZ-207 (0'-0.5')		X	X	X	X	X	X						
					GZ-207 (0.5'-2')		HOLD	AND	FREEZE									
					GZ-207 (2'-4')		HOLD	AND	FREEZE									
					GZ-207 (4'-6')		X	X										
		↓			GZ-207 (6-7.5')		X	X										
5		1046			GZ-207 (0'-3')		X		X	X	X	X	X	X	X	X	X	(1)
6		1110			GZ-206 (0'-0.5')		X	X	X	X	X	X						
					GZ-206 (0.5'-2')		HOLD	AND	FREEZE									
					GZ-206 (2'-4')		HOLD	AND	FREEZE									
7	↓	↓	↓	↓	GZ-206 (4'-6')		X	X	X	X	X	X						

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-_____

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present __X__ Yes _____ No

Seals Intact _____ Yes _____ No NA: K

Cooler Temperature: 3.5°/4.2° ICE

Sampled by : Daniel Scanlon (Daniel.Scanlon@gza.com)

Comments: (1) TCLP 20X Rule Applies

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
	3-25-15	Bill Bucan 3/25/15 0845	Bill Bucan 3/26/15 0845		3/26/15 1014

1800

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CHAIN OF CUSTODY

ESS LAB PROJECT ID: 1503442

Turn Time ___X___Standard Rush_____ Approved By: _____

Reporting Limits -

State where samples were collected: **MA** RI CT NH NJ NY ME Other_____

Is this project for any of the following: (please circle)
MA-MCP CT-RCP NJ-DKQP RGP DOD Other____

Electonic Deliverable Yes____ No____
Format: Excel___ Access___ PDF___ Other_____

GZA Project Manager: David E. Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Ave
Norwood, MA 02062
(781) 278-3700

Project No.: 01.0171521.13 Task 001

Project Name: Wynn - Everett

Contract Pricing _____
Special Pricing WO#: _____

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	Analysis: MCP-14 Metals	PAHs by SIM	TOC	SVOCs	PCBs (Aroclors)	EPH	Hexavalent Chromium	Reactivity (Sulfide and Cyanide)	VOCs	% water	Grain Size Analysis	Comment #
	3-25-15	1110	G	S	GZ-206 (6'-8')		HOLD			AND		FREEZE						
8		1110			GZ-206 (0'-3')		X		X	X	X	X	X	X	X	X	X	(1)
9		1145			GZ-205 (0'-0.5')		X	X	X	X	X	X						
					GZ-205 (0.5'-2')		HOLD			AND		FREEZE						
					GZ-205 (2'-4')		HOLD			AND		FREEZE						
					GZ-205 (4'-6')		X	X										
					GZ-205 (6'-8')		X	X										
10		↓			GZ-205 (0'-3')		X		X	X	X	X	X	X	X	X	X	(1)
11		1352			GZ-213 (0'-0.5')		X	X	X	X	X	X						
	↓	1352	↓	↓	GZ-213 (0.5'-2')		HOLD			AND		FREEZE						

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-_____

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present X Yes _____No

Seals Intact _____Yes _____No NA: X

Cooler Temperature: 3.8°/4.2° @3/26/15

Sampled by : Daniel Scanlon (Daniel.Scanlon@gza.com)

Comments: (1) TCLP 20X Rule Applies

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Daniel Scanlon	3-25-15 @1800	Bill Bracan 3/26/15	Bill Bracan 3/26/15 0845		3/26/15 1011

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185 Frances Avenue, Cranston, RI 02910-2211
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www.esslaboratory.com

CHAIN OF CUSTODY

ESS LAB PROJECT ID: 1503442

Turn Time ___X___Standard Rush_____ Approved By: _____

Reporting Limits -

State where samples were collected: **MA** RI CT NH NJ NY ME Other_____

Is this project for any of the following: (please circle)
MA-MCP CT-RCP NJ-DKQP RGP DOD Other____

Electonic Deliverable Yes____ No____
Format: Excel___ Access___ PDF___ Other_____

GZA Project Manager: David E. Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Ave
Norwood, MA 02062
(781) 278-3700

Project No.: 01.0171521.13 Task 001
Project Name: Wynn - Everett
Contract Pricing _____
Special Pricing WO#: _____

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	MCP-14 Metals	PAHs by SIM	TOC	SVOCs	PCBs (Aroclors)	EPH	Hexavalent Chromium	Reactivty (Sulfide and Cyanide)	VOCs	% water	Grain Size Analysis	Comment #
	3-25-15	1352	G	S	GZ-213 (2'-4')		HOLD	AND	FREEZE									
					GZ-213 (4'-6')		X	X										
12					GZ-213 (0'-3')		X		X	X	X	X	X	X	X	X	X	(1)
13		1423			GZ-218 (0'-0.5')		X	X	X	X	X	X						
14					GZ-218 (0.5'-2')		X	X	X	X	X	X						
					GZ-218 (2'-4')		HOLD	AND	FREEZE									
					GZ-218 (4'-6')		X	X										
15		1506			GZ-219 (0'-0.5')		X	X	X	X	X	X						
					GZ-219 (0.5'-2')		HOLD	AND	FREEZE									
					GZ-219 (2'-4')		HOLD	AND	FREEZE									

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-_____

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present X Yes ____No
Seals Intact _____ Yes _____No NA: X
Cooler Temperature: 3.8°/4.2°IR 3/26/15

Sampled by : Daniel Scanlon (Daniel.Scanlon@gza.com)

Comments: (1) TCLP 20X Rule Applies

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
	3/25/15 @1800	Bill Bussom 3/26/15 0810	Bill Bussom 3/26/15 0845		3/26/15 1011

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CHAIN OF CUSTODY

ESS LAB PROJECT ID: 1503442

Turn Time ___X___ Standard Rush_____ Approved By: _____

Reporting Limits -

State where samples were collected: **MA** RI CT NH NJ NY ME Other_____

Is this project for any of the following: (please circle)
MA-MCP CT-RCP NJ-DKQP RGP DOD Other____

Electonic Deliverable Yes____ No____
Format: Excel___ Access___ PDF___ Other_____

GZA Project Manager: David E. Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Ave
Norwood, MA 02062
(781) 278-3700

Project No.: 01.0171521.13 Task 001

Project Name: Wynn - Everett

Contract Pricing ____
Special Pricing WO#: _____

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	Analysis: MCP-14 Metals	PAHs by SIM	TOC	SVOCs	PCBs (Aroclors)	EPH	Hexavalent Chromium	Reactivity (Sulfide and Cyanide)	VOCs	% water	Grain Size Analysis	Comment #
	3/25/15	1506	G	S	GZ-219 (4'-6')		X	X										
	↓	↓	↓	↓	GZ-219 (6'-8')		HOLD			HOLD		FOR	TCLP					
16	↓	↓	↓	↓	GZ-219 (0'-3')		X		X	X	X	X	X	X	X	X	X	(1)

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-_____

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present _X_ Yes _____ No

Seals Intact _____ Yes _____ No NA: X

Cooler Temperature: 3.8°/4.2°C IW 3/26/15

Sampled by : Daniel Scanlon (Daniel.Scanlon@gza.com)

Comments: (1) TCLP 20X Rule Applies

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
[signature]	3/25/15 0/1800	Bill Busean 3/26/15 GZA	Bill Busean 3/26/15 0645		[signature] 3/26/15 1011

CERTIFICATE OF ANALYSIS

David E Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Avenue
Norwood, MA 02062

RE: Wynn Everett Sediment Phase (01.0171521.13 Task 001)
ESS Laboratory Work Order Number: 1503447

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director

REVIEWED
By ESS Laboratory at 9:37 am, Apr 10, 2015

Analytical Summary
The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with NELAC Standards, A2LA and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.

Subcontracted Analyses

CTS - Cranston, RI	Grain Size Analysis, Percent Water

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503447

SAMPLE RECEIPT

The following samples were received on March 26, 2015 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has performed and reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Data Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

For EPH soil samples, the aromatic range results have been corrected for identified cartridge contaminant in accordance with the CAM protocol.

Low Level VOA vials were frozen by ESS Laboratory on March 26, 2015 at 1218.

Question I: Samples GZ-209 (6-8), GZ-208 (4-6), GZ-207 (4-6), and GZ-207 (6-7.5) for SVOC were analyzed for a subset of the required MCP list per the client's request.

All samples were decanted, per client request, upon receipt by ESS.

Lab Number	Sample Name	Matrix	Analysis
1503447-01	GZ-209 0ft-0.5ft	Soil	8270D, EPH8270, MADEP-EPH
1503447-02	GZ-209 2ft-4ft	Soil	8270D, EPH8270, MADEP-EPH
1503447-03	GZ-209 6ft-8ft	Soil	8270D
1503447-04	GZ-208 0ft-0.5ft	Soil	8270D, EPH8270, MADEP-EPH
1503447-05	GZ-208 4ft-6ft	Soil	8270D
1503447-06	GZ-207 0ft-0.5ft	Soil	8270D, EPH8270, MADEP-EPH
1503447-07	GZ-207 4ft-6ft	Soil	8270D
1503447-08	GZ-207 6ft-7.5ft	Soil	8270D
1503447-09	GZ-207 0ft-3ft	Soil	§, 2580, 7.3.3.2, 7.3.4.1, 7196A, 8260B Low, 8270D, 9045, EPH8270, MADEP-EPH
1503447-10	GZ-206 0ft-0.5ft	Soil	8270D, EPH8270, MADEP-EPH
1503447-11	GZ-206 4ft-6ft	Soil	8270D, EPH8270, MADEP-EPH
1503447-12	GZ-209 0ft-0.5ft	Soil	6010C, 7010, 7471B
1503447-13	GZ-209 2ft-4ft	Soil	6010C, 7010, 7471B

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase ESS Laboratory Work Order: 1503447

1503447-14	GZ-209 6ft-8ft	Soil	6010C, 7010, 7471B
1503447-15	GZ-208 0ft-0.5ft	Soil	6010C, 7010, 7471B
1503447-16	GZ-208 4ft-6ft	Soil	6010C, 7010, 7471B
1503447-17	GZ-207 0ft-0.5ft	Soil	6010C, 7010, 7471B
1503447-18	GZ-207 4ft-6ft	Soil	6010C, 7010, 7471B
1503447-19	GZ-207 6ft-7.5ft	Soil	6010C, 7010, 7471B
1503447-20	GZ-207 0ft-3ft	Soil	6010C, 7010, 7471B
1503447-21	GZ-206 0ft-0.5ft	Soil	6010C, 7010, 7471B
1503447-22	GZ-206 4ft-6ft	Soil	6010C, 7010, 7471B
1503447-23	GZ-209 0ft-0.5ft	Soil	8082A
1503447-24	GZ-209 2ft-4ft	Soil	8082A
1503447-25	GZ-208 0ft-0.5ft	Soil	8082A
1503447-26	GZ-207 0ft-0.5ft	Soil	8082A
1503447-27	GZ-207 0ft-3ft	Soil	8082A
1503447-28	GZ-206 0ft-0.5ft	Soil	8082A
1503447-29	GZ-206 4ft-6ft	Soil	8082A

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase ESS Laboratory Work Order: 1503447

PROJECT NARRATIVE

5035/8260B Volatile Organic Compounds / Low Level

CC52627-BS1 **Blank Spike recovery is above upper control limit (B+).**
Bromomethane (185% @ 70-130%)

CC52627-BSD1 **Blank Spike recovery is above upper control limit (B+).**
Bromomethane (152% @ 70-130%)

CYC0308-CCV1 **Continuing Calibration recovery is above upper control limit (C+).**
Bromomethane (171% @ 70-130%)

8082A Polychlorinated Biphenyls (PCB)

1503447-23 **Percent difference between primary and confirmation results exceeds 40% (P).**
Aroclor 1248

1503447-24 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

1503447-25 **Lower value is used due to matrix interferences (LC).**
Aroclor 1248

1503447-25 **Percent difference between primary and confirmation results exceeds 40% (P).**
Aroclor 1248

1503447-26 **Percent difference between primary and confirmation results exceeds 40% (P).**
Aroclor 1248

1503447-27 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

1503447-28 **Percent difference between primary and confirmation results exceeds 40% (P).**
Aroclor 1248

8270D Semi-Volatile Organic Compounds

1503447-01 **Internal Standard(s) outside of criteria due to matrix (UCM/coelution is present) (IM).**
Perylene-d12 (213% @ 50-200%)

1503447-02 **Internal Standard(s) outside of criteria due to matrix (UCM/coelution is present) (IM).**
Chrysene-d12 (217% @ 50-200%)

1503447-04 **Internal Standard(s) outside of criteria due to matrix (UCM/coelution is present) (IM).**
Perylene-d12 (214% @ 50-200%)

1503447-06 **Internal Standard(s) outside of criteria due to matrix (UCM/coelution is present) (IM).**
Chrysene-d12 (213% @ 50-200%), Perylene-d12 (213% @ 50-200%)

1503447-10 **Internal Standard(s) outside of criteria due to matrix (UCM/coelution is present) (IM).**
Chrysene-d12 (219% @ 50-200%), Perylene-d12 (230% @ 50-200%)

CD50205-BS1 **Blank Spike recovery is below lower control limit (B-).**
Aniline (32% @ 40-140%), bis(2-chloroisopropyl)Ether (36% @ 40-140%)

CD50205-BSD1 **Blank Spike recovery is below lower control limit (B-).**
Aniline (32% @ 40-140%)

CYC0348-CCV1 **Continuing Calibration recovery is above upper control limit (C+).**

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase ESS Laboratory Work Order: 1503447

2,4,6-Tribromophenol (135% @ 80-120%), 4-Nitrophenol (131% @ 80-120%)
CYC0348-CCV1 **Continuing Calibration recovery is below lower control limit (C-).**
2,4-Dinitrophenol (68% @ 80-120%), bis(2-chloroisopropyl)Ether (74% @ 80-120%)
CYC0348-TUN1 **Pentachlorophenol tailing factor > 2.**
CYC0357-CCV1 **Continuing Calibration recovery is above upper control limit (C+).**
2,4,6-Tribromophenol (129% @ 80-120%), 4-Nitrophenol (122% @ 80-120%)
CYC0357-CCV1 **Continuing Calibration recovery is below lower control limit (C-).**
bis(2-chloroisopropyl)Ether (78% @ 80-120%)
CYC0357-TUN1 **Pentachlorophenol tailing factor > 2.**

8270D(SIM) Polynuclear Aromatic Hydrocarbons
1503447-02 **Elevated Method Reporting Limits due to sample matrix (EL).**
1503447-05 **Internal Standard(s) outside of criteria due to matrix (UCM/coelution is present) (IM).**
Perylene-d12 (31% @ 50-200%)
1503447-07 **Elevated Method Reporting Limits due to sample matrix (EL).**
Dibenzo(a,h)Anthracene
1503447-07 **Internal Standard(s) outside of criteria due to matrix (UCM/coelution is present) (IM).**
Perylene-d12 (31% @ 50-200%)
1503447-10 **Surrogate recovery(ies) below lower control limit (S-).**
1,2-Dichlorobenzene-d4 (27% @ 30-130%)
CC52823-BSD1 **Relative percent difference for duplicate is outside of criteria (D+).**
Hexachlorobenzene (39% @ 30%)
CYC0345-CCV1 **Continuing Calibration recovery is above upper control limit (C+).**
Hexachlorobenzene (178% @ 70-130%)
CYD0018-CCV1 **Continuing Calibration recovery is above upper control limit (C+).**
Hexachlorobenzene (158% @ 70-130%)

Classical Chemistry
1503447-09 **Estimated value. Sample hold times were exceeded (H).**
Corrosivity (pH) , Eh (ORP)

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

Definitions of Quality Control Parameters

Semivolatile Organics Internal Standard Information

Semivolatile Organics Surrogate Information

Volatile Organics Internal Standard Information

Volatile Organics Surrogate Information

EPH and VPH Alkane Lists

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503447

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

1010A - Flashpoint
6010C - ICP
6020A - ICP MS
7010 - Graphite Furnace
7196A - Hexavalent Chromium
7470A - Aqueous Mercury
7471B - Solid Mercury
8011 - EDB/DBCP/TCP
8015D - GRO/DRO
8081B - Pesticides
8082A - PCB
8100M - TPH
8151A - Herbicides
8260B - VOA
8270D - SVOA
8270D SIM - SVOA Low Level
9014 - Cyanide
9038 - Sulfate
9040C - Aqueous pH
9045D - Solid pH (Corrosivity)
9050A - Specific Conductance
9056A - Anions (IC)
9060A - TOC
9095B - Paint Filter
MADEP 04-1.1 - EPH / VPH

Prep Methods

3005A - Aqueous ICP and Graphite Furnace Digestion
3020A - Aqueous ICP MS Digestion
3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
3060A - Solid Hexavalent Chromium Digestion
3510C - Separatory Funnel Extraction
3520C - Liquid / Liquid Extraction
3540C - Manual Soxhlet Extraction
3541 - Automated Soxhlet Extraction
3546 - Microwave Extraction
3580A - Waste Dilution
5030B - Aqueous Purge and Trap
5030C - Aqueous Purge and Trap
5035 - Solid Purge and Trap

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503447

MassDEP Analytical Protocol Certification Form

MADEP RTN: _____

This form provides certification for the following data set: **1503447-01 through 1503447-29**

Matrices: ( ) Ground Water/Surface Water (X) Soil/Sediment ( ) Drinking Water ( ) Air ( ) Other:_____

CAM Protocol (check all that apply below):

(X) 8260 VOC CAM II A	(X) 7470/7471 Hg CAM III B	( ) MassDEP VPH CAM IV A	( ) 8081 Pesticides CAM V B	( ) 7196 Hex Cr CAM VI B	( ) MassDEP APH CAM IX A
(X) 8270 SVOC CAM II B	(X) 7010 Metals CAM III C	(X) MassDEP EPH CAM IV B	( ) 8151 Herbicides CAM V C	( ) 8330 Explosives CAM VIII A	( ) TO-15 VOC CAM IX B
(X) 6010 Metals CAM III A	( ) 6020 Metals CAM III D	(X) 8082 PCB CAM V A	( ) 6860 Perchlorate CAM VIII B	( ) 9014 Total Cyanide/PAC CAM VI A	

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	Yes (X) No ( )
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	Yes (X) No ( )
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	Yes (X) No ( )
D	Does the laboratory report comply with all the reporting requirements specified in the CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	Yes (X) No ( )
E	a. VPH, EPH, APH and TO-15 only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	Yes (X) No ( )
	b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	Yes ( ) No ( )
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	Yes (X) No ( )

Responses to Questions G, H and I below are required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocols(s)?	Yes (X) No ( )*
	***Data User Note:* Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.**	
H	Were **all** QC performance standards specified in the CAM protocol(s) achieved?	Yes ( ) No (X)*
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	Yes ( ) No (X)*

****All negative responses must be addressed in an attached laboratory narrative.***

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Laurel Stoddard Date: April 10, 2015

Printed Name: Laurel Stoddard Position: Laboratory Director

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-209 0ft-0.5ft
Date Sampled: 03/25/15 09:30
Percent Solids: 29
Initial Volume: 30.4
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503447
ESS Laboratory Sample ID: 1503447-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 3/30/15 12:52

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.567)		8270D		1	04/01/15 11:51	CYD0001	CD50205
1,2-Dichlorobenzene	ND (0.567)		8270D		1	04/01/15 11:51	CYD0001	CD50205
1,3-Dichlorobenzene	ND (0.567)		8270D		1	04/01/15 11:51	CYD0001	CD50205
1,4-Dichlorobenzene	ND (0.567)		8270D		1	04/01/15 11:51	CYD0001	CD50205
2,4,5-Trichlorophenol	ND (0.567)		8270D		1	04/01/15 11:51	CYD0001	CD50205
2,4,6-Trichlorophenol	ND (0.567)		8270D		1	04/01/15 11:51	CYD0001	CD50205
2,4-Dichlorophenol	ND (0.567)		8270D		1	04/01/15 11:51	CYD0001	CD50205
2,4-Dimethylphenol	ND (0.567)		8270D		1	04/01/15 11:51	CYD0001	CD50205
2,4-Dinitrophenol	ND (2.84)		8270D		1	04/01/15 11:51	CYD0001	CD50205
2,4-Dinitrotoluene	ND (0.567)		8270D		1	04/01/15 11:51	CYD0001	CD50205
2,6-Dinitrotoluene	ND (0.567)		8270D		1	04/01/15 11:51	CYD0001	CD50205
2-Chloronaphthalene	ND (0.567)		8270D		1	04/01/15 11:51	CYD0001	CD50205
2-Chlorophenol	ND (0.567)		8270D		1	04/01/15 11:51	CYD0001	CD50205
2-Methylphenol	ND (0.567)		8270D		1	04/01/15 11:51	CYD0001	CD50205
2-Nitrophenol	ND (0.567)		8270D		1	04/01/15 11:51	CYD0001	CD50205
3,3´-Dichlorobenzidine	ND (1.13)		8270D		1	04/01/15 11:51	CYD0001	CD50205
3+4-Methylphenol	ND (1.13)		8270D		1	04/01/15 11:51	CYD0001	CD50205
4-Bromophenyl-phenylether	ND (0.567)		8270D		1	04/01/15 11:51	CYD0001	CD50205
4-Chloroaniline	ND (1.13)		8270D		1	04/01/15 11:51	CYD0001	CD50205
4-Nitrophenol	ND (2.84)		8270D		1	04/01/15 11:51	CYD0001	CD50205
Acetophenone	ND (1.13)		8270D		1	04/01/15 11:51	CYD0001	CD50205
Aniline	ND (2.84)		8270D		1	04/01/15 11:51	CYD0001	CD50205
Azobenzene	ND (0.567)		8270D		1	04/01/15 11:51	CYD0001	CD50205
bis(2-Chloroethoxy)methane	ND (0.567)		8270D		1	04/01/15 11:51	CYD0001	CD50205
bis(2-Chloroethyl)ether	ND (0.567)		8270D		1	04/01/15 11:51	CYD0001	CD50205
bis(2-chloroisopropyl)Ether	ND (0.567)		8270D		1	04/01/15 11:51	CYD0001	CD50205
bis(2-Ethylhexyl)phthalate	**1.65** (0.567)		8270D		1	04/01/15 11:51	CYD0001	CD50205
Butylbenzylphthalate	ND (0.567)		8270D		1	04/01/15 11:51	CYD0001	CD50205
Dibenzofuran	ND (0.567)		8270D		1	04/01/15 11:51	CYD0001	CD50205
Diethylphthalate	ND (0.567)		8270D		1	04/01/15 11:51	CYD0001	CD50205
Dimethylphthalate	ND (0.567)		8270D		1	04/01/15 11:51	CYD0001	CD50205
Di-n-butylphthalate	ND (0.567)		8270D		1	04/01/15 11:51	CYD0001	CD50205

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-209 0ft-0.5ft
Date Sampled: 03/25/15 09:30
Percent Solids: 29
Initial Volume: 30.4
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503447
ESS Laboratory Sample ID: 1503447-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 3/30/15 12:52

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Di-n-octylphthalate	ND (0.567)		8270D		1	04/01/15 11:51	CYD0001	CD50205
Hexachlorobenzene	ND (0.567)		8270D		1	04/01/15 11:51	CYD0001	CD50205
Hexachlorobutadiene	ND (0.567)		8270D		1	04/01/15 11:51	CYD0001	CD50205
Hexachloroethane	ND (0.567)		8270D		1	04/01/15 11:51	CYD0001	CD50205
Isophorone	ND (0.567)		8270D		1	04/01/15 11:51	CYD0001	CD50205
Nitrobenzene	ND (0.567)		8270D		1	04/01/15 11:51	CYD0001	CD50205
N-Nitrosodimethylamine	ND (0.567)		8270D		1	04/01/15 11:51	CYD0001	CD50205
Pentachlorophenol	ND (2.84)		8270D		1	04/01/15 11:51	CYD0001	CD50205
Phenol	ND (0.567)		8270D		1	04/01/15 11:51	CYD0001	CD50205

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*47 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*72 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*49 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*56 %*		*30-130*
Surrogate: 2-Fluorophenol	*46 %*		*30-130*
Surrogate: Nitrobenzene-d5	*48 %*		*30-130*
Surrogate: Phenol-d6	*52 %*		*30-130*
Surrogate: p-Terphenyl-d14	*73 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-209 0ft-0.5ft
Date Sampled: 03/25/15 09:30
Percent Solids: 29
Initial Volume: 20.9
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503447
ESS Laboratory Sample ID: 1503447-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 3/28/15 12:00

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.041)		8270D		1	04/01/15 7:04	CYC0376	CC52823
Acenaphthene	**0.021** (0.016)		8270D		1	04/01/15 7:04	CYC0376	CC52823
Acenaphthylene	**0.114** (0.041)		8270D		1	04/01/15 7:04	CYC0376	CC52823
Anthracene	**0.109** (0.041)		8270D		1	04/01/15 7:04	CYC0376	CC52823
Benzo(a)anthracene	**0.328** (0.041)		8270D		1	04/01/15 7:04	CYC0376	CC52823
Benzo(a)pyrene	**0.481** (0.041)		8270D		1	04/01/15 7:04	CYC0376	CC52823
Benzo(b)fluoranthene	**0.752** (0.041)		8270D		1	04/01/15 7:04	CYC0376	CC52823
Benzo(g,h,i)perylene	**0.431** (0.041)		8270D		1	04/01/15 7:04	CYC0376	CC52823
Benzo(k)fluoranthene	**0.176** (0.041)		8270D		1	04/01/15 7:04	CYC0376	CC52823
Chrysene	**0.482** (0.041)		8270D		1	04/01/15 7:04	CYC0376	CC52823
Dibenzo(a,h)Anthracene	**0.099** (0.041)		8270D		1	04/01/15 7:04	CYC0376	CC52823
Fluoranthene	**0.697** (0.041)		8270D		1	04/01/15 7:04	CYC0376	CC52823
Fluorene	**0.034** (0.016)		8270D		1	04/01/15 7:04	CYC0376	CC52823
Hexachlorobenzene	ND (0.016)		8270D		1	04/01/15 7:04	CYC0376	CC52823
Indeno(1,2,3-cd)Pyrene	**0.443** (0.041)		8270D		1	04/01/15 7:04	CYC0376	CC52823
Naphthalene	**0.093** (0.041)		8270D		1	04/01/15 7:04	CYC0376	CC52823
Phenanthrene	**0.259** (0.041)		8270D		1	04/01/15 7:04	CYC0376	CC52823
Pyrene	**0.733** (0.041)		8270D		1	04/01/15 7:04	CYC0376	CC52823

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*35 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*53 %*		*30-130*
Surrogate: Nitrobenzene-d5	*46 %*		*30-130*
Surrogate: p-Terphenyl-d14	*70 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-209 0ft-0.5ft
Date Sampled: 03/25/15 09:30
Percent Solids: 29
Initial Volume: 30
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1503447
ESS Laboratory Sample ID: 1503447-01
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 3/27/15 17:04

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	ND (43.1)		MADEP-EPH		1	DPS	03/30/15 17:18	CYC0346	CC52711
C19-C36 Aliphatics1	**129** (43.1)		MADEP-EPH		1	DPS	03/30/15 17:18	CYC0346	CC52711
C11-C22 Unadjusted Aromatics1	**43.8** (43.1)		EPH8270		1	VSC	03/30/15 14:37	CYC0347	CC52711
C11-C22 Aromatics1,2	**43.8** (43.1)		EPH8270			VSC	03/30/15 14:37		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*56 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*91 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*89 %*		*40-140*
Surrogate: O-Terphenyl	*60 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-209 2ft-4ft
Date Sampled: 03/25/15 09:30
Percent Solids: 22
Initial Volume: 30.2
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503447
ESS Laboratory Sample ID: 1503447-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 3/30/15 12:52

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.735)		8270D		1	04/01/15 12:26	CYD0001	CD50205
1,2-Dichlorobenzene	ND (0.735)		8270D		1	04/01/15 12:26	CYD0001	CD50205
1,3-Dichlorobenzene	ND (0.735)		8270D		1	04/01/15 12:26	CYD0001	CD50205
1,4-Dichlorobenzene	ND (0.735)		8270D		1	04/01/15 12:26	CYD0001	CD50205
2,4,5-Trichlorophenol	ND (0.735)		8270D		1	04/01/15 12:26	CYD0001	CD50205
2,4,6-Trichlorophenol	ND (0.735)		8270D		1	04/01/15 12:26	CYD0001	CD50205
2,4-Dichlorophenol	ND (0.735)		8270D		1	04/01/15 12:26	CYD0001	CD50205
2,4-Dimethylphenol	ND (0.735)		8270D		1	04/01/15 12:26	CYD0001	CD50205
2,4-Dinitrophenol	ND (3.69)		8270D		1	04/01/15 12:26	CYD0001	CD50205
2,4-Dinitrotoluene	ND (0.735)		8270D		1	04/01/15 12:26	CYD0001	CD50205
2,6-Dinitrotoluene	ND (0.735)		8270D		1	04/01/15 12:26	CYD0001	CD50205
2-Chloronaphthalene	ND (0.735)		8270D		1	04/01/15 12:26	CYD0001	CD50205
2-Chlorophenol	ND (0.735)		8270D		1	04/01/15 12:26	CYD0001	CD50205
2-Methylphenol	ND (0.735)		8270D		1	04/01/15 12:26	CYD0001	CD50205
2-Nitrophenol	ND (0.735)		8270D		1	04/01/15 12:26	CYD0001	CD50205
3,3´-Dichlorobenzidine	ND (1.47)		8270D		1	04/01/15 12:26	CYD0001	CD50205
3+4-Methylphenol	ND (1.47)		8270D		1	04/01/15 12:26	CYD0001	CD50205
4-Bromophenyl-phenylether	ND (0.735)		8270D		1	04/01/15 12:26	CYD0001	CD50205
4-Chloroaniline	ND (1.47)		8270D		1	04/01/15 12:26	CYD0001	CD50205
4-Nitrophenol	ND (3.69)		8270D		1	04/01/15 12:26	CYD0001	CD50205
Acetophenone	ND (1.47)		8270D		1	04/01/15 12:26	CYD0001	CD50205
Aniline	ND (3.69)		8270D		1	04/01/15 12:26	CYD0001	CD50205
Azobenzene	ND (0.735)		8270D		1	04/01/15 12:26	CYD0001	CD50205
bis(2-Chloroethoxy)methane	ND (0.735)		8270D		1	04/01/15 12:26	CYD0001	CD50205
bis(2-Chloroethyl)ether	ND (0.735)		8270D		1	04/01/15 12:26	CYD0001	CD50205
bis(2-chloroisopropyl)Ether	ND (0.735)		8270D		1	04/01/15 12:26	CYD0001	CD50205
bis(2-Ethylhexyl)phthalate	**2900** (735)		8270D		1000	04/02/15 10:34	CYD0001	CD50205
Butylbenzylphthalate	ND (0.735)		8270D		1	04/01/15 12:26	CYD0001	CD50205
Dibenzofuran	ND (0.735)		8270D		1	04/01/15 12:26	CYD0001	CD50205
Diethylphthalate	ND (0.735)		8270D		1	04/01/15 12:26	CYD0001	CD50205
Dimethylphthalate	ND (0.735)		8270D		1	04/01/15 12:26	CYD0001	CD50205
Di-n-butylphthalate	ND (0.735)		8270D		1	04/01/15 12:26	CYD0001	CD50205

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-209 2ft-4ft
Date Sampled: 03/25/15 09:30
Percent Solids: 22
Initial Volume: 30.2
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503447
ESS Laboratory Sample ID: 1503447-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 3/30/15 12:52

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Di-n-octylphthalate	**183** (73.5)		8270D		100	04/02/15 9:58	CYD0001	CD50205
Hexachlorobenzene	ND (0.735)		8270D		1	04/01/15 12:26	CYD0001	CD50205
Hexachlorobutadiene	ND (0.735)		8270D		1	04/01/15 12:26	CYD0001	CD50205
Hexachloroethane	ND (0.735)		8270D		1	04/01/15 12:26	CYD0001	CD50205
Isophorone	ND (0.735)		8270D		1	04/01/15 12:26	CYD0001	CD50205
Nitrobenzene	ND (0.735)		8270D		1	04/01/15 12:26	CYD0001	CD50205
N-Nitrosodimethylamine	ND (0.735)		8270D		1	04/01/15 12:26	CYD0001	CD50205
Pentachlorophenol	ND (3.69)		8270D		1	04/01/15 12:26	CYD0001	CD50205
Phenol	ND (0.735)		8270D		1	04/01/15 12:26	CYD0001	CD50205

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*44 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*57 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*50 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*57 %*		*30-130*
Surrogate: 2-Fluorophenol	*44 %*		*30-130*
Surrogate: Nitrobenzene-d5	*48 %*		*30-130*
Surrogate: Phenol-d6	*56 %*		*30-130*
Surrogate: p-Terphenyl-d14	*55 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-209 2ft-4ft
Date Sampled: 03/25/15 09:30
Percent Solids: 22
Initial Volume: 20.6
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503447
ESS Laboratory Sample ID: 1503447-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 3/28/15 12:00

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	**0.253** (0.108)		8270D		5	04/01/15 21:00	CYD0015	CC52823
Acenaphthene	**0.158** (0.108)		8270D		5	04/01/15 21:00	CYD0015	CC52823
Acenaphthylene	**0.192** (0.108)		8270D		5	04/01/15 21:00	CYD0015	CC52823
Anthracene	**0.164** (0.108)		8270D		5	04/01/15 21:00	CYD0015	CC52823
Benzo(a)anthracene	ND (0.270)		8270D		5	04/01/15 21:00	CYD0015	CC52823
Benzo(a)pyrene	ND (0.270)		8270D		5	04/01/15 21:00	CYD0015	CC52823
Benzo(b)fluoranthene	**0.278** (0.270)		8270D		5	04/01/15 21:00	CYD0015	CC52823
Benzo(g,h,i)perylene	ND (0.270)		8270D		5	04/01/15 21:00	CYD0015	CC52823
Benzo(k)fluoranthene	ND (0.270)		8270D		5	04/01/15 21:00	CYD0015	CC52823
Chrysene	ND (0.270)		8270D		5	04/01/15 21:00	CYD0015	CC52823
Dibenzo(a,h)Anthracene	ND (0.108)		8270D		5	04/01/15 21:00	CYD0015	CC52823
Fluoranthene	**0.526** (0.270)		8270D		5	04/01/15 21:00	CYD0015	CC52823
Fluorene	**0.187** (0.108)		8270D		5	04/01/15 21:00	CYD0015	CC52823
Hexachlorobenzene	ND (0.027)		8270D		5	04/01/15 21:00	CYD0015	CC52823
Indeno(1,2,3-cd)Pyrene	ND (0.270)		8270D		5	04/01/15 21:00	CYD0015	CC52823
Naphthalene	**1.15** (0.270)		8270D		5	04/01/15 21:00	CYD0015	CC52823
Phenanthrene	**0.716** (0.270)		8270D		5	04/01/15 21:00	CYD0015	CC52823
Pyrene	**0.644** (0.270)		8270D		5	04/01/15 21:00	CYD0015	CC52823

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*35 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*57 %*		*30-130*
Surrogate: Nitrobenzene-d5	*50 %*		*30-130*
Surrogate: p-Terphenyl-d14	*69 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-209 2ft-4ft
Date Sampled: 03/25/15 09:30
Percent Solids: 22
Initial Volume: 30.4
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1503447
ESS Laboratory Sample ID: 1503447-02
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 3/27/15 17:04

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	**335** (54.8)		MADEP-EPH		1	DPS	03/30/15 18:10	CYC0346	CC52711
C19-C36 Aliphatics1	**221** (54.8)		MADEP-EPH		1	DPS	03/30/15 18:10	CYC0346	CC52711
C11-C22 Unadjusted Aromatics1	**787** (54.8)		EPH8270		1	VSC	03/30/15 15:11	CYC0347	CC52711
C11-C22 Aromatics1,2	**787** (54.8)		EPH8270			VSC	03/30/15 15:11		[CALC]

	%Recovery	*Qualifier*	*Limits*
Surrogate: 1-Chlorooctadecane	*50 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*92 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*89 %*		*40-140*
Surrogate: O-Terphenyl	*72 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-209 6ft-8ft
Date Sampled: 03/25/15 09:30
Percent Solids: 72
Initial Volume: 20.8
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503447
ESS Laboratory Sample ID: 1503447-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 3/28/15 12:00

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.017)		8270D		1	03/31/15 23:46	CYD0018	CC52823
Acenaphthene	ND (0.017)		8270D		1	03/31/15 23:46	CYD0018	CC52823
Acenaphthylene	ND (0.017)		8270D		1	03/31/15 23:46	CYD0018	CC52823
Anthracene	ND (0.017)		8270D		1	03/31/15 23:46	CYD0018	CC52823
Benzo(a)anthracene	ND (0.017)		8270D		1	03/31/15 23:46	CYD0018	CC52823
Benzo(a)pyrene	ND (0.017)		8270D		1	03/31/15 23:46	CYD0018	CC52823
Benzo(b)fluoranthene	ND (0.017)		8270D		1	03/31/15 23:46	CYD0018	CC52823
Benzo(g,h,i)perylene	ND (0.017)		8270D		1	03/31/15 23:46	CYD0018	CC52823
Benzo(k)fluoranthene	ND (0.017)		8270D		1	03/31/15 23:46	CYD0018	CC52823
Chrysene	ND (0.017)		8270D		1	03/31/15 23:46	CYD0018	CC52823
Dibenzo(a,h)Anthracene	ND (0.017)		8270D		1	03/31/15 23:46	CYD0018	CC52823
Fluoranthene	ND (0.017)		8270D		1	03/31/15 23:46	CYD0018	CC52823
Fluorene	ND (0.007)		8270D		1	03/31/15 23:46	CYD0018	CC52823
Hexachlorobenzene	ND (0.007)		8270D		1	03/31/15 23:46	CYD0018	CC52823
Indeno(1,2,3-cd)Pyrene	ND (0.017)		8270D		1	03/31/15 23:46	CYD0018	CC52823
Naphthalene	ND (0.017)		8270D		1	03/31/15 23:46	CYD0018	CC52823
Phenanthrene	ND (0.017)		8270D		1	03/31/15 23:46	CYD0018	CC52823
Pyrene	ND (0.017)		8270D		1	03/31/15 23:46	CYD0018	CC52823

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*51 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*61 %*		*30-130*
Surrogate: Nitrobenzene-d5	*61 %*		*30-130*
Surrogate: p-Terphenyl-d14	*81 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-208 0ft-0.5ft
Date Sampled: 03/25/15 10:00
Percent Solids: 32
Initial Volume: 30
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503447
ESS Laboratory Sample ID: 1503447-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 3/30/15 12:52

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.520)		8270D		1	04/01/15 13:01	CYD0001	CD50205
1,2-Dichlorobenzene	ND (0.520)		8270D		1	04/01/15 13:01	CYD0001	CD50205
1,3-Dichlorobenzene	ND (0.520)		8270D		1	04/01/15 13:01	CYD0001	CD50205
1,4-Dichlorobenzene	ND (0.520)		8270D		1	04/01/15 13:01	CYD0001	CD50205
2,4,5-Trichlorophenol	ND (0.520)		8270D		1	04/01/15 13:01	CYD0001	CD50205
2,4,6-Trichlorophenol	ND (0.520)		8270D		1	04/01/15 13:01	CYD0001	CD50205
2,4-Dichlorophenol	ND (0.520)		8270D		1	04/01/15 13:01	CYD0001	CD50205
2,4-Dimethylphenol	ND (0.520)		8270D		1	04/01/15 13:01	CYD0001	CD50205
2,4-Dinitrophenol	ND (2.61)		8270D		1	04/01/15 13:01	CYD0001	CD50205
2,4-Dinitrotoluene	ND (0.520)		8270D		1	04/01/15 13:01	CYD0001	CD50205
2,6-Dinitrotoluene	ND (0.520)		8270D		1	04/01/15 13:01	CYD0001	CD50205
2-Chloronaphthalene	ND (0.520)		8270D		1	04/01/15 13:01	CYD0001	CD50205
2-Chlorophenol	ND (0.520)		8270D		1	04/01/15 13:01	CYD0001	CD50205
2-Methylphenol	ND (0.520)		8270D		1	04/01/15 13:01	CYD0001	CD50205
2-Nitrophenol	ND (0.520)		8270D		1	04/01/15 13:01	CYD0001	CD50205
3,3´-Dichlorobenzidine	ND (1.04)		8270D		1	04/01/15 13:01	CYD0001	CD50205
3+4-Methylphenol	ND (1.04)		8270D		1	04/01/15 13:01	CYD0001	CD50205
4-Bromophenyl-phenylether	ND (0.520)		8270D		1	04/01/15 13:01	CYD0001	CD50205
4-Chloroaniline	ND (1.04)		8270D		1	04/01/15 13:01	CYD0001	CD50205
4-Nitrophenol	ND (2.61)		8270D		1	04/01/15 13:01	CYD0001	CD50205
Acetophenone	ND (1.04)		8270D		1	04/01/15 13:01	CYD0001	CD50205
Aniline	ND (2.61)		8270D		1	04/01/15 13:01	CYD0001	CD50205
Azobenzene	ND (0.520)		8270D		1	04/01/15 13:01	CYD0001	CD50205
bis(2-Chloroethoxy)methane	ND (0.520)		8270D		1	04/01/15 13:01	CYD0001	CD50205
bis(2-Chloroethyl)ether	ND (0.520)		8270D		1	04/01/15 13:01	CYD0001	CD50205
bis(2-chloroisopropyl)Ether	ND (0.520)		8270D		1	04/01/15 13:01	CYD0001	CD50205
bis(2-Ethylhexyl)phthalate	**10.5** (0.520)		8270D		1	04/01/15 13:01	CYD0001	CD50205
Butylbenzylphthalate	ND (0.520)		8270D		1	04/01/15 13:01	CYD0001	CD50205
Dibenzofuran	ND (0.520)		8270D		1	04/01/15 13:01	CYD0001	CD50205
Diethylphthalate	ND (0.520)		8270D		1	04/01/15 13:01	CYD0001	CD50205
Dimethylphthalate	ND (0.520)		8270D		1	04/01/15 13:01	CYD0001	CD50205
Di-n-butylphthalate	ND (0.520)		8270D		1	04/01/15 13:01	CYD0001	CD50205

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-208 0ft-0.5ft
Date Sampled: 03/25/15 10:00
Percent Solids: 32
Initial Volume: 30
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503447
ESS Laboratory Sample ID: 1503447-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 3/30/15 12:52

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Di-n-octylphthalate	**0.669** (0.520)		8270D		1	04/01/15 13:01	CYD0001	CD50205
Hexachlorobenzene	ND (0.520)		8270D		1	04/01/15 13:01	CYD0001	CD50205
Hexachlorobutadiene	ND (0.520)		8270D		1	04/01/15 13:01	CYD0001	CD50205
Hexachloroethane	ND (0.520)		8270D		1	04/01/15 13:01	CYD0001	CD50205
Isophorone	ND (0.520)		8270D		1	04/01/15 13:01	CYD0001	CD50205
Nitrobenzene	ND (0.520)		8270D		1	04/01/15 13:01	CYD0001	CD50205
N-Nitrosodimethylamine	ND (0.520)		8270D		1	04/01/15 13:01	CYD0001	CD50205
Pentachlorophenol	ND (2.61)		8270D		1	04/01/15 13:01	CYD0001	CD50205
Phenol	ND (0.520)		8270D		1	04/01/15 13:01	CYD0001	CD50205

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*44 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*61 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*48 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*52 %*		*30-130*
Surrogate: 2-Fluorophenol	*44 %*		*30-130*
Surrogate: Nitrobenzene-d5	*46 %*		*30-130*
Surrogate: Phenol-d6	*50 %*		*30-130*
Surrogate: p-Terphenyl-d14	*67 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-208 0ft-0.5ft
Date Sampled: 03/25/15 10:00
Percent Solids: 32
Initial Volume: 20.5
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503447
ESS Laboratory Sample ID: 1503447-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 3/28/15 12:00

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.038)		8270D		1	04/01/15 8:42	CYC0376	CC52823
Acenaphthene	**0.030** (0.015)		8270D		1	04/01/15 8:42	CYC0376	CC52823
Acenaphthylene	**0.165** (0.038)		8270D		1	04/01/15 8:42	CYC0376	CC52823
Anthracene	**0.169** (0.038)		8270D		1	04/01/15 8:42	CYC0376	CC52823
Benzo(a)anthracene	**0.474** (0.038)		8270D		1	04/01/15 8:42	CYC0376	CC52823
Benzo(a)pyrene	**0.683** (0.038)		8270D		1	04/01/15 8:42	CYC0376	CC52823
Benzo(b)fluoranthene	**1.02** (0.038)		8270D		1	04/01/15 8:42	CYC0376	CC52823
Benzo(g,h,i)perylene	**0.628** (0.038)		8270D		1	04/01/15 8:42	CYC0376	CC52823
Benzo(k)fluoranthene	**0.271** (0.038)		8270D		1	04/01/15 8:42	CYC0376	CC52823
Chrysene	**0.647** (0.038)		8270D		1	04/01/15 8:42	CYC0376	CC52823
Dibenzo(a,h)Anthracene	**0.152** (0.038)		8270D		1	04/01/15 8:42	CYC0376	CC52823
Fluoranthene	**0.977** (0.038)		8270D		1	04/01/15 8:42	CYC0376	CC52823
Fluorene	**0.052** (0.038)		8270D		1	04/01/15 8:42	CYC0376	CC52823
Hexachlorobenzene	ND (0.015)		8270D		1	04/01/15 8:42	CYC0376	CC52823
Indeno(1,2,3-cd)Pyrene	**0.677** (0.038)		8270D		1	04/01/15 8:42	CYC0376	CC52823
Naphthalene	**0.157** (0.038)		8270D		1	04/01/15 8:42	CYC0376	CC52823
Phenanthrene	**0.378** (0.038)		8270D		1	04/01/15 8:42	CYC0376	CC52823
Pyrene	**1.09** (0.038)		8270D		1	04/01/15 8:42	CYC0376	CC52823

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*39 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*59 %*		*30-130*
Surrogate: Nitrobenzene-d5	*53 %*		*30-130*
Surrogate: p-Terphenyl-d14	*78 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-208 0ft-0.5ft
Date Sampled: 03/25/15 10:00
Percent Solids: 32
Initial Volume: 30.4
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1503447
ESS Laboratory Sample ID: 1503447-04
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 3/27/15 17:04

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	ND (38.5)		MADEP-EPH		1	DPS	03/30/15 19:01	CYC0346	CC52711
C19-C36 Aliphatics1	**125** (38.5)		MADEP-EPH		1	DPS	03/30/15 19:01	CYC0346	CC52711
C11-C22 Unadjusted Aromatics1	**52.9** (38.5)		EPH8270		1	VSC	03/30/15 15:45	CYC0347	CC52711
C11-C22 Aromatics1,2	**52.9** (38.5)		EPH8270			VSC	03/30/15 15:45		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*56 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*81 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*79 %*		*40-140*
Surrogate: O-Terphenyl	*52 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-208 4ft-6ft
Date Sampled: 03/25/15 10:00
Percent Solids: 46
Initial Volume: 20.9
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503447
ESS Laboratory Sample ID: 1503447-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 3/28/15 12:00

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	**1.02** (0.026)		8270D		1	04/01/15 9:32	CYC0376	CC52823
Acenaphthene	**1.10** (0.026)		8270D		1	04/01/15 9:32	CYC0376	CC52823
Acenaphthylene	**1.04** (0.026)		8270D		1	04/01/15 9:32	CYC0376	CC52823
Anthracene	**1.52** (0.026)		8270D		1	04/01/15 9:32	CYC0376	CC52823
Benzo(a)anthracene	**1.55** (0.026)		8270D		1	04/01/15 9:32	CYC0376	CC52823
Benzo(a)pyrene	**2.24** (0.026)		8270D		1	04/01/15 9:32	CYC0376	CC52823
Benzo(b)fluoranthene	**2.49** (0.131)		8270D		5	04/01/15 21:49	CYC0376	CC52823
Benzo(g,h,i)perylene	**1.46** (0.026)		8270D		1	04/01/15 9:32	CYC0376	CC52823
Benzo(k)fluoranthene	**0.745** (0.026)		8270D		1	04/01/15 9:32	CYC0376	CC52823
Chrysene	**1.89** (0.026)		8270D		1	04/01/15 9:32	CYC0376	CC52823
Dibenzo(a,h)Anthracene	**0.544** (0.026)		8270D		1	04/01/15 9:32	CYC0376	CC52823
Fluoranthene	**2.19** (0.026)		8270D		1	04/01/15 9:32	CYC0376	CC52823
Fluorene	**1.35** (0.026)		8270D		1	04/01/15 9:32	CYC0376	CC52823
Hexachlorobenzene	ND (0.010)		8270D		1	04/01/15 9:32	CYC0376	CC52823
Indeno(1,2,3-cd)Pyrene	**1.59** (0.026)		8270D		1	04/01/15 9:32	CYC0376	CC52823
Naphthalene	**3.32** (0.131)		8270D		5	04/01/15 21:49	CYC0376	CC52823
Phenanthrene	**5.13** (0.131)		8270D		5	04/01/15 21:49	CYC0376	CC52823
Pyrene	**4.65** (0.131)		8270D		5	04/01/15 21:49	CYC0376	CC52823

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*37 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*63 %*		*30-130*
Surrogate: Nitrobenzene-d5	*61 %*		*30-130*
Surrogate: p-Terphenyl-d14	*74 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-207 0ft-0.5ft
Date Sampled: 03/25/15 10:45
Percent Solids: 32
Initial Volume: 30.7
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503447
ESS Laboratory Sample ID: 1503447-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 3/30/15 12:52

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.516)		8270D		1	04/01/15 13:36	CYD0001	CD50205
1,2-Dichlorobenzene	ND (0.516)		8270D		1	04/01/15 13:36	CYD0001	CD50205
1,3-Dichlorobenzene	ND (0.516)		8270D		1	04/01/15 13:36	CYD0001	CD50205
1,4-Dichlorobenzene	ND (0.516)		8270D		1	04/01/15 13:36	CYD0001	CD50205
2,4,5-Trichlorophenol	ND (0.516)		8270D		1	04/01/15 13:36	CYD0001	CD50205
2,4,6-Trichlorophenol	ND (0.516)		8270D		1	04/01/15 13:36	CYD0001	CD50205
2,4-Dichlorophenol	ND (0.516)		8270D		1	04/01/15 13:36	CYD0001	CD50205
2,4-Dimethylphenol	ND (0.516)		8270D		1	04/01/15 13:36	CYD0001	CD50205
2,4-Dinitrophenol	ND (2.59)		8270D		1	04/01/15 13:36	CYD0001	CD50205
2,4-Dinitrotoluene	ND (0.516)		8270D		1	04/01/15 13:36	CYD0001	CD50205
2,6-Dinitrotoluene	ND (0.516)		8270D		1	04/01/15 13:36	CYD0001	CD50205
2-Chloronaphthalene	ND (0.516)		8270D		1	04/01/15 13:36	CYD0001	CD50205
2-Chlorophenol	ND (0.516)		8270D		1	04/01/15 13:36	CYD0001	CD50205
2-Methylphenol	ND (0.516)		8270D		1	04/01/15 13:36	CYD0001	CD50205
2-Nitrophenol	ND (0.516)		8270D		1	04/01/15 13:36	CYD0001	CD50205
3,3´-Dichlorobenzidine	ND (1.03)		8270D		1	04/01/15 13:36	CYD0001	CD50205
3+4-Methylphenol	ND (1.03)		8270D		1	04/01/15 13:36	CYD0001	CD50205
4-Bromophenyl-phenylether	ND (0.516)		8270D		1	04/01/15 13:36	CYD0001	CD50205
4-Chloroaniline	ND (1.03)		8270D		1	04/01/15 13:36	CYD0001	CD50205
4-Nitrophenol	ND (2.59)		8270D		1	04/01/15 13:36	CYD0001	CD50205
Acetophenone	ND (1.03)		8270D		1	04/01/15 13:36	CYD0001	CD50205
Aniline	ND (2.59)		8270D		1	04/01/15 13:36	CYD0001	CD50205
Azobenzene	ND (0.516)		8270D		1	04/01/15 13:36	CYD0001	CD50205
bis(2-Chloroethoxy)methane	ND (0.516)		8270D		1	04/01/15 13:36	CYD0001	CD50205
bis(2-Chloroethyl)ether	ND (0.516)		8270D		1	04/01/15 13:36	CYD0001	CD50205
bis(2-chloroisopropyl)Ether	ND (0.516)		8270D		1	04/01/15 13:36	CYD0001	CD50205
bis(2-Ethylhexyl)phthalate	**2.42** (0.516)		8270D		1	04/01/15 13:36	CYD0001	CD50205
Butylbenzylphthalate	ND (0.516)		8270D		1	04/01/15 13:36	CYD0001	CD50205
Dibenzofuran	ND (0.516)		8270D		1	04/01/15 13:36	CYD0001	CD50205
Diethylphthalate	ND (0.516)		8270D		1	04/01/15 13:36	CYD0001	CD50205
Dimethylphthalate	ND (0.516)		8270D		1	04/01/15 13:36	CYD0001	CD50205
Di-n-butylphthalate	ND (0.516)		8270D		1	04/01/15 13:36	CYD0001	CD50205

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-207 0ft-0.5ft
Date Sampled: 03/25/15 10:45
Percent Solids: 32
Initial Volume: 30.7
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503447
ESS Laboratory Sample ID: 1503447-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 3/30/15 12:52

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Di-n-octylphthalate	ND (0.516)		8270D		1	04/01/15 13:36	CYD0001	CD50205
Hexachlorobenzene	ND (0.516)		8270D		1	04/01/15 13:36	CYD0001	CD50205
Hexachlorobutadiene	ND (0.516)		8270D		1	04/01/15 13:36	CYD0001	CD50205
Hexachloroethane	ND (0.516)		8270D		1	04/01/15 13:36	CYD0001	CD50205
Isophorone	ND (0.516)		8270D		1	04/01/15 13:36	CYD0001	CD50205
Nitrobenzene	ND (0.516)		8270D		1	04/01/15 13:36	CYD0001	CD50205
N-Nitrosodimethylamine	ND (0.516)		8270D		1	04/01/15 13:36	CYD0001	CD50205
Pentachlorophenol	ND (2.59)		8270D		1	04/01/15 13:36	CYD0001	CD50205
Phenol	ND (0.516)		8270D		1	04/01/15 13:36	CYD0001	CD50205

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*42 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*55 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*47 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*53 %*		*30-130*
Surrogate: 2-Fluorophenol	*44 %*		*30-130*
Surrogate: Nitrobenzene-d5	*45 %*		*30-130*
Surrogate: Phenol-d6	*52 %*		*30-130*
Surrogate: p-Terphenyl-d14	*56 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-207 0ft-0.5ft
Date Sampled: 03/25/15 10:45
Percent Solids: 32
Initial Volume: 20.1
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503447
ESS Laboratory Sample ID: 1503447-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 3/28/15 12:00

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.039)		8270D		1	04/01/15 10:21	CYC0376	CC52823
Acenaphthene	**0.033** (0.016)		8270D		1	04/01/15 10:21	CYC0376	CC52823
Acenaphthylene	**0.183** (0.039)		8270D		1	04/01/15 10:21	CYC0376	CC52823
Anthracene	**0.201** (0.039)		8270D		1	04/01/15 10:21	CYC0376	CC52823
Benzo(a)anthracene	**0.470** (0.039)		8270D		1	04/01/15 10:21	CYC0376	CC52823
Benzo(a)pyrene	**0.708** (0.039)		8270D		1	04/01/15 10:21	CYC0376	CC52823
Benzo(b)fluoranthene	**1.14** (0.039)		8270D		1	04/01/15 10:21	CYC0376	CC52823
Benzo(g,h,i)perylene	**0.567** (0.039)		8270D		1	04/01/15 10:21	CYC0376	CC52823
Benzo(k)fluoranthene	**0.257** (0.039)		8270D		1	04/01/15 10:21	CYC0376	CC52823
Chrysene	**0.699** (0.039)		8270D		1	04/01/15 10:21	CYC0376	CC52823
Dibenzo(a,h)Anthracene	**0.146** (0.039)		8270D		1	04/01/15 10:21	CYC0376	CC52823
Fluoranthene	**1.00** (0.039)		8270D		1	04/01/15 10:21	CYC0376	CC52823
Fluorene	**0.056** (0.039)		8270D		1	04/01/15 10:21	CYC0376	CC52823
Hexachlorobenzene	ND (0.016)		8270D		1	04/01/15 10:21	CYC0376	CC52823
Indeno(1,2,3-cd)Pyrene	**0.632** (0.039)		8270D		1	04/01/15 10:21	CYC0376	CC52823
Naphthalene	**0.282** (0.039)		8270D		1	04/01/15 10:21	CYC0376	CC52823
Phenanthrene	**0.404** (0.039)		8270D		1	04/01/15 10:21	CYC0376	CC52823
Pyrene	**1.09** (0.039)		8270D		1	04/01/15 10:21	CYC0376	CC52823

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*42 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*58 %*		*30-130*
Surrogate: Nitrobenzene-d5	*56 %*		*30-130*
Surrogate: p-Terphenyl-d14	*76 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-207 0ft-0.5ft
Date Sampled: 03/25/15 10:45
Percent Solids: 32
Initial Volume: 30.5
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1503447
ESS Laboratory Sample ID: 1503447-06
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 3/27/15 17:04

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	ND (39.0)		MADEP-EPH		1	DPS	03/30/15 19:51	CYC0346	CC52711
C19-C36 Aliphatics1	**98.8** (39.0)		MADEP-EPH		1	DPS	03/30/15 19:51	CYC0346	CC52711
C11-C22 Unadjusted Aromatics1	**39.3** (39.0)		EPH8270		1	VSC	03/30/15 16:19	CYC0347	CC52711
C11-C22 Aromatics1,2	**39.3** (39.0)		EPH8270			VSC	03/30/15 16:19		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*56 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*96 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*94 %*		*40-140*
Surrogate: O-Terphenyl	*71 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-207 4ft-6ft
Date Sampled: 03/25/15 10:45
Percent Solids: 37
Initial Volume: 20.9
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503447
ESS Laboratory Sample ID: 1503447-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 3/28/15 12:00

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	**0.380** (0.033)		8270D		1	04/01/15 11:10	CYC0376	CC52823
Acenaphthene	**0.201** (0.033)		8270D		1	04/01/15 11:10	CYC0376	CC52823
Acenaphthylene	**0.183** (0.033)		8270D		1	04/01/15 11:10	CYC0376	CC52823
Anthracene	**0.369** (0.033)		8270D		1	04/01/15 11:10	CYC0376	CC52823
Benzo(a)anthracene	**0.316** (0.033)		8270D		1	04/01/15 11:10	CYC0376	CC52823
Benzo(a)pyrene	**0.542** (0.033)		8270D		1	04/01/15 11:10	CYC0376	CC52823
Benzo(b)fluoranthene	**0.748** (0.033)		8270D		1	04/01/15 11:10	CYC0376	CC52823
Benzo(g,h,i)perylene	**0.185** (0.163)		8270D		5	04/01/15 22:38	CYC0376	CC52823
Benzo(k)fluoranthene	**0.274** (0.033)		8270D		1	04/01/15 11:10	CYC0376	CC52823
Chrysene	**0.424** (0.033)		8270D		1	04/01/15 11:10	CYC0376	CC52823
Dibenzo(a,h)Anthracene	**EL** ND (0.065)		8270D		5	04/01/15 22:38	CYC0376	CC52823
Fluoranthene	**0.814** (0.033)		8270D		1	04/01/15 11:10	CYC0376	CC52823
Fluorene	**0.335** (0.033)		8270D		1	04/01/15 11:10	CYC0376	CC52823
Hexachlorobenzene	ND (0.013)		8270D		1	04/01/15 11:10	CYC0376	CC52823
Indeno(1,2,3-cd)Pyrene	**0.195** (0.163)		8270D		5	04/01/15 22:38	CYC0376	CC52823
Naphthalene	**2.65** (0.033)		8270D		1	04/01/15 11:10	CYC0376	CC52823
Phenanthrene	**1.08** (0.033)		8270D		1	04/01/15 11:10	CYC0376	CC52823
Pyrene	**1.06** (0.033)		8270D		1	04/01/15 11:10	CYC0376	CC52823

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*49 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*66 %*		*30-130*
Surrogate: Nitrobenzene-d5	*69 %*		*30-130*
Surrogate: p-Terphenyl-d14	*73 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-207 6ft-7.5ft
Date Sampled: 03/25/15 10:45
Percent Solids: 61
Initial Volume: 20
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503447
ESS Laboratory Sample ID: 1503447-08
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 3/28/15 12:00

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.020)		8270D		1	04/01/15 2:14	CYD0018	CC52823
Acenaphthene	ND (0.020)		8270D		1	04/01/15 2:14	CYD0018	CC52823
Acenaphthylene	ND (0.020)		8270D		1	04/01/15 2:14	CYD0018	CC52823
Anthracene	ND (0.020)		8270D		1	04/01/15 2:14	CYD0018	CC52823
Benzo(a)anthracene	ND (0.020)		8270D		1	04/01/15 2:14	CYD0018	CC52823
Benzo(a)pyrene	ND (0.020)		8270D		1	04/01/15 2:14	CYD0018	CC52823
Benzo(b)fluoranthene	ND (0.020)		8270D		1	04/01/15 2:14	CYD0018	CC52823
Benzo(g,h,i)perylene	ND (0.020)		8270D		1	04/01/15 2:14	CYD0018	CC52823
Benzo(k)fluoranthene	ND (0.020)		8270D		1	04/01/15 2:14	CYD0018	CC52823
Chrysene	ND (0.020)		8270D		1	04/01/15 2:14	CYD0018	CC52823
Dibenzo(a,h)Anthracene	ND (0.020)		8270D		1	04/01/15 2:14	CYD0018	CC52823
Fluoranthene	ND (0.020)		8270D		1	04/01/15 2:14	CYD0018	CC52823
Fluorene	ND (0.020)		8270D		1	04/01/15 2:14	CYD0018	CC52823
Hexachlorobenzene	ND (0.008)		8270D		1	04/01/15 2:14	CYD0018	CC52823
Indeno(1,2,3-cd)Pyrene	ND (0.020)		8270D		1	04/01/15 2:14	CYD0018	CC52823
Naphthalene	ND (0.020)		8270D		1	04/01/15 2:14	CYD0018	CC52823
Phenanthrene	ND (0.020)		8270D		1	04/01/15 2:14	CYD0018	CC52823
Pyrene	ND (0.020)		8270D		1	04/01/15 2:14	CYD0018	CC52823

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*51 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*66 %*		*30-130*
Surrogate: Nitrobenzene-d5	*63 %*		*30-130*
Surrogate: p-Terphenyl-d14	*81 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-207 0ft-3ft
Date Sampled: 03/25/15 10:45
Percent Solids: 37
Initial Volume: 4.2
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1503447
ESS Laboratory Sample ID: 1503447-09
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.0163)		8260B Low		1	03/26/15 15:12	CYC0308	CC52627
1,1,1-Trichloroethane	ND (0.0163)		8260B Low		1	03/26/15 15:12	CYC0308	CC52627
1,1,2,2-Tetrachloroethane	ND (0.0065)		8260B Low		1	03/26/15 15:12	CYC0308	CC52627
1,1,2-Trichloroethane	ND (0.0163)		8260B Low		1	03/26/15 15:12	CYC0308	CC52627
1,1-Dichloroethane	ND (0.0163)		8260B Low		1	03/26/15 15:12	CYC0308	CC52627
1,1-Dichloroethene	ND (0.0163)		8260B Low		1	03/26/15 15:12	CYC0308	CC52627
1,1-Dichloropropene	ND (0.0163)		8260B Low		1	03/26/15 15:12	CYC0308	CC52627
1,2,3-Trichlorobenzene	ND (0.0163)		8260B Low		1	03/26/15 15:12	CYC0308	CC52627
1,2,3-Trichloropropane	ND (0.0163)		8260B Low		1	03/26/15 15:12	CYC0308	CC52627
1,2,4-Trichlorobenzene	ND (0.0163)		8260B Low		1	03/26/15 15:12	CYC0308	CC52627
1,2,4-Trimethylbenzene	ND (0.0163)		8260B Low		1	03/26/15 15:12	CYC0308	CC52627
1,2-Dibromo-3-Chloropropane	ND (0.0163)		8260B Low		1	03/26/15 15:12	CYC0308	CC52627
1,2-Dibromoethane	ND (0.0163)		8260B Low		1	03/26/15 15:12	CYC0308	CC52627
1,2-Dichlorobenzene	ND (0.0163)		8260B Low		1	03/26/15 15:12	CYC0308	CC52627
1,2-Dichloroethane	ND (0.0163)		8260B Low		1	03/26/15 15:12	CYC0308	CC52627
1,2-Dichloropropane	ND (0.0163)		8260B Low		1	03/26/15 15:12	CYC0308	CC52627
1,3,5-Trimethylbenzene	ND (0.0163)		8260B Low		1	03/26/15 15:12	CYC0308	CC52627
1,3-Dichlorobenzene	ND (0.0163)		8260B Low		1	03/26/15 15:12	CYC0308	CC52627
1,3-Dichloropropane	ND (0.0163)		8260B Low		1	03/26/15 15:12	CYC0308	CC52627
1,4-Dichlorobenzene	ND (0.0163)		8260B Low		1	03/26/15 15:12	CYC0308	CC52627
1,4-Dioxane	ND (0.326)		8260B Low		1	03/26/15 15:12	CYC0308	CC52627
2,2-Dichloropropane	ND (0.0163)		8260B Low		1	03/26/15 15:12	CYC0308	CC52627
2-Butanone	**0.0436** (0.0326)		8260B Low		1	03/26/15 15:12	CYC0308	CC52627
2-Chlorotoluene	**0.0237** (0.0163)		8260B Low		1	03/26/15 15:12	CYC0308	CC52627
2-Hexanone	ND (0.0326)		8260B Low		1	03/26/15 15:12	CYC0308	CC52627
4-Chlorotoluene	ND (0.0163)		8260B Low		1	03/26/15 15:12	CYC0308	CC52627
4-Isopropyltoluene	ND (0.0163)		8260B Low		1	03/26/15 15:12	CYC0308	CC52627
4-Methyl-2-Pentanone	ND (0.0326)		8260B Low		1	03/26/15 15:12	CYC0308	CC52627
Acetone	**0.317** (0.0326)		8260B Low		1	03/26/15 15:12	CYC0308	CC52627
Benzene	ND (0.0163)		8260B Low		1	03/26/15 15:12	CYC0308	CC52627
Bromobenzene	ND (0.0163)		8260B Low		1	03/26/15 15:12	CYC0308	CC52627
Bromochloromethane	ND (0.0163)		8260B Low		1	03/26/15 15:12	CYC0308	CC52627

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-207 0ft-3ft
Date Sampled: 03/25/15 10:45
Percent Solids: 37
Initial Volume: 4.2
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1503447
ESS Laboratory Sample ID: 1503447-09
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromodichloromethane	ND (0.0163)		8260B Low		1	03/26/15 15:12	CYC0308	CC52627
Bromoform	ND (0.0163)		8260B Low		1	03/26/15 15:12	CYC0308	CC52627
Bromomethane	ND (0.0326)		8260B Low		1	03/26/15 15:12	CYC0308	CC52627
Carbon Disulfide	**0.0334** (0.0163)		8260B Low		1	03/26/15 15:12	CYC0308	CC52627
Carbon Tetrachloride	ND (0.0163)		8260B Low		1	03/26/15 15:12	CYC0308	CC52627
Chlorobenzene	ND (0.0163)		8260B Low		1	03/26/15 15:12	CYC0308	CC52627
Chloroethane	ND (0.0326)		8260B Low		1	03/26/15 15:12	CYC0308	CC52627
Chloroform	ND (0.0163)		8260B Low		1	03/26/15 15:12	CYC0308	CC52627
Chloromethane	ND (0.0326)		8260B Low		1	03/26/15 15:12	CYC0308	CC52627
cis-1,2-Dichloroethene	ND (0.0163)		8260B Low		1	03/26/15 15:12	CYC0308	CC52627
cis-1,3-Dichloropropene	ND (0.0163)		8260B Low		1	03/26/15 15:12	CYC0308	CC52627
Dibromochloromethane	ND (0.0065)		8260B Low		1	03/26/15 15:12	CYC0308	CC52627
Dibromomethane	ND (0.0163)		8260B Low		1	03/26/15 15:12	CYC0308	CC52627
Dichlorodifluoromethane	ND (0.0326)		8260B Low		1	03/26/15 15:12	CYC0308	CC52627
Diethyl Ether	ND (0.0163)		8260B Low		1	03/26/15 15:12	CYC0308	CC52627
Di-isopropyl ether	ND (0.0163)		8260B Low		1	03/26/15 15:12	CYC0308	CC52627
Ethyl tertiary-butyl ether	ND (0.0163)		8260B Low		1	03/26/15 15:12	CYC0308	CC52627
Ethylbenzene	ND (0.0163)		8260B Low		1	03/26/15 15:12	CYC0308	CC52627
Hexachlorobutadiene	ND (0.0163)		8260B Low		1	03/26/15 15:12	CYC0308	CC52627
Isopropylbenzene	ND (0.0163)		8260B Low		1	03/26/15 15:12	CYC0308	CC52627
Methyl tert-Butyl Ether	ND (0.0163)		8260B Low		1	03/26/15 15:12	CYC0308	CC52627
Methylene Chloride	ND (0.0326)		8260B Low		1	03/26/15 15:12	CYC0308	CC52627
Naphthalene	**0.0216** (0.0163)		8260B Low		1	03/26/15 15:12	CYC0308	CC52627
n-Butylbenzene	ND (0.0163)		8260B Low		1	03/26/15 15:12	CYC0308	CC52627
n-Propylbenzene	ND (0.0163)		8260B Low		1	03/26/15 15:12	CYC0308	CC52627
sec-Butylbenzene	ND (0.0163)		8260B Low		1	03/26/15 15:12	CYC0308	CC52627
Styrene	ND (0.0163)		8260B Low		1	03/26/15 15:12	CYC0308	CC52627
tert-Butylbenzene	ND (0.0163)		8260B Low		1	03/26/15 15:12	CYC0308	CC52627
Tertiary-amyl methyl ether	ND (0.0163)		8260B Low		1	03/26/15 15:12	CYC0308	CC52627
Tetrachloroethene	ND (0.0163)		8260B Low		1	03/26/15 15:12	CYC0308	CC52627
Tetrahydrofuran	ND (0.0163)		8260B Low		1	03/26/15 15:12	CYC0308	CC52627
Toluene	ND (0.0163)		8260B Low		1	03/26/15 15:12	CYC0308	CC52627

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-207 0ft-3ft
Date Sampled: 03/25/15 10:45
Percent Solids: 37
Initial Volume: 4.2
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1503447
ESS Laboratory Sample ID: 1503447-09
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
trans-1,2-Dichloroethene	ND (0.0163)		8260B Low		1	03/26/15 15:12	CYC0308	CC52627
trans-1,3-Dichloropropene	ND (0.0163)		8260B Low		1	03/26/15 15:12	CYC0308	CC52627
Trichloroethene	ND (0.0163)		8260B Low		1	03/26/15 15:12	CYC0308	CC52627
Trichlorofluoromethane	ND (0.0163)		8260B Low		1	03/26/15 15:12	CYC0308	CC52627
Vinyl Chloride	ND (0.0326)		8260B Low		1	03/26/15 15:12	CYC0308	CC52627
Xylene O	ND (0.0163)		8260B Low		1	03/26/15 15:12	CYC0308	CC52627
Xylene P,M	ND (0.0326)		8260B Low		1	03/26/15 15:12	CYC0308	CC52627
Xylenes (Total)	ND (0.0326)		8260B Low		1	03/26/15 15:12		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*85 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*80 %*		*70-130*
Surrogate: Dibromofluoromethane	*86 %*		*70-130*
Surrogate: Toluene-d8	*100 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-207 0ft-3ft
Date Sampled: 03/25/15 10:45
Percent Solids: 37
Initial Volume: 30.8
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503447
ESS Laboratory Sample ID: 1503447-09
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 3/30/15 12:52

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.444)		8270D		1	03/31/15 0:14	CYC0357	CD50205
1,2-Dichlorobenzene	ND (0.444)		8270D		1	03/31/15 0:14	CYC0357	CD50205
1,3-Dichlorobenzene	ND (0.444)		8270D		1	03/31/15 0:14	CYC0357	CD50205
1,4-Dichlorobenzene	ND (0.444)		8270D		1	03/31/15 0:14	CYC0357	CD50205
2,4,5-Trichlorophenol	ND (0.444)		8270D		1	03/31/15 0:14	CYC0357	CD50205
2,4,6-Trichlorophenol	ND (0.444)		8270D		1	03/31/15 0:14	CYC0357	CD50205
2,4-Dichlorophenol	ND (0.444)		8270D		1	03/31/15 0:14	CYC0357	CD50205
2,4-Dimethylphenol	ND (0.444)		8270D		1	03/31/15 0:14	CYC0357	CD50205
2,4-Dinitrophenol	ND (2.23)		8270D		1	03/31/15 0:14	CYC0357	CD50205
2,4-Dinitrotoluene	ND (0.444)		8270D		1	03/31/15 0:14	CYC0357	CD50205
2,6-Dinitrotoluene	ND (0.444)		8270D		1	03/31/15 0:14	CYC0357	CD50205
2-Chloronaphthalene	ND (0.444)		8270D		1	03/31/15 0:14	CYC0357	CD50205
2-Chlorophenol	ND (0.444)		8270D		1	03/31/15 0:14	CYC0357	CD50205
2-Methylphenol	ND (0.444)		8270D		1	03/31/15 0:14	CYC0357	CD50205
2-Nitrophenol	ND (0.444)		8270D		1	03/31/15 0:14	CYC0357	CD50205
3,3´-Dichlorobenzidine	ND (0.889)		8270D		1	03/31/15 0:14	CYC0357	CD50205
3+4-Methylphenol	ND (0.889)		8270D		1	03/31/15 0:14	CYC0357	CD50205
4-Bromophenyl-phenylether	ND (0.444)		8270D		1	03/31/15 0:14	CYC0357	CD50205
4-Chloroaniline	ND (0.889)		8270D		1	03/31/15 0:14	CYC0357	CD50205
4-Nitrophenol	ND (2.23)		8270D		1	03/31/15 0:14	CYC0357	CD50205
Acetophenone	ND (0.889)		8270D		1	03/31/15 0:14	CYC0357	CD50205
Aniline	ND (2.23)		8270D		1	03/31/15 0:14	CYC0357	CD50205
Azobenzene	ND (0.444)		8270D		1	03/31/15 0:14	CYC0357	CD50205
bis(2-Chloroethoxy)methane	ND (0.444)		8270D		1	03/31/15 0:14	CYC0357	CD50205
bis(2-Chloroethyl)ether	ND (0.444)		8270D		1	03/31/15 0:14	CYC0357	CD50205
bis(2-chloroisopropyl)Ether	ND (0.444)		8270D		1	03/31/15 0:14	CYC0357	CD50205
bis(2-Ethylhexyl)phthalate	**133** (44.4)		8270D		100	04/01/15 5:54	CYC0357	CD50205
Butylbenzylphthalate	ND (0.444)		8270D		1	03/31/15 0:14	CYC0357	CD50205
Dibenzofuran	ND (0.444)		8270D		1	03/31/15 0:14	CYC0357	CD50205
Diethylphthalate	ND (0.444)		8270D		1	03/31/15 0:14	CYC0357	CD50205
Dimethylphthalate	ND (0.444)		8270D		1	03/31/15 0:14	CYC0357	CD50205
Di-n-butylphthalate	ND (0.444)		8270D		1	03/31/15 0:14	CYC0357	CD50205

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-207 0ft-3ft
Date Sampled: 03/25/15 10:45
Percent Solids: 37
Initial Volume: 30.8
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503447
ESS Laboratory Sample ID: 1503447-09
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 3/30/15 12:52

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Di-n-octylphthalate	**6.22** (0.444)		8270D		1	03/31/15 0:14	CYC0357	CD50205
Hexachlorobenzene	ND (0.444)		8270D		1	03/31/15 0:14	CYC0357	CD50205
Hexachlorobutadiene	ND (0.444)		8270D		1	03/31/15 0:14	CYC0357	CD50205
Hexachloroethane	ND (0.444)		8270D		1	03/31/15 0:14	CYC0357	CD50205
Isophorone	ND (0.444)		8270D		1	03/31/15 0:14	CYC0357	CD50205
Nitrobenzene	ND (0.444)		8270D		1	03/31/15 0:14	CYC0357	CD50205
N-Nitrosodimethylamine	ND (0.444)		8270D		1	03/31/15 0:14	CYC0357	CD50205
Pentachlorophenol	ND (2.23)		8270D		1	03/31/15 0:14	CYC0357	CD50205
Phenol	ND (0.444)		8270D		1	03/31/15 0:14	CYC0357	CD50205

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*39 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*66 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*42 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*58 %*		*30-130*
Surrogate: 2-Fluorophenol	*37 %*		*30-130*
Surrogate: Nitrobenzene-d5	*42 %*		*30-130*
Surrogate: Phenol-d6	*43 %*		*30-130*
Surrogate: p-Terphenyl-d14	*82 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-207 0ft-3ft
Date Sampled: 03/25/15 10:45
Percent Solids: 37

ESS Laboratory Work Order: 1503447
ESS Laboratory Sample ID: 1503447-09
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Corrosivity (pH)	**H 8.03** (N/A)		9045		1	JLK	03/27/15 10:44	S.U.	CC52721
Corrosivity (pH) Sample Temp	**Soil pH measured in water at 16.3 ºC.**								
Eh (ORP)	**H, WL 164** (N/A)		2580		1	JLK	03/27/15 10:44	mv	CC52722
Grain Size	**See Attached** (N/A)								
Hexavalent Chromium	ND (1.1)		7196A		1	JLK	03/28/15 11:00	mg/kg dry	CC52807
Percent Water	**See Attached** (N/A)								
Reactive Cyanide	ND (2.0)		7.3.3.2		1	JLK	03/30/15 11:05	mg/kg	CC53003
Reactive Sulfide	ND (2.0)		7.3.4.1		1	JLK	03/30/15 11:05	mg/kg	CC53003

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-207 0ft-3ft
Date Sampled: 03/25/15 10:45
Percent Solids: 37
Initial Volume: 30
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1503447
ESS Laboratory Sample ID: 1503447-09
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 3/27/15 17:04

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	**228** (34.2)		MADEP-EPH		1	DPS	03/30/15 20:42	CYC0346	CC52711
C19-C36 Aliphatics1	**142** (34.2)		MADEP-EPH		1	DPS	03/30/15 20:42	CYC0346	CC52711
C11-C22 Unadjusted Aromatics1	**894** (34.2)		EPH8270		1	VSC	03/30/15 19:44	CYC0347	CC52711
C11-C22 Aromatics1,2	**894** (34.2)		EPH8270			VSC	03/30/15 19:44		[CALC]

	%Recovery	*Qualifier*	*Limits*
Surrogate: 1-Chlorooctadecane	*67 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*102 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*98 %*		*40-140*
Surrogate: O-Terphenyl	*85 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-206 0ft-0.5ft
Date Sampled: 03/25/15 11:10
Percent Solids: 31
Initial Volume: 30.2
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503447
ESS Laboratory Sample ID: 1503447-10
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 3/30/15 12:52

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.536)		8270D		1	04/01/15 14:47	CYD0001	CD50205
1,2-Dichlorobenzene	ND (0.536)		8270D		1	04/01/15 14:47	CYD0001	CD50205
1,3-Dichlorobenzene	ND (0.536)		8270D		1	04/01/15 14:47	CYD0001	CD50205
1,4-Dichlorobenzene	ND (0.536)		8270D		1	04/01/15 14:47	CYD0001	CD50205
2,4,5-Trichlorophenol	ND (0.536)		8270D		1	04/01/15 14:47	CYD0001	CD50205
2,4,6-Trichlorophenol	ND (0.536)		8270D		1	04/01/15 14:47	CYD0001	CD50205
2,4-Dichlorophenol	ND (0.536)		8270D		1	04/01/15 14:47	CYD0001	CD50205
2,4-Dimethylphenol	ND (0.536)		8270D		1	04/01/15 14:47	CYD0001	CD50205
2,4-Dinitrophenol	ND (2.69)		8270D		1	04/01/15 14:47	CYD0001	CD50205
2,4-Dinitrotoluene	ND (0.536)		8270D		1	04/01/15 14:47	CYD0001	CD50205
2,6-Dinitrotoluene	ND (0.536)		8270D		1	04/01/15 14:47	CYD0001	CD50205
2-Chloronaphthalene	ND (0.536)		8270D		1	04/01/15 14:47	CYD0001	CD50205
2-Chlorophenol	ND (0.536)		8270D		1	04/01/15 14:47	CYD0001	CD50205
2-Methylphenol	ND (0.536)		8270D		1	04/01/15 14:47	CYD0001	CD50205
2-Nitrophenol	ND (0.536)		8270D		1	04/01/15 14:47	CYD0001	CD50205
3,3´-Dichlorobenzidine	ND (1.07)		8270D		1	04/01/15 14:47	CYD0001	CD50205
3+4-Methylphenol	ND (1.07)		8270D		1	04/01/15 14:47	CYD0001	CD50205
4-Bromophenyl-phenylether	ND (0.536)		8270D		1	04/01/15 14:47	CYD0001	CD50205
4-Chloroaniline	ND (1.07)		8270D		1	04/01/15 14:47	CYD0001	CD50205
4-Nitrophenol	ND (2.69)		8270D		1	04/01/15 14:47	CYD0001	CD50205
Acetophenone	ND (1.07)		8270D		1	04/01/15 14:47	CYD0001	CD50205
Aniline	ND (2.69)		8270D		1	04/01/15 14:47	CYD0001	CD50205
Azobenzene	ND (0.536)		8270D		1	04/01/15 14:47	CYD0001	CD50205
bis(2-Chloroethoxy)methane	ND (0.536)		8270D		1	04/01/15 14:47	CYD0001	CD50205
bis(2-Chloroethyl)ether	ND (0.536)		8270D		1	04/01/15 14:47	CYD0001	CD50205
bis(2-chloroisopropyl)Ether	ND (0.536)		8270D		1	04/01/15 14:47	CYD0001	CD50205
bis(2-Ethylhexyl)phthalate	**0.859** (0.536)		8270D		1	04/01/15 14:47	CYD0001	CD50205
Butylbenzylphthalate	ND (0.536)		8270D		1	04/01/15 14:47	CYD0001	CD50205
Dibenzofuran	ND (0.536)		8270D		1	04/01/15 14:47	CYD0001	CD50205
Diethylphthalate	ND (0.536)		8270D		1	04/01/15 14:47	CYD0001	CD50205
Dimethylphthalate	ND (0.536)		8270D		1	04/01/15 14:47	CYD0001	CD50205
Di-n-butylphthalate	ND (0.536)		8270D		1	04/01/15 14:47	CYD0001	CD50205

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-206 0ft-0.5ft
Date Sampled: 03/25/15 11:10
Percent Solids: 31
Initial Volume: 30.2
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503447
ESS Laboratory Sample ID: 1503447-10
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 3/30/15 12:52

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Di-n-octylphthalate	ND (0.536)		8270D		1	04/01/15 14:47	CYD0001	CD50205
Hexachlorobenzene	ND (0.536)		8270D		1	04/01/15 14:47	CYD0001	CD50205
Hexachlorobutadiene	ND (0.536)		8270D		1	04/01/15 14:47	CYD0001	CD50205
Hexachloroethane	ND (0.536)		8270D		1	04/01/15 14:47	CYD0001	CD50205
Isophorone	ND (0.536)		8270D		1	04/01/15 14:47	CYD0001	CD50205
Nitrobenzene	ND (0.536)		8270D		1	04/01/15 14:47	CYD0001	CD50205
N-Nitrosodimethylamine	ND (0.536)		8270D		1	04/01/15 14:47	CYD0001	CD50205
Pentachlorophenol	ND (2.69)		8270D		1	04/01/15 14:47	CYD0001	CD50205
Phenol	ND (0.536)		8270D		1	04/01/15 14:47	CYD0001	CD50205

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*44 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*61 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*47 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*52 %*		*30-130*
Surrogate: 2-Fluorophenol	*44 %*		*30-130*
Surrogate: Nitrobenzene-d5	*46 %*		*30-130*
Surrogate: Phenol-d6	*51 %*		*30-130*
Surrogate: p-Terphenyl-d14	*63 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-206 0ft-0.5ft
Date Sampled: 03/25/15 11:10
Percent Solids: 31
Initial Volume: 20.1
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503447
ESS Laboratory Sample ID: 1503447-10
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 3/28/15 12:00

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.040)		8270D		1	04/01/15 12:00	CYC0376	CC52823
Acenaphthene	**0.040** (0.016)		8270D		1	04/01/15 12:00	CYC0376	CC52823
Acenaphthylene	**0.413** (0.040)		8270D		1	04/01/15 12:00	CYC0376	CC52823
Anthracene	**0.974** (0.040)		8270D		1	04/01/15 12:00	CYC0376	CC52823
Benzo(a)anthracene	**0.948** (0.040)		8270D		1	04/01/15 12:00	CYC0376	CC52823
Benzo(a)pyrene	**1.30** (0.040)		8270D		1	04/01/15 12:00	CYC0376	CC52823
Benzo(b)fluoranthene	**1.46** (0.040)		8270D		1	04/01/15 12:00	CYC0376	CC52823
Benzo(g,h,i)perylene	**0.818** (0.040)		8270D		1	04/01/15 12:00	CYC0376	CC52823
Benzo(k)fluoranthene	**0.440** (0.040)		8270D		1	04/01/15 12:00	CYC0376	CC52823
Chrysene	**1.14** (0.040)		8270D		1	04/01/15 12:00	CYC0376	CC52823
Dibenzo(a,h)Anthracene	**0.173** (0.040)		8270D		1	04/01/15 12:00	CYC0376	CC52823
Fluoranthene	**2.06** (0.040)		8270D		1	04/01/15 12:00	CYC0376	CC52823
Fluorene	**0.088** (0.040)		8270D		1	04/01/15 12:00	CYC0376	CC52823
Hexachlorobenzene	ND (0.016)		8270D		1	04/01/15 12:00	CYC0376	CC52823
Indeno(1,2,3-cd)Pyrene	**0.846** (0.040)		8270D		1	04/01/15 12:00	CYC0376	CC52823
Naphthalene	**0.149** (0.040)		8270D		1	04/01/15 12:00	CYC0376	CC52823
Phenanthrene	**0.542** (0.040)		8270D		1	04/01/15 12:00	CYC0376	CC52823
Pyrene	**3.20** (0.040)		8270D		1	04/01/15 12:00	CYC0376	CC52823

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*27 %*	*S-*	*30-130*
Surrogate: 2-Fluorobiphenyl	*44 %*		*30-130*
Surrogate: Nitrobenzene-d5	*35 %*		*30-130*
Surrogate: p-Terphenyl-d14	*56 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-206 0ft-0.5ft
Date Sampled: 03/25/15 11:10
Percent Solids: 31
Initial Volume: 30.1
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1503447
ESS Laboratory Sample ID: 1503447-10
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 3/27/15 17:04

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	ND (40.4)		MADEP-EPH		1	DPS	03/30/15 21:33	CYC0346	CC52711
C19-C36 Aliphatics1	**92.8** (40.4)		MADEP-EPH		1	DPS	03/30/15 21:33	CYC0346	CC52711
C11-C22 Unadjusted Aromatics1	ND (40.4)		EPH8270		1	VSC	03/30/15 20:18	CYC0347	CC52711
C11-C22 Aromatics1,2	ND (40.4)		EPH8270			VSC	03/30/15 20:18		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*53 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*110 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*112 %*		*40-140*
Surrogate: O-Terphenyl	*67 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-206 4ft-6ft
Date Sampled: 03/25/15 11:10
Percent Solids: 61
Initial Volume: 30.2
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503447
ESS Laboratory Sample ID: 1503447-11
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 3/30/15 12:52

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.273)		8270D		1	03/31/15 1:18	CYC0357	CD50205
1,2-Dichlorobenzene	ND (0.273)		8270D		1	03/31/15 1:18	CYC0357	CD50205
1,3-Dichlorobenzene	ND (0.273)		8270D		1	03/31/15 1:18	CYC0357	CD50205
1,4-Dichlorobenzene	ND (0.273)		8270D		1	03/31/15 1:18	CYC0357	CD50205
2,4,5-Trichlorophenol	ND (0.273)		8270D		1	03/31/15 1:18	CYC0357	CD50205
2,4,6-Trichlorophenol	ND (0.273)		8270D		1	03/31/15 1:18	CYC0357	CD50205
2,4-Dichlorophenol	ND (0.273)		8270D		1	03/31/15 1:18	CYC0357	CD50205
2,4-Dimethylphenol	ND (0.273)		8270D		1	03/31/15 1:18	CYC0357	CD50205
2,4-Dinitrophenol	ND (1.37)		8270D		1	03/31/15 1:18	CYC0357	CD50205
2,4-Dinitrotoluene	ND (0.273)		8270D		1	03/31/15 1:18	CYC0357	CD50205
2,6-Dinitrotoluene	ND (0.273)		8270D		1	03/31/15 1:18	CYC0357	CD50205
2-Chloronaphthalene	ND (0.273)		8270D		1	03/31/15 1:18	CYC0357	CD50205
2-Chlorophenol	ND (0.273)		8270D		1	03/31/15 1:18	CYC0357	CD50205
2-Methylphenol	ND (0.273)		8270D		1	03/31/15 1:18	CYC0357	CD50205
2-Nitrophenol	ND (0.273)		8270D		1	03/31/15 1:18	CYC0357	CD50205
3,3´-Dichlorobenzidine	ND (0.547)		8270D		1	03/31/15 1:18	CYC0357	CD50205
3+4-Methylphenol	ND (0.547)		8270D		1	03/31/15 1:18	CYC0357	CD50205
4-Bromophenyl-phenylether	ND (0.273)		8270D		1	03/31/15 1:18	CYC0357	CD50205
4-Chloroaniline	ND (0.547)		8270D		1	03/31/15 1:18	CYC0357	CD50205
4-Nitrophenol	ND (1.37)		8270D		1	03/31/15 1:18	CYC0357	CD50205
Acetophenone	ND (0.547)		8270D		1	03/31/15 1:18	CYC0357	CD50205
Aniline	ND (1.37)		8270D		1	03/31/15 1:18	CYC0357	CD50205
Azobenzene	ND (0.273)		8270D		1	03/31/15 1:18	CYC0357	CD50205
bis(2-Chloroethoxy)methane	ND (0.273)		8270D		1	03/31/15 1:18	CYC0357	CD50205
bis(2-Chloroethyl)ether	ND (0.273)		8270D		1	03/31/15 1:18	CYC0357	CD50205
bis(2-chloroisopropyl)Ether	ND (0.273)		8270D		1	03/31/15 1:18	CYC0357	CD50205
bis(2-Ethylhexyl)phthalate	**32.5** (2.73)		8270D		10	04/01/15 6:29	CYC0357	CD50205
Butylbenzylphthalate	ND (0.273)		8270D		1	03/31/15 1:18	CYC0357	CD50205
Dibenzofuran	ND (0.273)		8270D		1	03/31/15 1:18	CYC0357	CD50205
Diethylphthalate	ND (0.273)		8270D		1	03/31/15 1:18	CYC0357	CD50205
Dimethylphthalate	ND (0.273)		8270D		1	03/31/15 1:18	CYC0357	CD50205
Di-n-butylphthalate	ND (0.273)		8270D		1	03/31/15 1:18	CYC0357	CD50205

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-206 4ft-6ft
Date Sampled: 03/25/15 11:10
Percent Solids: 61
Initial Volume: 30.2
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503447
ESS Laboratory Sample ID: 1503447-11
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 3/30/15 12:52

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Di-n-octylphthalate	ND (0.273)		8270D		1	03/31/15 1:18	CYC0357	CD50205
Hexachlorobenzene	ND (0.273)		8270D		1	03/31/15 1:18	CYC0357	CD50205
Hexachlorobutadiene	ND (0.273)		8270D		1	03/31/15 1:18	CYC0357	CD50205
Hexachloroethane	ND (0.273)		8270D		1	03/31/15 1:18	CYC0357	CD50205
Isophorone	ND (0.273)		8270D		1	03/31/15 1:18	CYC0357	CD50205
Nitrobenzene	ND (0.273)		8270D		1	03/31/15 1:18	CYC0357	CD50205
N-Nitrosodimethylamine	ND (0.273)		8270D		1	03/31/15 1:18	CYC0357	CD50205
Pentachlorophenol	ND (1.37)		8270D		1	03/31/15 1:18	CYC0357	CD50205
Phenol	ND (0.273)		8270D		1	03/31/15 1:18	CYC0357	CD50205

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*53 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*87 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*52 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*67 %*		*30-130*
Surrogate: 2-Fluorophenol	*49 %*		*30-130*
Surrogate: Nitrobenzene-d5	*53 %*		*30-130*
Surrogate: Phenol-d6	*52 %*		*30-130*
Surrogate: p-Terphenyl-d14	*91 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-206 4ft-6ft
Date Sampled: 03/25/15 11:10
Percent Solids: 61
Initial Volume: 20.6
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503447
ESS Laboratory Sample ID: 1503447-11
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 3/28/15 12:00

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	**0.055** (0.020)		8270D		1	04/01/15 12:49	CYC0376	CC52823
Acenaphthene	**0.430** (0.020)		8270D		1	04/01/15 12:49	CYC0376	CC52823
Acenaphthylene	**0.122** (0.020)		8270D		1	04/01/15 12:49	CYC0376	CC52823
Anthracene	**0.523** (0.020)		8270D		1	04/01/15 12:49	CYC0376	CC52823
Benzo(a)anthracene	**0.316** (0.020)		8270D		1	04/01/15 12:49	CYC0376	CC52823
Benzo(a)pyrene	**0.260** (0.020)		8270D		1	04/01/15 12:49	CYC0376	CC52823
Benzo(b)fluoranthene	**0.246** (0.020)		8270D		1	04/01/15 12:49	CYC0376	CC52823
Benzo(g,h,i)perylene	**0.103** (0.020)		8270D		1	04/01/15 12:49	CYC0376	CC52823
Benzo(k)fluoranthene	**0.055** (0.020)		8270D		1	04/01/15 12:49	CYC0376	CC52823
Chrysene	**0.315** (0.020)		8270D		1	04/01/15 12:49	CYC0376	CC52823
Dibenzo(a,h)Anthracene	**0.040** (0.020)		8270D		1	04/01/15 12:49	CYC0376	CC52823
Fluoranthene	**0.550** (0.020)		8270D		1	04/01/15 12:49	CYC0376	CC52823
Fluorene	**0.350** (0.020)		8270D		1	04/01/15 12:49	CYC0376	CC52823
Hexachlorobenzene	ND (0.008)		8270D		1	04/01/15 12:49	CYC0376	CC52823
Indeno(1,2,3-cd)Pyrene	**0.116** (0.020)		8270D		1	04/01/15 12:49	CYC0376	CC52823
Naphthalene	**0.178** (0.020)		8270D		1	04/01/15 12:49	CYC0376	CC52823
Phenanthrene	**1.37** (0.020)		8270D		1	04/01/15 12:49	CYC0376	CC52823
Pyrene	**0.754** (0.020)		8270D		1	04/01/15 12:49	CYC0376	CC52823

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*40 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*54 %*		*30-130*
Surrogate: Nitrobenzene-d5	*52 %*		*30-130*
Surrogate: p-Terphenyl-d14	*63 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-206 4ft-6ft
Date Sampled: 03/25/15 11:10
Percent Solids: 61
Initial Volume: 30.2
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1503447
ESS Laboratory Sample ID: 1503447-11
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 3/27/15 17:04

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	**165** (20.5)		MADEP-EPH		1	DPS	03/30/15 22:24	CYC0346	CC52711
C19-C36 Aliphatics1	**202** (20.5)		MADEP-EPH		1	DPS	03/30/15 22:24	CYC0346	CC52711
C11-C22 Unadjusted Aromatics1	**604** (20.5)		EPH8270		1	VSC	03/30/15 20:52	CYC0347	CC52711
C11-C22 Aromatics1,2	**598** (20.5)		EPH8270			VSC	03/30/15 20:52		[CALC]

	%Recovery	*Qualifier*	*Limits*
Surrogate: 1-Chlorooctadecane	*58 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*109 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*101 %*		*40-140*
Surrogate: O-Terphenyl	*70 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-209 0ft-0.5ft
Date Sampled: 03/25/15 09:30
Percent Solids: 100

ESS Laboratory Work Order: 1503447
ESS Laboratory Sample ID: 1503447-12
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.23)		7010		5	KJK	04/02/15 0:00	2.04	100	CC52814
Arsenic	**38.6** (2.45)		6010C		1	KJK	03/30/15 19:33	2.04	100	CC52814
Barium	**63.4** (2.45)		6010C		1	KJK	03/30/15 19:33	2.04	100	CC52814
Beryllium	**0.64** (0.11)		6010C		1	KJK	03/30/15 19:33	2.04	100	CC52814
Cadmium	**0.74** (0.49)		6010C		1	KJK	03/30/15 19:33	2.04	100	CC52814
Chromium	**77.9** (0.98)		6010C		1	KJK	03/30/15 19:33	2.04	100	CC52814
Lead	**245** (4.90)		6010C		1	KJK	03/30/15 19:33	2.04	100	CC52814
Mercury	**1.03** (0.309)		7471B		10	JP	03/30/15 21:10	0.64	40	CC52815
Nickel	**22.4** (2.45)		6010C		1	KJK	03/30/15 19:33	2.04	100	CC52814
Selenium	ND (4.90)		6010C		1	KJK	03/30/15 19:33	2.04	100	CC52814
Silver	**1.23** (0.49)		6010C		1	KJK	03/30/15 19:33	2.04	100	CC52814
Thallium	ND (0.39)		7010		4	JP	04/06/15 23:09	2.04	100	CC52814
Vanadium	**74.6** (0.98)		6010C		1	KJK	03/30/15 19:33	2.04	100	CC52814
Zinc	**356** (2.45)		6010C		1	KJK	03/30/15 19:33	2.04	100	CC52814

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-209 2ft-4ft
Date Sampled: 03/25/15 09:30
Percent Solids: 100

ESS Laboratory Work Order: 1503447
ESS Laboratory Sample ID: 1503447-13
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (4.48)		6010C		1	KJK	03/30/15 20:12	2.23	100	CC52814
Arsenic	**62.2** (2.24)		6010C		1	KJK	03/30/15 20:12	2.23	100	CC52814
Barium	**61.6** (2.24)		6010C		1	KJK	03/30/15 20:12	2.23	100	CC52814
Beryllium	**0.67** (0.10)		6010C		1	KJK	03/30/15 20:12	2.23	100	CC52814
Cadmium	**1.88** (0.45)		6010C		1	KJK	03/30/15 20:12	2.23	100	CC52814
Chromium	**124** (0.90)		6010C		1	KJK	03/30/15 20:12	2.23	100	CC52814
Lead	**233** (4.48)		6010C		1	KJK	03/30/15 20:12	2.23	100	CC52814
Mercury	**0.167** (0.030)		7471B		1	JP	03/30/15 18:23	0.67	40	CC52815
Nickel	**17.8** (2.24)		6010C		1	KJK	03/30/15 20:12	2.23	100	CC52814
Selenium	ND (4.48)		6010C		1	KJK	03/30/15 20:12	2.23	100	CC52814
Silver	**1.49** (0.45)		6010C		1	KJK	03/30/15 20:12	2.23	100	CC52814
Thallium	ND (0.45)		7010		5	KJK	03/31/15 3:09	2.23	100	CC52814
Vanadium	**140** (0.90)		6010C		1	KJK	03/30/15 20:12	2.23	100	CC52814
Zinc	**297** (2.24)		6010C		1	KJK	03/30/15 20:12	2.23	100	CC52814

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-209 6ft-8ft
Date Sampled: 03/25/15 09:30
Percent Solids: 100

ESS Laboratory Work Order: 1503447
ESS Laboratory Sample ID: 1503447-14
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (3.95)		6010C		1	KJK	03/30/15 20:18	2.53	100	CC52814
Arsenic	**3.54** (1.98)		6010C		1	KJK	03/30/15 20:18	2.53	100	CC52814
Barium	**15.1** (1.98)		6010C		1	KJK	03/30/15 20:18	2.53	100	CC52814
Beryllium	**0.27** (0.09)		6010C		1	KJK	03/30/15 20:18	2.53	100	CC52814
Cadmium	ND (0.40)		6010C		1	KJK	03/30/15 20:18	2.53	100	CC52814
Chromium	**13.6** (0.79)		6010C		1	KJK	03/30/15 20:18	2.53	100	CC52814
Lead	ND (3.95)		6010C		1	KJK	03/30/15 20:18	2.53	100	CC52814
Mercury	ND (0.031)		7471B		1	JP	03/30/15 18:25	0.64	40	CC52815
Nickel	**8.32** (1.98)		6010C		1	KJK	03/30/15 20:18	2.53	100	CC52814
Selenium	ND (3.95)		6010C		1	KJK	03/30/15 20:18	2.53	100	CC52814
Silver	ND (0.40)		6010C		1	KJK	03/30/15 20:18	2.53	100	CC52814
Thallium	ND (0.40)		7010		5	KJK	03/31/15 3:15	2.53	100	CC52814
Vanadium	**19.1** (0.79)		6010C		1	KJK	03/30/15 20:18	2.53	100	CC52814
Zinc	**22.9** (1.98)		6010C		1	KJK	03/30/15 20:18	2.53	100	CC52814

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-208 0ft-0.5ft
Date Sampled: 03/25/15 10:00
Percent Solids: 100

ESS Laboratory Work Order: 1503447
ESS Laboratory Sample ID: 1503447-15
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.17)		7010		5	KJK	04/02/15 0:56	2.14	100	CC52814
Arsenic	**34.3** (2.34)		6010C		1	KJK	03/30/15 20:22	2.14	100	CC52814
Barium	**58.9** (2.34)		6010C		1	KJK	03/30/15 20:22	2.14	100	CC52814
Beryllium	**0.58** (0.10)		6010C		1	KJK	03/30/15 20:22	2.14	100	CC52814
Cadmium	**0.65** (0.47)		6010C		1	KJK	03/30/15 20:22	2.14	100	CC52814
Chromium	**71.1** (0.93)		6010C		1	KJK	03/30/15 20:22	2.14	100	CC52814
Lead	**218** (4.67)		6010C		1	KJK	03/30/15 20:22	2.14	100	CC52814
Mercury	**0.368** (0.030)		7471B		1	JP	03/30/15 18:30	0.67	40	CC52815
Nickel	**20.9** (2.34)		6010C		1	KJK	03/30/15 20:22	2.14	100	CC52814
Selenium	ND (4.67)		6010C		1	KJK	03/30/15 20:22	2.14	100	CC52814
Silver	**1.10** (0.47)		6010C		1	KJK	03/30/15 20:22	2.14	100	CC52814
Thallium	ND (0.47)		7010		5	KJK	03/31/15 3:21	2.14	100	CC52814
Vanadium	**68.7** (0.93)		6010C		1	KJK	03/30/15 20:22	2.14	100	CC52814
Zinc	**325** (2.34)		6010C		1	KJK	03/30/15 20:22	2.14	100	CC52814

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-208 4ft-6ft
Date Sampled: 03/25/15 10:00
Percent Solids: 100

ESS Laboratory Work Order: 1503447
ESS Laboratory Sample ID: 1503447-16
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.24)		7010		5	KJK	04/02/15 1:02	2.01	100	CC52814
Arsenic	**36.1** (2.49)		6010C		1	KJK	03/30/15 20:27	2.01	100	CC52814
Barium	**91.9** (2.49)		6010C		1	KJK	03/30/15 20:27	2.01	100	CC52814
Beryllium	**1.01** (0.11)		6010C		1	KJK	03/30/15 20:27	2.01	100	CC52814
Cadmium	**1.39** (0.50)		6010C		1	KJK	03/30/15 20:27	2.01	100	CC52814
Chromium	**89.5** (1.00)		6010C		1	KJK	03/30/15 20:27	2.01	100	CC52814
Lead	**187** (4.98)		6010C		1	KJK	03/30/15 20:27	2.01	100	CC52814
Mercury	**0.471** (0.030)		7471B		1	JP	03/30/15 18:31	0.67	40	CC52815
Nickel	**30.4** (2.49)		6010C		1	KJK	03/30/15 20:27	2.01	100	CC52814
Selenium	ND (4.98)		6010C		1	KJK	03/30/15 20:27	2.01	100	CC52814
Silver	**0.58** (0.50)		6010C		1	KJK	03/30/15 20:27	2.01	100	CC52814
Thallium	ND (0.40)		7010		4	JP	04/06/15 23:55	2.01	100	CC52814
Vanadium	**76.4** (1.00)		6010C		1	KJK	03/30/15 20:27	2.01	100	CC52814
Zinc	**302** (2.49)		6010C		1	KJK	03/30/15 20:27	2.01	100	CC52814

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-207 0ft-0.5ft
Date Sampled: 03/25/15 10:45
Percent Solids: 100

ESS Laboratory Work Order: 1503447
ESS Laboratory Sample ID: 1503447-17
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.24)		7010		5	KJK	04/02/15 1:08	2.02	100	CC52814
Arsenic	**37.6** (2.48)		6010C		1	KJK	03/30/15 20:33	2.02	100	CC52814
Barium	**63.0** (2.48)		6010C		1	KJK	03/30/15 20:33	2.02	100	CC52814
Beryllium	**0.62** (0.11)		6010C		1	KJK	03/30/15 20:33	2.02	100	CC52814
Cadmium	**0.80** (0.50)		6010C		1	KJK	03/30/15 20:33	2.02	100	CC52814
Chromium	**78.7** (0.99)		6010C		1	KJK	03/30/15 20:33	2.02	100	CC52814
Lead	**237** (4.95)		6010C		1	KJK	03/30/15 20:33	2.02	100	CC52814
Mercury	**0.668** (0.130)		7471B		5	JP	03/30/15 21:17	0.76	40	CC52815
Nickel	**22.9** (2.48)		6010C		1	KJK	03/30/15 20:33	2.02	100	CC52814
Selenium	ND (4.95)		6010C		1	KJK	03/30/15 20:33	2.02	100	CC52814
Silver	**1.25** (0.50)		6010C		1	KJK	03/30/15 20:33	2.02	100	CC52814
Thallium	ND (0.40)		7010		4	JP	04/07/15 0:00	2.02	100	CC52814
Vanadium	**77.5** (0.99)		6010C		1	KJK	03/30/15 20:33	2.02	100	CC52814
Zinc	**354** (2.48)		6010C		1	KJK	03/30/15 20:33	2.02	100	CC52814

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-207 4ft-6ft
Date Sampled: 03/25/15 10:45
Percent Solids: 100

ESS Laboratory Work Order: 1503447
ESS Laboratory Sample ID: 1503447-18
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	**1.22** (1.09)		7010		5	KJK	04/02/15 1:13	2.3	100	CC52814
Arsenic	**71.6** (2.17)		6010C		1	KJK	03/30/15 20:38	2.3	100	CC52814
Barium	**98.6** (2.17)		6010C		1	KJK	03/30/15 20:38	2.3	100	CC52814
Beryllium	**0.85** (0.10)		6010C		1	KJK	03/30/15 20:38	2.3	100	CC52814
Cadmium	**2.38** (0.43)		6010C		1	KJK	03/30/15 20:38	2.3	100	CC52814
Chromium	**114** (0.87)		6010C		1	KJK	03/30/15 20:38	2.3	100	CC52814
Lead	**296** (4.35)		6010C		1	KJK	03/30/15 20:38	2.3	100	CC52814
Mercury	**1.43** (0.291)		7471B		10	JP	03/30/15 21:19	0.68	40	CC52815
Nickel	**26.4** (2.17)		6010C		1	KJK	03/30/15 20:38	2.3	100	CC52814
Selenium	ND (4.35)		6010C		1	KJK	03/30/15 20:38	2.3	100	CC52814
Silver	**1.27** (0.43)		6010C		1	KJK	03/30/15 20:38	2.3	100	CC52814
Thallium	ND (0.43)		7010		5	KJK	03/31/15 3:50	2.3	100	CC52814
Vanadium	**104** (0.87)		6010C		1	KJK	03/30/15 20:38	2.3	100	CC52814
Zinc	**402** (2.17)		6010C		1	KJK	03/30/15 20:38	2.3	100	CC52814

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-207 6ft-7.5ft
Date Sampled: 03/25/15 10:45
Percent Solids: 100

ESS Laboratory Work Order: 1503447
ESS Laboratory Sample ID: 1503447-19
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.11)		7010		5	KJK	04/02/15 1:19	2.26	100	CC52814
Arsenic	**6.18** (2.21)		6010C		1	KJK	03/30/15 20:44	2.26	100	CC52814
Barium	**22.8** (2.21)		6010C		1	KJK	03/30/15 20:44	2.26	100	CC52814
Beryllium	**0.40** (0.10)		6010C		1	KJK	03/30/15 20:44	2.26	100	CC52814
Cadmium	ND (0.44)		6010C		1	KJK	03/30/15 20:44	2.26	100	CC52814
Chromium	**20.3** (0.88)		6010C		1	KJK	03/30/15 20:44	2.26	100	CC52814
Lead	**6.79** (4.42)		6010C		1	KJK	03/30/15 20:44	2.26	100	CC52814
Mercury	ND (0.024)		7471B		1	JP	03/30/15 18:36	0.83	40	CC52815
Nickel	**12.0** (2.21)		6010C		1	KJK	03/30/15 20:44	2.26	100	CC52814
Selenium	ND (4.42)		6010C		1	KJK	03/30/15 20:44	2.26	100	CC52814
Silver	ND (0.44)		6010C		1	KJK	03/30/15 20:44	2.26	100	CC52814
Thallium	ND (0.44)		7010		5	KJK	03/31/15 3:56	2.26	100	CC52814
Vanadium	**27.1** (0.88)		6010C		1	KJK	03/30/15 20:44	2.26	100	CC52814
Zinc	**33.7** (2.21)		6010C		1	KJK	03/30/15 20:44	2.26	100	CC52814

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-207 0ft-3ft
Date Sampled: 03/25/15 10:45
Percent Solids: 100

ESS Laboratory Work Order: 1503447
ESS Laboratory Sample ID: 1503447-20
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.23)		7010		5	KJK	04/02/15 1:25	2.03	100	CC52814
Arsenic	**44.9** (2.46)		6010C		1	KJK	03/30/15 20:48	2.03	100	CC52814
Barium	**71.3** (2.46)		6010C		1	KJK	03/30/15 20:48	2.03	100	CC52814
Beryllium	**0.73** (0.11)		6010C		1	KJK	03/30/15 20:48	2.03	100	CC52814
Cadmium	**1.18** (0.49)		6010C		1	KJK	03/30/15 20:48	2.03	100	CC52814
Chromium	**95.8** (0.99)		6010C		1	KJK	03/30/15 20:48	2.03	100	CC52814
Lead	**261** (4.93)		6010C		1	KJK	03/30/15 20:48	2.03	100	CC52814
Mercury	**0.482** (0.032)		7471B		1	JP	03/30/15 18:38	0.62	40	CC52815
Nickel	**30.3** (2.46)		6010C		1	KJK	03/30/15 20:48	2.03	100	CC52814
Selenium	ND (4.93)		6010C		1	KJK	03/30/15 20:48	2.03	100	CC52814
Silver	**1.71** (0.49)		6010C		1	KJK	03/30/15 20:48	2.03	100	CC52814
Thallium	ND (0.39)		7010		4	JP	04/07/15 0:06	2.03	100	CC52814
Vanadium	**104** (0.99)		6010C		1	KJK	03/30/15 20:48	2.03	100	CC52814
Zinc	**367** (2.46)		6010C		1	KJK	03/30/15 20:48	2.03	100	CC52814

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-206 0ft-0.5ft
Date Sampled: 03/25/15 11:10
Percent Solids: 100

ESS Laboratory Work Order: 1503447
ESS Laboratory Sample ID: 1503447-21
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.18)		7010		5	KJK	04/02/15 1:30	2.11	100	CC52814
Arsenic	**34.2** (2.37)		6010C		1	KJK	03/30/15 20:54	2.11	100	CC52814
Barium	**65.2** (2.37)		6010C		1	KJK	03/30/15 20:54	2.11	100	CC52814
Beryllium	**0.64** (0.10)		6010C		1	KJK	03/30/15 20:54	2.11	100	CC52814
Cadmium	**0.90** (0.47)		6010C		1	KJK	03/30/15 20:54	2.11	100	CC52814
Chromium	**81.8** (0.95)		6010C		1	KJK	03/30/15 20:54	2.11	100	CC52814
Lead	**238** (4.74)		6010C		1	KJK	03/30/15 20:54	2.11	100	CC52814
Mercury	**0.935** (0.248)		7471B		10	JP	03/30/15 21:20	0.8	40	CC52815
Nickel	**24.0** (2.37)		6010C		1	KJK	03/30/15 20:54	2.11	100	CC52814
Selenium	ND (4.74)		6010C		1	KJK	03/30/15 20:54	2.11	100	CC52814
Silver	**1.35** (0.47)		6010C		1	KJK	03/30/15 20:54	2.11	100	CC52814
Thallium	ND (0.47)		7010		5	KJK	03/31/15 4:07	2.11	100	CC52814
Vanadium	**78.8** (0.95)		6010C		1	KJK	03/30/15 20:54	2.11	100	CC52814
Zinc	**360** (2.37)		6010C		1	KJK	03/30/15 20:54	2.11	100	CC52814

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-206 4ft-6ft
Date Sampled: 03/25/15 11:10
Percent Solids: 100

ESS Laboratory Work Order: 1503447
ESS Laboratory Sample ID: 1503447-22
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.16)		7010		5	KJK	04/02/15 1:36	2.16	100	CC52814
Arsenic	**18.8** (2.31)		6010C		1	KJK	03/30/15 20:59	2.16	100	CC52814
Barium	**44.1** (2.31)		6010C		1	KJK	03/30/15 20:59	2.16	100	CC52814
Beryllium	**0.48** (0.10)		6010C		1	KJK	03/30/15 20:59	2.16	100	CC52814
Cadmium	**0.62** (0.46)		6010C		1	KJK	03/30/15 20:59	2.16	100	CC52814
Chromium	**44.7** (0.93)		6010C		1	KJK	03/30/15 20:59	2.16	100	CC52814
Lead	**93.4** (4.63)		6010C		1	KJK	03/30/15 20:59	2.16	100	CC52814
Mercury	**0.168** (0.031)		7471B		1	JP	03/30/15 18:41	0.63	40	CC52815
Nickel	**14.7** (2.31)		6010C		1	KJK	03/30/15 20:59	2.16	100	CC52814
Selenium	ND (4.63)		6010C		1	KJK	03/30/15 20:59	2.16	100	CC52814
Silver	ND (0.46)		6010C		1	KJK	03/30/15 20:59	2.16	100	CC52814
Thallium	ND (0.46)		7010		5	KJK	03/31/15 4:13	2.16	100	CC52814
Vanadium	**40.2** (0.93)		6010C		1	KJK	03/30/15 20:59	2.16	100	CC52814
Zinc	**143** (2.31)		6010C		1	KJK	03/30/15 20:59	2.16	100	CC52814

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-209 0ft-0.5ft
Date Sampled: 03/25/15 09:30
Percent Solids: 83
Initial Volume: 25.1
Final Volume: 2
Extraction Method: 3540C

ESS Laboratory Work Order: 1503447
ESS Laboratory Sample ID: 1503447-23
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 3/30/15 18:30
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0096)		8082A		1	03/31/15 18:27		CC53006
Aroclor 1221	ND (0.0096)		8082A		1	03/31/15 18:27		CC53006
Aroclor 1232	ND (0.0096)		8082A		1	03/31/15 18:27		CC53006
Aroclor 1242	ND (0.0096)		8082A		1	03/31/15 18:27		CC53006
Aroclor 1248	**P 0.231** (0.0479)		8082A		5	04/01/15 18:21		CC53006
Aroclor 1254	**0.473** (0.0479)		8082A		5	04/01/15 18:21		CC53006
Aroclor 1260	**0.232** (0.0479)		8082A		5	04/01/15 18:21		CC53006
Aroclor 1262	ND (0.0096)		8082A		1	03/31/15 18:27		CC53006
Aroclor 1268	ND (0.0096)		8082A		1	03/31/15 18:27		CC53006

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*119 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*61 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*62 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*61 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-209 2ft-4ft
Date Sampled: 03/25/15 09:30
Percent Solids: 84
Initial Volume: 25.8
Final Volume: 2
Extraction Method: 3540C

ESS Laboratory Work Order: 1503447
ESS Laboratory Sample ID: 1503447-24
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 3/30/15 18:30
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (2.31)		8082A		250	04/01/15 18:40		CC53006
Aroclor 1221	ND (2.31)		8082A		250	04/01/15 18:40		CC53006
Aroclor 1232	ND (2.31)		8082A		250	04/01/15 18:40		CC53006
Aroclor 1242	ND (2.31)		8082A		250	04/01/15 18:40		CC53006
Aroclor 1248	**20.3** (2.31)		8082A		250	04/01/15 18:40		CC53006
Aroclor 1254	ND (2.31)		8082A		250	04/01/15 18:40		CC53006
Aroclor 1260	ND (2.31)		8082A		250	04/01/15 18:40		CC53006
Aroclor 1262	ND (2.31)		8082A		250	04/01/15 18:40		CC53006
Aroclor 1268	ND (2.31)		8082A		250	04/01/15 18:40		CC53006

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-208 0ft-0.5ft
Date Sampled: 03/25/15 10:00
Percent Solids: 85
Initial Volume: 26
Final Volume: 2
Extraction Method: 3540C

ESS Laboratory Work Order: 1503447
ESS Laboratory Sample ID: 1503447-25
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 3/30/15 18:30
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0091)		8082A		1	03/31/15 20:59		CC53006
Aroclor 1221	ND (0.0091)		8082A		1	03/31/15 20:59		CC53006
Aroclor 1232	ND (0.0091)		8082A		1	03/31/15 20:59		CC53006
Aroclor 1242	ND (0.0091)		8082A		1	03/31/15 20:59		CC53006
Aroclor 1248	**LC, P 0.175** (0.0453)		8082A		5	04/01/15 19:00		CC53006
Aroclor 1254	**0.452** (0.0453)		8082A		5	04/01/15 19:00		CC53006
Aroclor 1260	**0.197** (0.0453)		8082A		5	04/01/15 19:00		CC53006
Aroclor 1262	ND (0.0091)		8082A		1	03/31/15 20:59		CC53006
Aroclor 1268	ND (0.0091)		8082A		1	03/31/15 20:59		CC53006

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*102 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*53 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*63 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*69 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-207 0ft-0.5ft
Date Sampled: 03/25/15 10:45
Percent Solids: 88
Initial Volume: 26.1
Final Volume: 2
Extraction Method: 3540C

ESS Laboratory Work Order: 1503447
ESS Laboratory Sample ID: 1503447-26
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 3/30/15 18:30
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0087)		8082A		1	03/31/15 21:18		CC53006
Aroclor 1221	ND (0.0087)		8082A		1	03/31/15 21:18		CC53006
Aroclor 1232	ND (0.0087)		8082A		1	03/31/15 21:18		CC53006
Aroclor 1242	ND (0.0087)		8082A		1	03/31/15 21:18		CC53006
Aroclor 1248	**P 0.489** (0.0866)		8082A		10	04/01/15 19:19		CC53006
Aroclor 1254	**0.692** (0.0866)		8082A		10	04/01/15 19:19		CC53006
Aroclor 1260	**0.261** (0.0866)		8082A		10	04/01/15 19:19		CC53006
Aroclor 1262	ND (0.0087)		8082A		1	03/31/15 21:18		CC53006
Aroclor 1268	ND (0.0087)		8082A		1	03/31/15 21:18		CC53006

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*115 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*51 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*69 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*71 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-207 0ft-3ft
Date Sampled: 03/25/15 10:45
Percent Solids: 70
Initial Volume: 25.8
Final Volume: 2
Extraction Method: 3540C

ESS Laboratory Work Order: 1503447
ESS Laboratory Sample ID: 1503447-27
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 3/30/15 18:30
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.557)		8082A		50	04/01/15 19:38		CC53006
Aroclor 1221	ND (0.557)		8082A		50	04/01/15 19:38		CC53006
Aroclor 1232	ND (0.557)		8082A		50	04/01/15 19:38		CC53006
Aroclor 1242	ND (0.557)		8082A		50	04/01/15 19:38		CC53006
Aroclor 1248	**6.42** (0.557)		8082A		50	04/01/15 19:38		CC53006
Aroclor 1254	**2.63** (0.557)		8082A		50	04/01/15 19:38		CC53006
Aroclor 1260	ND (0.557)		8082A		50	04/01/15 19:38		CC53006
Aroclor 1262	ND (0.557)		8082A		50	04/01/15 19:38		CC53006
Aroclor 1268	ND (0.557)		8082A		50	04/01/15 19:38		CC53006

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-206 0ft-0.5ft
Date Sampled: 03/25/15 11:10
Percent Solids: 60
Initial Volume: 27
Final Volume: 2
Extraction Method: 3540C

ESS Laboratory Work Order: 1503447
ESS Laboratory Sample ID: 1503447-28
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 3/30/15 18:30
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0123)		8082A		1	03/31/15 21:56		CC53006
Aroclor 1221	ND (0.0123)		8082A		1	03/31/15 21:56		CC53006
Aroclor 1232	ND (0.0123)		8082A		1	03/31/15 21:56		CC53006
Aroclor 1242	ND (0.0123)		8082A		1	03/31/15 21:56		CC53006
Aroclor 1248	**P 0.750** (0.123)		8082A		10	04/01/15 19:57		CC53006
Aroclor 1254	**1.10** (0.123)		8082A		10	04/01/15 19:57		CC53006
Aroclor 1260	**0.426** (0.123)		8082A		10	04/01/15 19:57		CC53006
Aroclor 1262	ND (0.0123)		8082A		1	03/31/15 21:56		CC53006
Aroclor 1268	ND (0.0123)		8082A		1	03/31/15 21:56		CC53006

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*128 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*56 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*68 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*68 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-206 4ft-6ft
Date Sampled: 03/25/15 11:10
Percent Solids: 98
Initial Volume: 26.7
Final Volume: 2
Extraction Method: 3540C

ESS Laboratory Work Order: 1503447
ESS Laboratory Sample ID: 1503447-29
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 3/30/15 18:30
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0076)		8082A		1	03/31/15 22:15		CC53006
Aroclor 1221	ND (0.0076)		8082A		1	03/31/15 22:15		CC53006
Aroclor 1232	ND (0.0076)		8082A		1	03/31/15 22:15		CC53006
Aroclor 1242	ND (0.0076)		8082A		1	03/31/15 22:15		CC53006
Aroclor 1248	**0.312** (0.0381)		8082A		5	04/01/15 20:16		CC53006
Aroclor 1254	**0.305** (0.0381)		8082A		5	04/01/15 20:16		CC53006
Aroclor 1260	**0.0897** (0.0076)		8082A		1	03/31/15 22:15		CC53006
Aroclor 1262	ND (0.0076)		8082A		1	03/31/15 22:15		CC53006
Aroclor 1268	ND (0.0076)		8082A		1	03/31/15 22:15		CC53006

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*79 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*70 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*68 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*60 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503447

Quality Control Data

Total Metals

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch CC52814 - 3050B										
Blank										
Antimony	ND	5.00	mg/kg wet							
Antimony	ND	0.25	mg/kg wet							
Arsenic	ND	2.50	mg/kg wet							
Barium	ND	2.50	mg/kg wet							
Beryllium	ND	0.11	mg/kg wet							
Cadmium	ND	0.50	mg/kg wet							
Chromium	ND	1.00	mg/kg wet							
Lead	ND	5.00	mg/kg wet							
Nickel	ND	2.50	mg/kg wet							
Selenium	ND	5.00	mg/kg wet							
Silver	ND	0.50	mg/kg wet							
Thallium	ND	0.10	mg/kg wet							
Vanadium	ND	1.00	mg/kg wet							
Zinc	ND	2.50	mg/kg wet							
LCS										
Antimony	62.5	9.80	mg/kg wet	49.70		126	24-282			
Antimony	59.2	19.6	mg/kg wet	49.70		119	80-120			
Arsenic	128	9.80	mg/kg wet	133.0		97	80-120			
Barium	229	9.80	mg/kg wet	229.0		100	80-120			
Beryllium	90.8	0.43	mg/kg wet	95.80		95	80-120			
Cadmium	107	1.96	mg/kg wet	123.0		87	80-120			
Chromium	56.5	3.92	mg/kg wet	63.20		89	80-120			
Lead	101	19.6	mg/kg wet	108.0		94	80-120			
Nickel	262	9.80	mg/kg wet	285.0		92	80-120			
Selenium	72.4	19.6	mg/kg wet	81.40		89	80-120			
Silver	74.0	1.96	mg/kg wet	74.80		99	80-120			
Thallium	45.9	3.92	mg/kg wet	50.10		92	80-120			
Vanadium	136	3.92	mg/kg wet	148.0		92	80-120			
Zinc	182	9.80	mg/kg wet	203.0		90	80-120			
LCS Dup										
Antimony	55.5	8.93	mg/kg wet	49.70		112	24-282	12	20	
Antimony	54.1	17.9	mg/kg wet	49.70		109	80-120	9	20	
Arsenic	123	8.93	mg/kg wet	133.0		92	80-120	5	20	
Barium	190	8.93	mg/kg wet	229.0		83	80-120	19	20	
Beryllium	85.0	0.39	mg/kg wet	95.80		89	80-120	7	20	
Cadmium	100	1.79	mg/kg wet	123.0		81	80-120	7	20	
Chromium	52.3	3.57	mg/kg wet	63.20		83	80-120	8	20	
Lead	95.7	17.9	mg/kg wet	108.0		89	80-120	6	20	
Nickel	243	8.93	mg/kg wet	285.0		85	80-120	8	20	
Selenium	67.4	17.9	mg/kg wet	81.40		83	80-120	7	20	
Silver	69.1	1.79	mg/kg wet	74.80		92	80-120	7	20	
Thallium	44.5	3.57	mg/kg wet	50.10		89	80-120	3	20	
Vanadium	131	3.57	mg/kg wet	148.0		88	80-120	4	20	
Zinc	171	8.93	mg/kg wet	203.0		84	80-120	6	20	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503447

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Total Metals										
Batch CC52815 - 7471A										
Blank										
Mercury	ND	0.033	mg/kg wet							
LCS										
Mercury	30.0	3.74	mg/kg wet	24.90		120	51-149			
LCS Dup										
Mercury	30.1	3.19	mg/kg wet	24.90		121	51-149	0.6	20	
5035/8260B Volatile Organic Compounds / Low Level										
Batch CC52627 - 5035										
Blank										
1,1,1,2-Tetrachloroethane	ND	0.0050	mg/kg wet							
1,1,1-Trichloroethane	ND	0.0050	mg/kg wet							
1,1,2,2-Tetrachloroethane	ND	0.0020	mg/kg wet							
1,1,2-Trichloroethane	ND	0.0050	mg/kg wet							
1,1-Dichloroethane	ND	0.0050	mg/kg wet							
1,1-Dichloroethene	ND	0.0050	mg/kg wet							
1,1-Dichloropropene	ND	0.0050	mg/kg wet							
1,2,3-Trichlorobenzene	ND	0.0050	mg/kg wet							
1,2,3-Trichloropropane	ND	0.0050	mg/kg wet							
1,2,4-Trichlorobenzene	ND	0.0050	mg/kg wet							
1,2,4-Trimethylbenzene	ND	0.0050	mg/kg wet							
1,2-Dibromo-3-Chloropropane	ND	0.0050	mg/kg wet							
1,2-Dibromoethane	ND	0.0050	mg/kg wet							
1,2-Dichlorobenzene	ND	0.0050	mg/kg wet							
1,2-Dichloroethane	ND	0.0050	mg/kg wet							
1,2-Dichloropropane	ND	0.0050	mg/kg wet							
1,3,5-Trimethylbenzene	ND	0.0050	mg/kg wet							
1,3-Dichlorobenzene	ND	0.0050	mg/kg wet							
1,3-Dichloropropane	ND	0.0050	mg/kg wet							
1,4-Dichlorobenzene	ND	0.0050	mg/kg wet							
1,4-Dioxane	ND	0.100	mg/kg wet							
2,2-Dichloropropane	ND	0.0050	mg/kg wet							
2-Butanone	ND	0.0100	mg/kg wet							
2-Chlorotoluene	ND	0.0050	mg/kg wet							
2-Hexanone	ND	0.0100	mg/kg wet							
4-Chlorotoluene	ND	0.0050	mg/kg wet							
4-Isopropyltoluene	ND	0.0050	mg/kg wet							
4-Methyl-2-Pentanone	ND	0.0100	mg/kg wet							
Acetone	ND	0.0100	mg/kg wet							
Benzene	ND	0.0050	mg/kg wet							
Bromobenzene	ND	0.0050	mg/kg wet							
Bromochloromethane	ND	0.0050	mg/kg wet							
Bromodichloromethane	ND	0.0050	mg/kg wet							
Bromoform	ND	0.0050	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503447

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch CC52627 - 5035										
Bromomethane	ND	0.0100	mg/kg wet							
Carbon Disulfide	ND	0.0050	mg/kg wet							
Carbon Tetrachloride	ND	0.0050	mg/kg wet							
Chlorobenzene	ND	0.0050	mg/kg wet							
Chloroethane	ND	0.0100	mg/kg wet							
Chloroform	ND	0.0050	mg/kg wet							
Chloromethane	ND	0.0100	mg/kg wet							
cis-1,2-Dichloroethene	ND	0.0050	mg/kg wet							
cis-1,3-Dichloropropene	ND	0.0050	mg/kg wet							
Dibromochloromethane	ND	0.0020	mg/kg wet							
Dibromomethane	ND	0.0050	mg/kg wet							
Dichlorodifluoromethane	ND	0.0100	mg/kg wet							
Diethyl Ether	ND	0.0050	mg/kg wet							
Di-isopropyl ether	ND	0.0050	mg/kg wet							
Ethyl tertiary-butyl ether	ND	0.0050	mg/kg wet							
Ethylbenzene	ND	0.0050	mg/kg wet							
Hexachlorobutadiene	ND	0.0050	mg/kg wet							
Isopropylbenzene	ND	0.0050	mg/kg wet							
Methyl tert-Butyl Ether	ND	0.0050	mg/kg wet							
Methylene Chloride	ND	0.0100	mg/kg wet							
Naphthalene	ND	0.0050	mg/kg wet							
n-Butylbenzene	ND	0.0050	mg/kg wet							
n-Propylbenzene	ND	0.0050	mg/kg wet							
sec-Butylbenzene	ND	0.0050	mg/kg wet							
Styrene	ND	0.0050	mg/kg wet							
tert-Butylbenzene	ND	0.0050	mg/kg wet							
Tertiary-amyl methyl ether	ND	0.0050	mg/kg wet							
Tetrachloroethene	ND	0.0050	mg/kg wet							
Tetrahydrofuran	ND	0.0050	mg/kg wet							
Toluene	ND	0.0050	mg/kg wet							
trans-1,2-Dichloroethene	ND	0.0050	mg/kg wet							
trans-1,3-Dichloropropene	ND	0.0050	mg/kg wet							
Trichloroethene	ND	0.0050	mg/kg wet							
Trichlorofluoromethane	ND	0.0050	mg/kg wet							
Vinyl Chloride	ND	0.0100	mg/kg wet							
Xylene O	ND	0.0050	mg/kg wet							
Xylene P,M	ND	0.0100	mg/kg wet							
Surrogate: 1,2-Dichloroethane-d4	*0.0484*		mg/kg wet	*0.05000*		*97*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0461*		mg/kg wet	*0.05000*		*92*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0447*		mg/kg wet	*0.05000*		*89*	*70-130*			
Surrogate: Toluene-d8	*0.0466*		mg/kg wet	*0.05000*		*93*	*70-130*			
LCS										
1,1,1,2-Tetrachloroethane	0.0567	0.0050	mg/kg wet	0.05000		113	70-130			
1,1,1-Trichloroethane	0.0535	0.0050	mg/kg wet	0.05000		107	70-130			
1,1,2,2-Tetrachloroethane	0.0496	0.0020	mg/kg wet	0.05000		99	70-130			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503447

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch CC52627 - 5035										
1,1,2-Trichloroethane	0.0477	0.0050	mg/kg wet	0.05000		95	70-130			
1,1-Dichloroethane	0.0470	0.0050	mg/kg wet	0.05000		94	70-130			
1,1-Dichloroethene	0.0459	0.0050	mg/kg wet	0.05000		92	70-130			
1,1-Dichloropropene	0.0460	0.0050	mg/kg wet	0.05000		92	70-130			
1,2,3-Trichlorobenzene	0.0533	0.0050	mg/kg wet	0.05000		107	70-130			
1,2,3-Trichloropropane	0.0539	0.0050	mg/kg wet	0.05000		108	70-130			
1,2,4-Trichlorobenzene	0.0518	0.0050	mg/kg wet	0.05000		104	70-130			
1,2,4-Trimethylbenzene	0.0496	0.0050	mg/kg wet	0.05000		99	70-130			
1,2-Dibromo-3-Chloropropane	0.0544	0.0050	mg/kg wet	0.05000		109	70-130			
1,2-Dibromoethane	0.0528	0.0050	mg/kg wet	0.05000		106	70-130			
1,2-Dichlorobenzene	0.0503	0.0050	mg/kg wet	0.05000		101	70-130			
1,2-Dichloroethane	0.0494	0.0050	mg/kg wet	0.05000		99	70-130			
1,2-Dichloropropane	0.0456	0.0050	mg/kg wet	0.05000		91	70-130			
1,3,5-Trimethylbenzene	0.0518	0.0050	mg/kg wet	0.05000		104	70-130			
1,3-Dichlorobenzene	0.0502	0.0050	mg/kg wet	0.05000		100	70-130			
1,3-Dichloropropane	0.0535	0.0050	mg/kg wet	0.05000		107	70-130			
1,4-Dichlorobenzene	0.0512	0.0050	mg/kg wet	0.05000		102	70-130			
1,4-Dioxane	0.890	0.100	mg/kg wet	1.000		89	70-130			
2,2-Dichloropropane	0.0549	0.0050	mg/kg wet	0.05000		110	70-130			
2-Butanone	0.239	0.0100	mg/kg wet	0.2500		95	70-130			
2-Chlorotoluene	0.0501	0.0050	mg/kg wet	0.05000		100	70-130			
2-Hexanone	0.279	0.0100	mg/kg wet	0.2500		112	70-130			
4-Chlorotoluene	0.0505	0.0050	mg/kg wet	0.05000		101	70-130			
4-Isopropyltoluene	0.0502	0.0050	mg/kg wet	0.05000		100	70-130			
4-Methyl-2-Pentanone	0.246	0.0100	mg/kg wet	0.2500		98	70-130			
Acetone	0.277	0.0100	mg/kg wet	0.2500		111	70-130			
Benzene	0.0473	0.0050	mg/kg wet	0.05000		95	70-130			
Bromobenzene	0.0515	0.0050	mg/kg wet	0.05000		103	70-130			
Bromochloromethane	0.0493	0.0050	mg/kg wet	0.05000		99	70-130			
Bromodichloromethane	0.0522	0.0050	mg/kg wet	0.05000		104	70-130			
Bromoform	0.0548	0.0050	mg/kg wet	0.05000		110	70-130			
Bromomethane	0.0927	0.0100	mg/kg wet	0.05000		185	70-130			B+
Carbon Disulfide	0.0510	0.0050	mg/kg wet	0.05000		102	70-130			
Carbon Tetrachloride	0.0572	0.0050	mg/kg wet	0.05000		114	70-130			
Chlorobenzene	0.0505	0.0050	mg/kg wet	0.05000		101	70-130			
Chloroethane	0.0441	0.0100	mg/kg wet	0.05000		88	70-130			
Chloroform	0.0502	0.0050	mg/kg wet	0.05000		100	70-130			
Chloromethane	0.0556	0.0100	mg/kg wet	0.05000		111	70-130			
cis-1,2-Dichloroethene	0.0483	0.0050	mg/kg wet	0.05000		97	70-130			
cis-1,3-Dichloropropene	0.0553	0.0050	mg/kg wet	0.05000		111	70-130			
Dibromochloromethane	0.0535	0.0020	mg/kg wet	0.05000		107	70-130			
Dibromomethane	0.0492	0.0050	mg/kg wet	0.05000		98	70-130			
Dichlorodifluoromethane	0.0525	0.0100	mg/kg wet	0.05000		105	70-130			
Diethyl Ether	0.0481	0.0050	mg/kg wet	0.05000		96	70-130			
Di-isopropyl ether	0.0461	0.0050	mg/kg wet	0.05000		92	70-130			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503447

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch CC52627 - 5035										
Ethyl tertiary-butyl ether	0.0441	0.0050	mg/kg wet	0.05000		88	70-130			
Ethylbenzene	0.0505	0.0050	mg/kg wet	0.05000		101	70-130			
Hexachlorobutadiene	0.0592	0.0050	mg/kg wet	0.05000		118	70-130			
Isopropylbenzene	0.0501	0.0050	mg/kg wet	0.05000		100	70-130			
Methyl tert-Butyl Ether	0.0480	0.0050	mg/kg wet	0.05000		96	70-130			
Methylene Chloride	0.0470	0.0100	mg/kg wet	0.05000		94	70-130			
Naphthalene	0.0460	0.0050	mg/kg wet	0.05000		92	70-130			
n-Butylbenzene	0.0503	0.0050	mg/kg wet	0.05000		101	70-130			
n-Propylbenzene	0.0491	0.0050	mg/kg wet	0.05000		98	70-130			
sec-Butylbenzene	0.0500	0.0050	mg/kg wet	0.05000		100	70-130			
Styrene	0.0520	0.0050	mg/kg wet	0.05000		104	70-130			
tert-Butylbenzene	0.0503	0.0050	mg/kg wet	0.05000		101	70-130			
Tertiary-amyl methyl ether	0.0465	0.0050	mg/kg wet	0.05000		93	70-130			
Tetrachloroethene	0.0524	0.0050	mg/kg wet	0.05000		105	70-130			
Tetrahydrofuran	0.0429	0.0050	mg/kg wet	0.05000		86	70-130			
Toluene	0.0474	0.0050	mg/kg wet	0.05000		95	70-130			
trans-1,2-Dichloroethene	0.0439	0.0050	mg/kg wet	0.05000		88	70-130			
trans-1,3-Dichloropropene	0.0548	0.0050	mg/kg wet	0.05000		110	70-130			
Trichloroethene	0.0486	0.0050	mg/kg wet	0.05000		97	70-130			
Trichlorofluoromethane	0.0468	0.0050	mg/kg wet	0.05000		94	70-130			
Vinyl Chloride	0.0512	0.0100	mg/kg wet	0.05000		102	70-130			
Xylene O	0.0505	0.0050	mg/kg wet	0.05000		101	70-130			
Xylene P,M	0.102	0.0100	mg/kg wet	0.1000		102	70-130			
Surrogate: 1,2-Dichloroethane-d4	*0.0475*		mg/kg wet	*0.05000*		*95*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0472*		mg/kg wet	*0.05000*		*94*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0458*		mg/kg wet	*0.05000*		*92*	*70-130*			
Surrogate: Toluene-d8	*0.0481*		mg/kg wet	*0.05000*		*96*	*70-130*			
LCS Dup										
1,1,1,2-Tetrachloroethane	0.0522	0.0050	mg/kg wet	0.05000		104	70-130	8	25	
1,1,1-Trichloroethane	0.0485	0.0050	mg/kg wet	0.05000		97	70-130	10	25	
1,1,2,2-Tetrachloroethane	0.0449	0.0020	mg/kg wet	0.05000		90	70-130	10	25	
1,1,2-Trichloroethane	0.0436	0.0050	mg/kg wet	0.05000		87	70-130	9	25	
1,1-Dichloroethane	0.0423	0.0050	mg/kg wet	0.05000		85	70-130	11	25	
1,1-Dichloroethene	0.0412	0.0050	mg/kg wet	0.05000		82	70-130	11	25	
1,1-Dichloropropene	0.0414	0.0050	mg/kg wet	0.05000		83	70-130	10	25	
1,2,3-Trichlorobenzene	0.0479	0.0050	mg/kg wet	0.05000		96	70-130	11	25	
1,2,3-Trichloropropane	0.0478	0.0050	mg/kg wet	0.05000		96	70-130	12	25	
1,2,4-Trichlorobenzene	0.0468	0.0050	mg/kg wet	0.05000		94	70-130	10	25	
1,2,4-Trimethylbenzene	0.0443	0.0050	mg/kg wet	0.05000		89	70-130	11	25	
1,2-Dibromo-3-Chloropropane	0.0473	0.0050	mg/kg wet	0.05000		95	70-130	14	25	
1,2-Dibromoethane	0.0485	0.0050	mg/kg wet	0.05000		97	70-130	9	25	
1,2-Dichlorobenzene	0.0447	0.0050	mg/kg wet	0.05000		89	70-130	12	25	
1,2-Dichloroethane	0.0451	0.0050	mg/kg wet	0.05000		90	70-130	9	25	
1,2-Dichloropropane	0.0411	0.0050	mg/kg wet	0.05000		82	70-130	11	25	
1,3,5-Trimethylbenzene	0.0463	0.0050	mg/kg wet	0.05000		93	70-130	11	25	

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch CC52627 - 5035										
1,3-Dichlorobenzene	0.0449	0.0050	mg/kg wet	0.05000		90	70-130	11	25	
1,3-Dichloropropane	0.0495	0.0050	mg/kg wet	0.05000		99	70-130	8	25	
1,4-Dichlorobenzene	0.0452	0.0050	mg/kg wet	0.05000		90	70-130	12	25	
1,4-Dioxane	0.856	0.100	mg/kg wet	1.000		86	70-130	4	20	
2,2-Dichloropropane	0.0489	0.0050	mg/kg wet	0.05000		98	70-130	11	25	
2-Butanone	0.218	0.0100	mg/kg wet	0.2500		87	70-130	9	25	
2-Chlorotoluene	0.0449	0.0050	mg/kg wet	0.05000		90	70-130	11	25	
2-Hexanone	0.254	0.0100	mg/kg wet	0.2500		101	70-130	10	25	
4-Chlorotoluene	0.0452	0.0050	mg/kg wet	0.05000		90	70-130	11	25	
4-Isopropyltoluene	0.0444	0.0050	mg/kg wet	0.05000		89	70-130	12	25	
4-Methyl-2-Pentanone	0.221	0.0100	mg/kg wet	0.2500		88	70-130	11	25	
Acetone	0.250	0.0100	mg/kg wet	0.2500		100	70-130	10	25	
Benzene	0.0426	0.0050	mg/kg wet	0.05000		85	70-130	10	25	
Bromobenzene	0.0456	0.0050	mg/kg wet	0.05000		91	70-130	12	25	
Bromochloromethane	0.0451	0.0050	mg/kg wet	0.05000		90	70-130	9	25	
Bromodichloromethane	0.0472	0.0050	mg/kg wet	0.05000		94	70-130	10	25	
Bromoform	0.0498	0.0050	mg/kg wet	0.05000		100	70-130	10	25	
Bromomethane	0.0760	0.0100	mg/kg wet	0.05000		152	70-130	20	25	B+
Carbon Disulfide	0.0460	0.0050	mg/kg wet	0.05000		92	70-130	10	25	
Carbon Tetrachloride	0.0511	0.0050	mg/kg wet	0.05000		102	70-130	11	25	
Chlorobenzene	0.0468	0.0050	mg/kg wet	0.05000		94	70-130	8	25	
Chloroethane	0.0394	0.0100	mg/kg wet	0.05000		79	70-130	11	25	
Chloroform	0.0450	0.0050	mg/kg wet	0.05000		90	70-130	11	25	
Chloromethane	0.0499	0.0100	mg/kg wet	0.05000		100	70-130	11	25	
cis-1,2-Dichloroethene	0.0444	0.0050	mg/kg wet	0.05000		89	70-130	8	25	
cis-1,3-Dichloropropene	0.0498	0.0050	mg/kg wet	0.05000		100	70-130	11	25	
Dibromochloromethane	0.0484	0.0020	mg/kg wet	0.05000		97	70-130	10	25	
Dibromomethane	0.0452	0.0050	mg/kg wet	0.05000		90	70-130	8	25	
Dichlorodifluoromethane	0.0470	0.0100	mg/kg wet	0.05000		94	70-130	11	25	
Diethyl Ether	0.0435	0.0050	mg/kg wet	0.05000		87	70-130	10	25	
Di-isopropyl ether	0.0417	0.0050	mg/kg wet	0.05000		83	70-130	10	25	
Ethyl tertiary-butyl ether	0.0373	0.0050	mg/kg wet	0.05000		75	70-130	17	25	
Ethylbenzene	0.0468	0.0050	mg/kg wet	0.05000		94	70-130	8	25	
Hexachlorobutadiene	0.0523	0.0050	mg/kg wet	0.05000		105	70-130	12	25	
Isopropylbenzene	0.0449	0.0050	mg/kg wet	0.05000		90	70-130	11	25	
Methyl tert-Butyl Ether	0.0416	0.0050	mg/kg wet	0.05000		83	70-130	14	25	
Methylene Chloride	0.0408	0.0100	mg/kg wet	0.05000		82	70-130	14	25	
Naphthalene	0.0419	0.0050	mg/kg wet	0.05000		84	70-130	9	25	
n-Butylbenzene	0.0453	0.0050	mg/kg wet	0.05000		91	70-130	11	25	
n-Propylbenzene	0.0439	0.0050	mg/kg wet	0.05000		88	70-130	11	25	
sec-Butylbenzene	0.0447	0.0050	mg/kg wet	0.05000		89	70-130	11	25	
Styrene	0.0472	0.0050	mg/kg wet	0.05000		94	70-130	10	25	
tert-Butylbenzene	0.0451	0.0050	mg/kg wet	0.05000		90	70-130	11	25	
Tertiary-amyl methyl ether	0.0396	0.0050	mg/kg wet	0.05000		79	70-130	16	25	
Tetrachloroethene	0.0481	0.0050	mg/kg wet	0.05000		96	70-130	8	25	

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch CC52627 - 5035										
Tetrahydrofuran	0.0412	0.0050	mg/kg wet	0.05000		82	70-130	4	25	
Toluene	0.0426	0.0050	mg/kg wet	0.05000		85	70-130	11	25	
trans-1,2-Dichloroethene	0.0398	0.0050	mg/kg wet	0.05000		80	70-130	10	25	
trans-1,3-Dichloropropene	0.0491	0.0050	mg/kg wet	0.05000		98	70-130	11	25	
Trichloroethene	0.0438	0.0050	mg/kg wet	0.05000		88	70-130	10	25	
Trichlorofluoromethane	0.0416	0.0050	mg/kg wet	0.05000		83	70-130	12	25	
Vinyl Chloride	0.0449	0.0100	mg/kg wet	0.05000		90	70-130	13	25	
Xylene O	0.0465	0.0050	mg/kg wet	0.05000		93	70-130	8	25	
Xylene P,M	0.0939	0.0100	mg/kg wet	0.1000		94	70-130	8	25	
Surrogate: 1,2-Dichloroethane-d4	*0.0476*		mg/kg wet	*0.05000*		*95*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0484*		mg/kg wet	*0.05000*		*97*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0455*		mg/kg wet	*0.05000*		*91*	*70-130*			
Surrogate: Toluene-d8	*0.0493*		mg/kg wet	*0.05000*		*99*	*70-130*			
8082A Polychlorinated Biphenyls (PCB)										
Batch CC53006 - 3540C										
Blank										
Aroclor 1016	ND	0.0080	mg/kg wet							
Aroclor 1221	ND	0.0080	mg/kg wet							
Aroclor 1232	ND	0.0080	mg/kg wet							
Aroclor 1242	ND	0.0080	mg/kg wet							
Aroclor 1248	ND	0.0080	mg/kg wet							
Aroclor 1254	ND	0.0080	mg/kg wet							
Aroclor 1260	ND	0.0080	mg/kg wet							
Aroclor 1262	ND	0.0080	mg/kg wet							
Aroclor 1268	ND	0.0080	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.00260*		mg/kg wet	*0.004000*		*65*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.00229*		mg/kg wet	*0.004000*		*57*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.00316*		mg/kg wet	*0.004000*		*79*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.00307*		mg/kg wet	*0.004000*		*77*	*30-150*			
LCS										
Aroclor 1016	0.0844	0.0080	mg/kg wet	0.08000		106	40-140			
Aroclor 1260	0.0702	0.0080	mg/kg wet	0.08000		88	40-140			
Surrogate: Decachlorobiphenyl	*0.00301*		mg/kg wet	*0.004000*		*75*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.00277*		mg/kg wet	*0.004000*		*69*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.00358*		mg/kg wet	*0.004000*		*90*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.00354*		mg/kg wet	*0.004000*		*89*	*30-150*			
LCS Dup										
Aroclor 1016	0.0885	0.0080	mg/kg wet	0.08000		111	40-140	5	30	
Aroclor 1260	0.0761	0.0080	mg/kg wet	0.08000		95	40-140	8	30	
Surrogate: Decachlorobiphenyl	*0.00266*		mg/kg wet	*0.004000*		*67*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.00272*		mg/kg wet	*0.004000*		*68*	*30-150*			

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch CC53006 - 3540C										
Surrogate: Tetrachloro-m-xylene	*0.00350*		mg/kg wet	*0.004000*		*88*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.00348*		mg/kg wet	*0.004000*		*87*	*30-150*			
8270D Semi-Volatile Organic Compounds										
Batch CD50205 - 3546										
Blank										
1,2,4-Trichlorobenzene	ND	0.333	mg/kg wet							
1,2-Dichlorobenzene	ND	0.333	mg/kg wet							
1,3-Dichlorobenzene	ND	0.333	mg/kg wet							
1,4-Dichlorobenzene	ND	0.333	mg/kg wet							
2,4,5-Trichlorophenol	ND	0.333	mg/kg wet							
2,4,6-Trichlorophenol	ND	0.333	mg/kg wet							
2,4-Dichlorophenol	ND	0.333	mg/kg wet							
2,4-Dimethylphenol	ND	0.333	mg/kg wet							
2,4-Dinitrophenol	ND	1.67	mg/kg wet							
2,4-Dinitrotoluene	ND	0.333	mg/kg wet							
2,6-Dinitrotoluene	ND	0.333	mg/kg wet							
2-Chloronaphthalene	ND	0.333	mg/kg wet							
2-Chlorophenol	ND	0.333	mg/kg wet							
2-Methylphenol	ND	0.333	mg/kg wet							
2-Nitrophenol	ND	0.333	mg/kg wet							
3,3´-Dichlorobenzidine	ND	0.667	mg/kg wet							
3+4-Methylphenol	ND	0.667	mg/kg wet							
4-Bromophenyl-phenylether	ND	0.333	mg/kg wet							
4-Chloroaniline	ND	0.667	mg/kg wet							
4-Nitrophenol	ND	1.67	mg/kg wet							
Acetophenone	ND	0.667	mg/kg wet							
Aniline	ND	1.67	mg/kg wet							
Azobenzene	ND	0.333	mg/kg wet							
bis(2-Chloroethoxy)methane	ND	0.333	mg/kg wet							
bis(2-Chloroethyl)ether	ND	0.333	mg/kg wet							
bis(2-chloroisopropyl)Ether	ND	0.333	mg/kg wet							
bis(2-Ethylhexyl)phthalate	ND	0.333	mg/kg wet							
Butylbenzylphthalate	ND	0.333	mg/kg wet							
Dibenzofuran	ND	0.333	mg/kg wet							
Diethylphthalate	ND	0.333	mg/kg wet							
Dimethylphthalate	ND	0.333	mg/kg wet							
Di-n-butylphthalate	ND	0.333	mg/kg wet							
Di-n-octylphthalate	ND	0.333	mg/kg wet							
Hexachlorobutadiene	ND	0.333	mg/kg wet							
Hexachloroethane	ND	0.333	mg/kg wet							
Isophorone	ND	0.333	mg/kg wet							
Nitrobenzene	ND	0.333	mg/kg wet							
N-Nitrosodimethylamine	ND	0.333	mg/kg wet							

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch CD50205 - 3546										
Pentachlorophenol	ND	1.67	mg/kg wet							
Phenol	ND	0.333	mg/kg wet							
Surrogate: 1,2-Dichlorobenzene-d4	*2.01*		mg/kg wet	*3.333*		*60*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*4.41*		mg/kg wet	*5.000*		*88*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*2.99*		mg/kg wet	*5.000*		*60*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*2.18*		mg/kg wet	*3.333*		*66*	*30-130*			
Surrogate: 2-Fluorophenol	*2.84*		mg/kg wet	*5.000*		*57*	*30-130*			
Surrogate: Nitrobenzene-d5	*1.86*		mg/kg wet	*3.333*		*56*	*30-130*			
Surrogate: Phenol-d6	*2.91*		mg/kg wet	*5.000*		*58*	*30-130*			
Surrogate: p-Terphenyl-d14	*3.07*		mg/kg wet	*3.333*		*92*	*30-130*			
LCS										
1,2,4-Trichlorobenzene	1.71	0.333	mg/kg wet	3.333		51	40-140			
1,2-Dichlorobenzene	1.43	0.333	mg/kg wet	3.333		43	40-140			
1,3-Dichlorobenzene	1.43	0.333	mg/kg wet	3.333		43	40-140			
1,4-Dichlorobenzene	1.44	0.333	mg/kg wet	3.333		43	40-140			
2,4,5-Trichlorophenol	2.42	0.333	mg/kg wet	3.333		73	30-130			
2,4,6-Trichlorophenol	2.32	0.333	mg/kg wet	3.333		70	30-130			
2,4-Dichlorophenol	1.98	0.333	mg/kg wet	3.333		59	30-130			
2,4-Dimethylphenol	2.08	0.333	mg/kg wet	3.333		62	30-130			
2,4-Dinitrophenol	2.15	1.67	mg/kg wet	3.333		64	30-130			
2,4-Dinitrotoluene	2.48	0.333	mg/kg wet	3.333		74	40-140			
2,6-Dinitrotoluene	2.27	0.333	mg/kg wet	3.333		68	40-140			
2-Chloronaphthalene	1.73	0.333	mg/kg wet	3.333		52	40-140			
2-Chlorophenol	1.48	0.333	mg/kg wet	3.333		44	30-130			
2-Methylphenol	1.65	0.333	mg/kg wet	3.333		49	30-130			
2-Nitrophenol	1.82	0.333	mg/kg wet	3.333		55	30-130			
3,3´-Dichlorobenzidine	2.00	0.667	mg/kg wet	3.333		60	40-140			
3+4-Methylphenol	4.14	0.667	mg/kg wet	6.667		62	30-130			
4-Bromophenyl-phenylether	2.52	0.333	mg/kg wet	3.333		76	40-140			
4-Chloroaniline	1.46	0.667	mg/kg wet	3.333		44	40-140			
4-Nitrophenol	3.73	1.67	mg/kg wet	3.333		112	30-130			
Acetophenone	1.61	0.667	mg/kg wet	3.333		48	40-140			
Aniline	1.06	1.67	mg/kg wet	3.333		32	40-140			B-
Azobenzene	2.13	0.333	mg/kg wet	3.333		64	40-140			
bis(2-Chloroethoxy)methane	1.74	0.333	mg/kg wet	3.333		52	40-140			
bis(2-Chloroethyl)ether	1.39	0.333	mg/kg wet	3.333		42	40-140			
bis(2-chloroisopropyl)Ether	1.19	0.333	mg/kg wet	3.333		36	40-140			B-
bis(2-Ethylhexyl)phthalate	2.61	0.333	mg/kg wet	3.333		78	40-140			
Butylbenzylphthalate	2.69	0.333	mg/kg wet	3.333		81	40-140			
Dibenzofuran	2.16	0.333	mg/kg wet	3.333		65	40-140			
Diethylphthalate	2.56	0.333	mg/kg wet	3.333		77	40-140			
Dimethylphthalate	2.24	0.333	mg/kg wet	3.333		67	40-140			
Di-n-butylphthalate	2.61	0.333	mg/kg wet	3.333		78	40-140			
Di-n-octylphthalate	2.71	0.333	mg/kg wet	3.333		81	40-140			
Hexachlorobutadiene	1.83	0.333	mg/kg wet	3.333		55	40-140			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503447

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch CD50205 - 3546										
Hexachloroethane	1.50	0.333	mg/kg wet	3.333		45	40-140			
Isophorone	1.72	0.333	mg/kg wet	3.333		52	40-140			
Nitrobenzene	1.65	0.333	mg/kg wet	3.333		49	40-140			
N-Nitrosodimethylamine	1.34	0.333	mg/kg wet	3.333		40	40-140			
Pentachlorophenol	2.98	1.67	mg/kg wet	3.333		89	30-130			
Phenol	1.81	0.333	mg/kg wet	3.333		54	30-130			
Surrogate: 1,2-Dichlorobenzene-d4	*1.67*		mg/kg wet	*3.333*		*50*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*5.01*		mg/kg wet	*5.000*		*100*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*2.44*		mg/kg wet	*5.000*		*49*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*2.18*		mg/kg wet	*3.333*		*65*	*30-130*			
Surrogate: 2-Fluorophenol	*2.39*		mg/kg wet	*5.000*		*48*	*30-130*			
Surrogate: Nitrobenzene-d5	*1.67*		mg/kg wet	*3.333*		*50*	*30-130*			
Surrogate: Phenol-d6	*2.49*		mg/kg wet	*5.000*		*50*	*30-130*			
Surrogate: p-Terphenyl-d14	*3.27*		mg/kg wet	*3.333*		*98*	*30-130*			
LCS Dup										
1,2,4-Trichlorobenzene	1.79	0.333	mg/kg wet	3.333		54	40-140	4	30	
1,2-Dichlorobenzene	1.61	0.333	mg/kg wet	3.333		48	40-140	12	30	
1,3-Dichlorobenzene	1.62	0.333	mg/kg wet	3.333		49	40-140	12	30	
1,4-Dichlorobenzene	1.61	0.333	mg/kg wet	3.333		48	40-140	11	30	
2,4,5-Trichlorophenol	2.48	0.333	mg/kg wet	3.333		74	30-130	3	30	
2,4,6-Trichlorophenol	2.45	0.333	mg/kg wet	3.333		73	30-130	5	30	
2,4-Dichlorophenol	2.07	0.333	mg/kg wet	3.333		62	30-130	4	30	
2,4-Dimethylphenol	2.09	0.333	mg/kg wet	3.333		63	30-130	0.6	30	
2,4-Dinitrophenol	2.14	1.67	mg/kg wet	3.333		64	30-130	0.2	30	
2,4-Dinitrotoluene	2.42	0.333	mg/kg wet	3.333		73	40-140	2	30	
2,6-Dinitrotoluene	2.31	0.333	mg/kg wet	3.333		69	40-140	2	30	
2-Chloronaphthalene	1.76	0.333	mg/kg wet	3.333		53	40-140	2	30	
2-Chlorophenol	1.64	0.333	mg/kg wet	3.333		49	30-130	10	30	
2-Methylphenol	1.76	0.333	mg/kg wet	3.333		53	30-130	7	30	
2-Nitrophenol	1.84	0.333	mg/kg wet	3.333		55	30-130	1	30	
3,3´-Dichlorobenzidine	1.59	0.667	mg/kg wet	3.333		48	40-140	23	30	
3+4-Methylphenol	4.53	0.667	mg/kg wet	6.667		68	30-130	9	30	
4-Bromophenyl-phenylether	2.57	0.333	mg/kg wet	3.333		77	40-140	2	30	
4-Chloroaniline	1.50	0.667	mg/kg wet	3.333		45	40-140	3	30	
4-Nitrophenol	3.50	1.67	mg/kg wet	3.333		105	30-130	6	30	
Acetophenone	1.80	0.667	mg/kg wet	3.333		54	40-140	11	30	
Aniline	1.07	1.67	mg/kg wet	3.333		32	40-140	1	30	B-
Azobenzene	2.16	0.333	mg/kg wet	3.333		65	40-140	2	30	
bis(2-Chloroethoxy)methane	1.78	0.333	mg/kg wet	3.333		54	40-140	2	30	
bis(2-Chloroethyl)ether	1.46	0.333	mg/kg wet	3.333		44	40-140	5	30	
bis(2-chloroisopropyl)Ether	1.33	0.333	mg/kg wet	3.333		40	40-140	11	30	
bis(2-Ethylhexyl)phthalate	2.55	0.333	mg/kg wet	3.333		77	40-140	2	30	
Butylbenzylphthalate	2.63	0.333	mg/kg wet	3.333		79	40-140	2	30	
Dibenzofuran	2.23	0.333	mg/kg wet	3.333		67	40-140	3	30	
Diethylphthalate	2.53	0.333	mg/kg wet	3.333		76	40-140	1	30	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503447

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch CD50205 - 3546										
Dimethylphthalate	2.27	0.333	mg/kg wet	3.333		68	40-140	1	30	
Di-n-butylphthalate	2.50	0.333	mg/kg wet	3.333		75	40-140	4	30	
Di-n-octylphthalate	2.60	0.333	mg/kg wet	3.333		78	40-140	4	30	
Hexachlorobutadiene	1.91	0.333	mg/kg wet	3.333		57	40-140	4	30	
Hexachloroethane	1.74	0.333	mg/kg wet	3.333		52	40-140	15	30	
Isophorone	1.77	0.333	mg/kg wet	3.333		53	40-140	3	30	
Nitrobenzene	1.74	0.333	mg/kg wet	3.333		52	40-140	6	30	
N-Nitrosodimethylamine	1.60	0.333	mg/kg wet	3.333		48	40-140	17	30	
Pentachlorophenol	2.89	1.67	mg/kg wet	3.333		87	30-130	3	30	
Phenol	1.74	0.333	mg/kg wet	3.333		52	30-130	4	30	
Surrogate: 1,2-Dichlorobenzene-d4	*1.75*		mg/kg wet	*3.333*		*53*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*4.63*		mg/kg wet	*5.000*		*93*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*2.65*		mg/kg wet	*5.000*		*53*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*2.10*		mg/kg wet	*3.333*		*63*	*30-130*			
Surrogate: 2-Fluorophenol	*2.52*		mg/kg wet	*5.000*		*50*	*30-130*			
Surrogate: Nitrobenzene-d5	*1.67*		mg/kg wet	*3.333*		*50*	*30-130*			
Surrogate: Phenol-d6	*2.63*		mg/kg wet	*5.000*		*53*	*30-130*			
Surrogate: p-Terphenyl-d14	*3.00*		mg/kg wet	*3.333*		*90*	*30-130*			
8270D(SIM) Polynuclear Aromatic Hydrocarbons										
Batch CC52823 - 3546										
Blank										
2-Methylnaphthalene	ND	0.012	mg/kg wet							
Acenaphthene	ND	0.012	mg/kg wet							
Acenaphthylene	ND	0.012	mg/kg wet							
Anthracene	ND	0.012	mg/kg wet							
Benzo(a)anthracene	ND	0.012	mg/kg wet							
Benzo(a)pyrene	ND	0.012	mg/kg wet							
Benzo(b)fluoranthene	ND	0.012	mg/kg wet							
Benzo(g,h,i)perylene	ND	0.012	mg/kg wet							
Benzo(k)fluoranthene	ND	0.012	mg/kg wet							
Chrysene	ND	0.012	mg/kg wet							
Dibenzo(a,h)Anthracene	ND	0.012	mg/kg wet							
Fluoranthene	ND	0.012	mg/kg wet							
Fluorene	ND	0.012	mg/kg wet							
Hexachlorobenzene	ND	0.012	mg/kg wet							
Indeno(1,2,3-cd)Pyrene	ND	0.012	mg/kg wet							
Naphthalene	ND	0.012	mg/kg wet							
Phenanthrene	ND	0.012	mg/kg wet							
Pyrene	ND	0.012	mg/kg wet							
Surrogate: 1,2-Dichlorobenzene-d4	*0.127*		mg/kg wet	*0.2500*		*51*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*0.158*		mg/kg wet	*0.2500*		*63*	*30-130*			
Surrogate: Nitrobenzene-d5	*0.147*		mg/kg wet	*0.2500*		*59*	*30-130*			
Surrogate: p-Terphenyl-d14	*0.207*		mg/kg wet	*0.2500*		*83*	*30-130*			
LCS										

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503447

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D(SIM) Polynuclear Aromatic Hydrocarbons										
Batch CC52823 - 3546										
2-Methylnaphthalene	0.125	0.012	mg/kg wet	0.2000		63	40-140			
Acenaphthene	0.147	0.012	mg/kg wet	0.2000		73	40-140			
Acenaphthylene	0.146	0.012	mg/kg wet	0.2000		73	40-140			
Anthracene	0.144	0.012	mg/kg wet	0.2000		72	40-140			
Benzo(a)anthracene	0.151	0.012	mg/kg wet	0.2000		75	40-140			
Benzo(a)pyrene	0.155	0.012	mg/kg wet	0.2000		77	40-140			
Benzo(b)fluoranthene	0.161	0.012	mg/kg wet	0.2000		80	40-140			
Benzo(g,h,i)perylene	0.130	0.012	mg/kg wet	0.2000		65	40-140			
Benzo(k)fluoranthene	0.162	0.012	mg/kg wet	0.2000		81	40-140			
Chrysene	0.162	0.012	mg/kg wet	0.2000		81	40-140			
Dibenzo(a,h)Anthracene	0.142	0.012	mg/kg wet	0.2000		71	40-140			
Fluoranthene	0.154	0.012	mg/kg wet	0.2000		77	40-140			
Fluorene	0.155	0.012	mg/kg wet	0.2000		78	40-140			
Hexachlorobenzene	0.250	0.012	mg/kg wet	0.2000		125	40-140			
Indeno(1,2,3-cd)Pyrene	0.137	0.012	mg/kg wet	0.2000		69	40-140			
Naphthalene	0.127	0.012	mg/kg wet	0.2000		63	40-140			
Phenanthrene	0.142	0.012	mg/kg wet	0.2000		71	40-140			
Pyrene	0.157	0.012	mg/kg wet	0.2000		79	40-140			
Surrogate: 1,2-Dichlorobenzene-d4	*0.175*		mg/kg wet	*0.2500*		*70*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*0.216*		mg/kg wet	*0.2500*		*86*	*30-130*			
Surrogate: Nitrobenzene-d5	*0.208*		mg/kg wet	*0.2500*		*83*	*30-130*			
Surrogate: p-Terphenyl-d14	*0.234*		mg/kg wet	*0.2500*		*93*	*30-130*			
LCS Dup										
2-Methylnaphthalene	0.120	0.012	mg/kg wet	0.2000		60	40-140	5	30	
Acenaphthene	0.139	0.012	mg/kg wet	0.2000		69	40-140	6	30	
Acenaphthylene	0.138	0.012	mg/kg wet	0.2000		69	40-140	6	30	
Anthracene	0.141	0.012	mg/kg wet	0.2000		71	40-140	2	30	
Benzo(a)anthracene	0.145	0.012	mg/kg wet	0.2000		73	40-140	4	30	
Benzo(a)pyrene	0.152	0.012	mg/kg wet	0.2000		76	40-140	2	30	
Benzo(b)fluoranthene	0.162	0.012	mg/kg wet	0.2000		81	40-140	0.6	30	
Benzo(g,h,i)perylene	0.125	0.012	mg/kg wet	0.2000		62	40-140	4	30	
Benzo(k)fluoranthene	0.158	0.012	mg/kg wet	0.2000		79	40-140	2	30	
Chrysene	0.156	0.012	mg/kg wet	0.2000		78	40-140	4	30	
Dibenzo(a,h)Anthracene	0.136	0.012	mg/kg wet	0.2000		68	40-140	4	30	
Fluoranthene	0.148	0.012	mg/kg wet	0.2000		74	40-140	4	30	
Fluorene	0.149	0.012	mg/kg wet	0.2000		75	40-140	4	30	
Hexachlorobenzene	0.170	0.012	mg/kg wet	0.2000		85	40-140	39	30	D+
Indeno(1,2,3-cd)Pyrene	0.132	0.012	mg/kg wet	0.2000		66	40-140	4	30	
Naphthalene	0.119	0.012	mg/kg wet	0.2000		59	40-140	7	30	
Phenanthrene	0.137	0.012	mg/kg wet	0.2000		69	40-140	3	30	
Pyrene	0.155	0.012	mg/kg wet	0.2000		78	40-140	2	30	
Surrogate: 1,2-Dichlorobenzene-d4	*0.151*		mg/kg wet	*0.2500*		*61*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*0.186*		mg/kg wet	*0.2500*		*74*	*30-130*			
Surrogate: Nitrobenzene-d5	*0.178*		mg/kg wet	*0.2500*		*71*	*30-130*			
Surrogate: p-Terphenyl-d14	*0.218*		mg/kg wet	*0.2500*		*87*	*30-130*			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503447

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Classical Chemistry										
Batch CC52807 - General Preparation										
Blank										
Hexavalent Chromium	ND	0.7	mg/kg wet							
LCS										
Hexavalent Chromium	32.4	0.7	mg/kg wet	33.32		97	80-120			
LCS Dup										
Hexavalent Chromium	32.6	0.7	mg/kg wet	33.32		98	80-120	0.5	20	
Reference										
Hexavalent Chromium	99.8	2.0	mg/kg wet	125.0		80	61-139			
Batch CC53003 - General Preparation										
Blank										
Reactive Cyanide	ND	2.0	mg/kg							
Reactive Sulfide	ND	2.0	mg/kg							
LCS										
Reactive Cyanide	3.8	2.0	mg/kg	100.3		4	0.68-5.41			
Reactive Sulfide	0.2	2.0	mg/kg	10.00		2	0-44			
MADEP-EPH Extractable Petroleum Hydrocarbons										
Batch CC52711 - 3546										
Blank										
C19-C36 Aliphatics1	ND	15.0	mg/kg wet							
C9-C18 Aliphatics1	ND	15.0	mg/kg wet							
Decane (C10)	ND	0.5	mg/kg wet							
Docosane (C22)	ND	0.5	mg/kg wet							
Dodecane (C12)	ND	0.5	mg/kg wet							
Eicosane (C20)	ND	0.5	mg/kg wet							
Hexacosane (C26)	ND	0.5	mg/kg wet							
Hexadecane (C16)	ND	0.5	mg/kg wet							
Hexatriacontane (C36)	ND	0.5	mg/kg wet							
Nonadecane (C19)	ND	0.5	mg/kg wet							
Nonane (C9)	ND	0.5	mg/kg wet							
Octacosane (C28)	ND	0.5	mg/kg wet							
Octadecane (C18)	ND	0.5	mg/kg wet							
Tetracosane (C24)	ND	0.5	mg/kg wet							
Tetradecane (C14)	ND	0.5	mg/kg wet							
Triacontane (C30)	ND	0.5	mg/kg wet							
Surrogate: 1-Chlorooctadecane	*1.20*		mg/kg wet	*2.000*		*60*	*40-140*			
Blank										
2-Methylnaphthalene	ND	0.20	mg/kg wet							
Acenaphthene	ND	0.40	mg/kg wet							
Acenaphthylene	ND	0.20	mg/kg wet							
Anthracene	ND	0.40	mg/kg wet							
Benzo(a)anthracene	ND	0.40	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503447

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
MADEP-EPH Extractable Petroleum Hydrocarbons										
Batch CC52711 - 3546										
Benzo(a)pyrene	ND	0.40	mg/kg wet							
Benzo(b)fluoranthene	ND	0.40	mg/kg wet							
Benzo(g,h,i)perylene	ND	0.40	mg/kg wet							
Benzo(k)fluoranthene	ND	0.40	mg/kg wet							
C11-C22 Unadjusted Aromatics1	ND	15.0	mg/kg wet							
Chrysene	ND	0.40	mg/kg wet							
Dibenzo(a,h)Anthracene	ND	0.20	mg/kg wet							
Fluoranthene	ND	0.40	mg/kg wet							
Fluorene	ND	0.40	mg/kg wet							
Indeno(1,2,3-cd)Pyrene	ND	0.40	mg/kg wet							
Naphthalene	ND	0.40	mg/kg wet							
Phenanthrene	ND	0.40	mg/kg wet							
Pyrene	ND	0.40	mg/kg wet							
Surrogate: 2-Bromonaphthalene	*1.20*		mg/kg wet	*2.000*		*60*	*40-140*			
Surrogate: 2-Fluorobiphenyl	*1.16*		mg/kg wet	*2.000*		*58*	*40-140*			
Surrogate: O-Terphenyl	*1.49*		mg/kg wet	*2.000*		*74*	*40-140*			
LCS										
C19-C36 Aliphatics1	14.1	15.0	mg/kg wet	16.00		88	40-140			
C9-C18 Aliphatics1	8.1	15.0	mg/kg wet	12.00		68	40-140			
Decane (C10)	1.0	0.5	mg/kg wet	2.000		50	40-140			
Docosane (C22)	1.5	0.5	mg/kg wet	2.000		75	40-140			
Dodecane (C12)	1.0	0.5	mg/kg wet	2.000		51	40-140			
Eicosane (C20)	1.5	0.5	mg/kg wet	2.000		73	40-140			
Hexacosane (C26)	1.5	0.5	mg/kg wet	2.000		77	40-140			
Hexadecane (C16)	1.4	0.5	mg/kg wet	2.000		68	40-140			
Hexatriacontane (C36)	1.5	0.5	mg/kg wet	2.000		75	40-140			
Nonadecane (C19)	1.5	0.5	mg/kg wet	2.000		74	40-140			
Nonane (C9)	0.8	0.5	mg/kg wet	2.000		41	30-140			
Octacosane (C28)	1.5	0.5	mg/kg wet	2.000		75	40-140			
Octadecane (C18)	1.4	0.5	mg/kg wet	2.000		71	40-140			
Tetracosane (C24)	1.4	0.5	mg/kg wet	2.000		72	40-140			
Tetradecane (C14)	1.2	0.5	mg/kg wet	2.000		61	40-140			
Triacontane (C30)	1.5	0.5	mg/kg wet	2.000		74	40-140			
Surrogate: 1-Chlorooctadecane	*1.15*		mg/kg wet	*2.000*		*58*	*40-140*			
LCS										
2-Methylnaphthalene	1.32	0.20	mg/kg wet	2.000		66	40-140			
Acenaphthene	1.48	0.40	mg/kg wet	2.000		74	40-140			
Acenaphthylene	1.48	0.20	mg/kg wet	2.000		74	40-140			
Anthracene	1.72	0.40	mg/kg wet	2.000		86	40-140			
Benzo(a)anthracene	1.71	0.40	mg/kg wet	2.000		85	40-140			
Benzo(a)pyrene	1.81	0.40	mg/kg wet	2.000		90	40-140			
Benzo(b)fluoranthene	1.63	0.40	mg/kg wet	2.000		82	40-140			
Benzo(g,h,i)perylene	1.66	0.40	mg/kg wet	2.000		83	40-140			
Benzo(k)fluoranthene	1.66	0.40	mg/kg wet	2.000		83	40-140			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503447

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
MADEP-EPH Extractable Petroleum Hydrocarbons										
Batch CC52711 - 3546										
C11-C22 Unadjusted Aromatics1	30.2	15.0	mg/kg wet	34.00		89	40-140			
Chrysene	1.74	0.40	mg/kg wet	2.000		87	40-140			
Dibenzo(a,h)Anthracene	1.58	0.20	mg/kg wet	2.000		79	40-140			
Fluoranthene	1.66	0.40	mg/kg wet	2.000		83	40-140			
Fluorene	1.56	0.40	mg/kg wet	2.000		78	40-140			
Indeno(1,2,3-cd)Pyrene	1.63	0.40	mg/kg wet	2.000		81	40-140			
Naphthalene	1.21	0.40	mg/kg wet	2.000		60	40-140			
Phenanthrene	1.66	0.40	mg/kg wet	2.000		83	40-140			
Pyrene	1.68	0.40	mg/kg wet	2.000		84	40-140			
Surrogate: 2-Bromonaphthalene	*2.16*		mg/kg wet	*2.000*		*108*	*40-140*			
Surrogate: 2-Fluorobiphenyl	*2.08*		mg/kg wet	*2.000*		*104*	*40-140*			
Surrogate: O-Terphenyl	*1.50*		mg/kg wet	*2.000*		*75*	*40-140*			
LCS										
2-Methylnaphthalene Breakthrough	0.0		%				0-5			
Naphthalene Breakthrough	0.0		%				0-5			
LCS Dup										
C19-C36 Aliphatics1	13.5	15.0	mg/kg wet	16.00		84	40-140	4	25	
C9-C18 Aliphatics1	7.9	15.0	mg/kg wet	12.00		66	40-140	2	25	
Decane (C10)	1.0	0.5	mg/kg wet	2.000		50	40-140	1	25	
Docosane (C22)	1.5	0.5	mg/kg wet	2.000		73	40-140	3	25	
Dodecane (C12)	1.0	0.5	mg/kg wet	2.000		50	40-140	2	25	
Eicosane (C20)	1.4	0.5	mg/kg wet	2.000		71	40-140	3	25	
Hexacosane (C26)	1.5	0.5	mg/kg wet	2.000		75	40-140	2	25	
Hexadecane (C16)	1.3	0.5	mg/kg wet	2.000		66	40-140	3	25	
Hexatriacontane (C36)	1.5	0.5	mg/kg wet	2.000		73	40-140	2	25	
Nonadecane (C19)	1.4	0.5	mg/kg wet	2.000		72	40-140	3	25	
Nonane (C9)	0.8	0.5	mg/kg wet	2.000		41	30-140	1	25	
Octacosane (C28)	1.5	0.5	mg/kg wet	2.000		73	40-140	2	25	
Octadecane (C18)	1.4	0.5	mg/kg wet	2.000		69	40-140	3	25	
Tetracosane (C24)	1.4	0.5	mg/kg wet	2.000		71	40-140	2	25	
Tetradecane (C14)	1.2	0.5	mg/kg wet	2.000		59	40-140	4	25	
Triacontane (C30)	1.4	0.5	mg/kg wet	2.000		72	40-140	2	25	
Surrogate: 1-Chlorooctadecane	*1.07*		mg/kg wet	*2.000*		*54*	*40-140*			
LCS Dup										
2-Methylnaphthalene	1.23	0.20	mg/kg wet	2.000		61	40-140	8	20	
Acenaphthene	1.36	0.40	mg/kg wet	2.000		68	40-140	9	20	
Acenaphthylene	1.34	0.20	mg/kg wet	2.000		67	40-140	10	20	
Anthracene	1.62	0.40	mg/kg wet	2.000		81	40-140	6	20	
Benzo(a)anthracene	1.63	0.40	mg/kg wet	2.000		81	40-140	5	20	
Benzo(a)pyrene	1.73	0.40	mg/kg wet	2.000		86	40-140	4	20	
Benzo(b)fluoranthene	1.57	0.40	mg/kg wet	2.000		78	40-140	4	20	
Benzo(g,h,i)perylene	1.58	0.40	mg/kg wet	2.000		79	40-140	5	20	
Benzo(k)fluoranthene	1.61	0.40	mg/kg wet	2.000		80	40-140	3	20	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503447

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
MADEP-EPH Extractable Petroleum Hydrocarbons										
Batch CC52711 - 3546										
C11-C22 Unadjusted Aromatics1	29.0	15.0	mg/kg wet	34.00		85	40-140	4	25	
Chrysene	1.67	0.40	mg/kg wet	2.000		84	40-140	4	20	
Dibenzo(a,h)Anthracene	1.50	0.20	mg/kg wet	2.000		75	40-140	5	20	
Fluoranthene	1.63	0.40	mg/kg wet	2.000		82	40-140	2	20	
Fluorene	1.49	0.40	mg/kg wet	2.000		75	40-140	4	20	
Indeno(1,2,3-cd)Pyrene	1.56	0.40	mg/kg wet	2.000		78	40-140	4	20	
Naphthalene	1.16	0.40	mg/kg wet	2.000		58	40-140	4	20	
Phenanthrene	1.59	0.40	mg/kg wet	2.000		79	40-140	4	20	
Pyrene	1.61	0.40	mg/kg wet	2.000		80	40-140	4	20	
Surrogate: 2-Bromonaphthalene	*1.95*		mg/kg wet	*2.000*		*98*	*40-140*			
Surrogate: 2-Fluorobiphenyl	*1.87*		mg/kg wet	*2.000*		*93*	*40-140*			
Surrogate: O-Terphenyl	*1.43*		mg/kg wet	*2.000*		*71*	*40-140*			
LCS Dup										
2-Methylnaphthalene Breakthrough	0.0		%				0-5		200	
Naphthalene Breakthrough	0.0		%				0-5		200	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase ESS Laboratory Work Order: 1503447

Notes and Definitions

LC	Lower value is used due to matrix interferences (LC).
B+	Blank Spike recovery is above upper control limit (B+).
C-	Continuing Calibration recovery is below lower control limit (C-).
C+	Continuing Calibration recovery is above upper control limit (C+).
D	Diluted.
D+	Relative percent difference for duplicate is outside of criteria (D+).
EL	Elevated Method Reporting Limits due to sample matrix (EL).
B-	Blank Spike recovery is below lower control limit (B-).
IM	Internal Standard(s) outside of criteria due to matrix (UCM/coelution is present) (IM).
Z-10	Soil pH measured in water at 16.3 ºC.
P	Percent difference between primary and confirmation results exceeds 40% (P).
PT	Pentachlorophenol tailing factor > 2.
S-	Surrogate recovery(ies) below lower control limit (S-).
SD	Surrogate recovery(ies) diluted below the MRL (SD).
U	Analyte included in the analysis, but not detected
WL	Results obtained from a deionized water leach of the sample.
Z-08	See Attached
H	Estimated value. Sample hold times were exceeded (H).
ND	Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
I/V	Initial Volume
F/V	Final Volume
§	Subcontracted analysis; see attached report
1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of target analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.
Avg	Results reported as a mathematical average.
NR	No Recovery
[CALC]	Calculated Analyte
SUB	Subcontracted analysis; see attached report
[2C]	Result was taken from the second column. Dual column analysis.

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503447

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Department of Defense (DoD) Environmental Laboratory Accreditation Program (ELAP)
A2LA Accredited: Testing Cert# 2864.01
http://www.a2la.org/scopepdf/2864-01.pdf

Rhode Island Potable and Non Potable Water: LAI00179
http://www.health.ri.gov/find/labs/analytical/ESS.pdf

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750
http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutofStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI0002
http://www.maine.gov/dhhs/mecdc/environmental-health/water/dwp-services/labcert/documents/AllLabs.xls

Massachusetts Potable and Non Potable Water: M-RI002
http://public.dep.state.ma.us/Labcert/Labcert.aspx

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424
http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313
http://www.wadsworth.org/labcert/elap/comm.html

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006
http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752
http://www.depweb.state.pa.us/portal/server.pt/community/labs/13780/laboratory_accreditation_program/590095

CHEMISTRY

A2LA Accredited: Testing Cert # 2864.01
Lead in Paint, Phthalates, Lead in Children's Metals Products (Including Jewelry)
http://www.A2LA.org/dirsearchnew/newsearch.cfm

CPSC ID# 1141
Lead Paint, Lead in Children's Metals Jewelry
http://www.cpsc.gov/cgi-bin/labapplist.aspx

LABORATORY TESTING DATA SHEET

Project Name Wynn Everett | Project Location Everett, MA | Reviewed By Matthew Daly

Project No. 01.0171521.13 **ESS-1503447** | Assigned By D. Scanlon

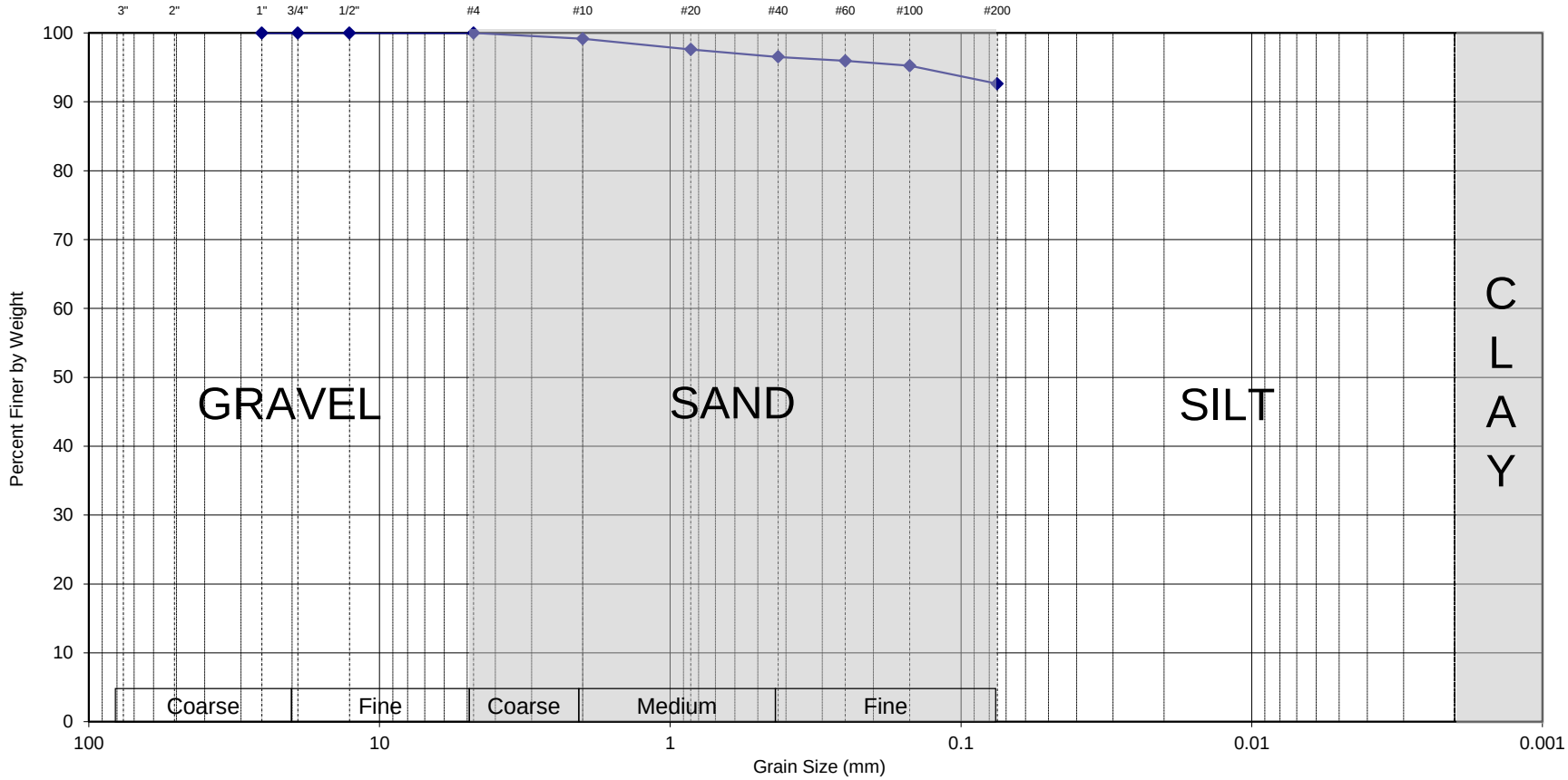
Project Manager D. Leone/C. Taylor | Report Date 3/27/15 | Date Reviewed *3/27/15*

Boring ID	Depth (ft)	ESS Sample ID	Lab No.	Identification Tests								Strength Tests				
				Water Content %	LL %	PL %	Sieve -200 %	Hyd -2µ %	ORG %	G_s	Dry unit wt. pcf	Torvane or Type Test	Failure Criteria	$\sigma_1 - \sigma_3$ psf	Strain %	Laboratory Log and Soil Description
GZ-207	0-3	1503447-09	15-S-242	249.9			92.6									Dark gray Organic SILT, trace Sand

THIELSCH ENGINEERING

195 Frances Avenue
Cranston, RI 02910 401-467-6454

U.S. STANDARD SIEVE AND HYDROMETER



Gravel	Sand	Fines
0.0%	7.4%	92.6%

Lab #	Sample ID	ESS Sample ID	Sample Date	Description	WC	LL	PL	PI
15-S-242	B-207	1503447-09	3/25/15	Dark gray Organic SILT, trace Sand	250			

Sieve Size	% Passing
¾"	100.0
½"	100.0
#4	100.0
#10	99.2
#20	97.6
#40	96.5
#60	95.9
#100	95.3
#200	92.6

THIELSCH ENGINEERING
195 Frances Ave., Cranston, RI 02109
401-467-6454

Wynn Everett
ESS Project 1503447
GZA File # 01.0171521.13

Tested by:	MK/MS	Date:	3/27/15
Reviewed by:	MBP	Date:	3/27/15

SOILS LABORATORY TESTING ASSIGNMENT SHEET

THIELSCH ENGINEERING 401-467-6454 195 Frances Ave., Cranston, RI 02910

Project Name **Wynn Everett** Client _____ Assigned By _____

CTS Project No. **74-14-0002.01** Site Location _____ Collected By _____

ESS Project No. **1503447** Date Assigned _____ Received By _____

Project Manager **Christine Taylor** Date Received _____ Date Required **5 DAY - 4/2/15**

Sample Information					Lab No.	Identification Tests							Permeability		Compaction			Strength		Consol.	Notes
Boring/ Test Pit No.	Sample No.	Depth Ft.	Sample Date	ESS SAMPLE ID		Water Cont. %	LL & PL %	Org. %	Sieve -200 %	Hyd -2μ %	G_s	γ_t pcf	Sand	Clay	Mod.	Std.	CBR	Tor-vane	Type Test $\frac{\sigma_3}{\sigma_c}$ or σ_c	Cc/ 1+eo	#
						D2216	D4318	D2974	D422		D854		D2434	D5084	D1557	D698	D1883		D2166/ D4767/ D2850	D2435	
GZ-207	0'-3'		3/25/15	1503447-09		X			X												

Notes: _____

Sample and Cooler Receipt Checklist

Client: GZA GeoEnvironmental, Inc.
Client Project ID: _____
Shipped/Delivered Via: ESS Courier

ESS Project ID: 15030447
Date Project Due: 4/2/15
Days For Project: 5 Day

Items to be checked upon receipt:

1. Air Bill Manifest Present?	* No	10. Are the samples properly preserved?	Yes
Air No.:		11. Proper sample containers used?	Yes
2. Were Custody Seals Present?	No	12. Any air bubbles in the VOA vials?	N/A
3. Were Custody Seals Intact?	N/A	13. Holding times exceeded?	No
4. Is Radiation count < 100 CPM?	Yes	14. Sufficient sample volumes?	Yes
5. Is a cooler present?	Yes	15. Any Subcontracting needed?	* Yes
Cooler Temp: **4.2**		16. Are ESS labels on correct containers?	**Yes|No**
Iced With: **Ice**		17. Were samples received intact?	**Yes|No**
6. Was COC included with samples?	Yes	ESS Sample IDs: _____	
7. Was COC signed and dated by client?	Yes	Sub Lab: _____	
8. Does the COC match the sample	Yes	Analysis: _____	
9. Is COC complete and correct?	Yes	TAT: _____	

18. Was there need to call project manager to discuss status? If yes, please explain.
Added -23-29 for PCB Drying per 3/30/15

Who was called?:_____ By whom? _____

Sample Number	Properly Preserved	Container Type	# of Containers	Preservative
1	Yes	8 oz Soil Jar	2	NP
2	Yes	8 oz Soil Jar	2	NP
3	Yes	2 oz Soil Jar	1	NP
3	Yes	8 oz Soil Jar	2	NP
4	Yes	8 oz Soil Jar	2	NP
5	Yes	2 oz Soil Jar	1	NP
5	Yes	8 oz Soil Jar	2	NP
6	Yes	8 oz Soil Jar	2	NP
7	Yes	2 oz Soil Jar	1	NP
7	Yes	8 oz Soil Jar	2	NP
8	Yes	2 oz Soil Jar	1	NP
8	Yes	8 oz Soil Jar	2	NP
9	Yes	4 oz Soil Jar	1	NP
9	Yes	40 ml - VOA	1	MeOH
9	Yes	40 ml - VOA	2	other
9	Yes	8 oz Soil Jar	2	NP
9	Yes	Other Glass	1	NP
10	Yes	8 oz Soil Jar	2	NP
11	Yes	8 oz Soil Jar	2	NP
12	Yes	8 oz Soil Jar	1	NP
13	Yes	8 oz Soil Jar	1	NP
14	Yes	8 oz Soil Jar	1	NP
15	Yes	8 oz Soil Jar	1	NP
16	Yes	8 oz Soil Jar	1	NP
17	Yes	8 oz Soil Jar	1	NP

Sample and Cooler Receipt Checklist

Client: GZA GeoEnvironmental, Inc. ESS Project ID: 15030447

18	Yes	8 oz Soil Jar	1	NP
19	Yes	8 oz Soil Jar	1	NP
20	Yes	8 oz Soil Jar	1	NP
21	Yes	8 oz Soil Jar	1	NP
22	Yes	8 oz Soil Jar	1	NP
23	Yes	8 oz Soil Jar	1	NP
24	Yes	8 oz Soil Jar	1	NP
25	Yes	8 oz Soil Jar	1	NP
26	Yes	8 oz Soil Jar	1	NP
27	Yes	8 oz Soil Jar	1	NP
28	Yes	8 oz Soil Jar	1	NP
29	Yes	8 oz Soil Jar	1	NP

Completed By: _____ Date/Time: 3/30/15 1218

Reviewed By: _____ Date/Time: _____

Sample and Cooler Receipt Checklist

Client: GZA GeoEnvironmental, Inc.
Client Project ID: _____
Shipped/Delivered Via: ESS Courier

ESS Project ID: 15030447
Date Project Due: 4/2/15
Days For Project: 5 Day

Items to be checked upon receipt:

1. Air Bill Manifest Present?	* No	10. Are the samples properly preserved?	Yes
Air No.:		11. Proper sample containers used?	Yes
2. Were Custody Seals Present?	No	12. Any air bubbles in the VOA vials?	N/A
3. Were Custody Seals Intact?	N/A	13. Holding times exceeded?	No
4. Is Radiation count < 100 CPM?	Yes	14. Sufficient sample volumes?	Yes
5. Is a cooler present?	Yes	15. Any Subcontracting needed?	* Yes
Cooler Temp: **4.2**		16. Are ESS labels on correct containers?	Yes | No
Iced With: **Ice**		17. Were samples received intact?	Yes | No
6. Was COC included with samples?	Yes	ESS Sample IDs:	09
7. Was COC signed and dated by client?	Yes	Sub Lab:	CTS
8. Does the COC match the sample	Yes	Analysis:	Gram Size / % Water
9. Is COC complete and correct?	Yes	TAT:	5DAY

18. Was there need to call project manager to discuss status? If yes, please explain.

LC Vials frozen 3/26/15 1218 WS 3/26/15

Who was called?: _____ By whom? _____

Sample Number	Properly Preserved	Container Type	# of Containers	Preservative
1	Yes	8 oz Soil Jar	2	NP
2	Yes	8 oz Soil Jar	2	NP
3	Yes	2 oz Soil Jar	1	NP
3	Yes	8 oz Soil Jar	2	NP
4	Yes	8 oz Soil Jar	2	NP
5	Yes	2 oz Soil Jar	1	NP
5	Yes	8 oz Soil Jar	2	NP
6	Yes	8 oz Soil Jar	2	NP
7	Yes	2 oz Soil Jar	1	NP
7	Yes	8 oz Soil Jar	2	NP
8	Yes	2 oz Soil Jar	1	NP
8	Yes	8 oz Soil Jar	2	NP
9	Yes	4 oz Soil Jar	1	NP
9	Yes	40 ml - VOA	1	MeOH
9	Yes	40 ml - VOA	2	other
9	Yes	8 oz Soil Jar	2	NP
9	Yes	Other Glass	1	NP
10	Yes	8 oz Soil Jar	2	NP
11	Yes	8 oz Soil Jar	2	NP
12	Yes	8 oz Soil Jar	1	NP
13	Yes	8 oz Soil Jar	1	NP
14	Yes	8 oz Soil Jar	1	NP
15	Yes	8 oz Soil Jar	1	NP
16	Yes	8 oz Soil Jar	1	NP
17	Yes	8 oz Soil Jar	1	NP

Sample and Cooler Receipt Checklist

Client: GZA GeoEnvironmental, Inc. ESS Project ID: 15030447

18	Yes	8 oz Soil Jar	1	NP
19	Yes	8 oz Soil Jar	1	NP
20	Yes	8 oz Soil Jar	1	NP
21	Yes	8 oz Soil Jar	1	NP
22	Yes	8 oz Soil Jar	1	NP

Completed By: _____ Date/Time: 3/26/15 1317

Reviewed By: _____ Date/Time: 3/26/15 1326

ESS Laboratory
Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS LAB PROJECT ID: 1503447

Turn Time ___X___ Standard Rush_____ Approved By: _____

Reporting Limits -

State where samples were collected: **MA** RI CT NH NJ NY ME Other_____

Is this project for any of the following: (please circle)
MA-MCP CT-RCP NJ-DKQP RGP DOD Other___

Electonic Deliverable Yes___ No___
Format: Excel___ Access___ PDF___ Other_____

GZA Project Manager: David E. Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Ave
Norwood, MA 02062
(781) 278-3700

Project No.: 01.0171521.13 Task 001
Project Name: Wynn - Everett
Contract Pricing _____
Special Pricing WO#: _____

	ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	MCP-14 Metals	PAHs by SIM	TOC	SVOCs	PCBs (Aroclors)	EPH	Hexavalent Chromium	Reactivity (Sulfide and Cyanide)	VOCs	% water	Grain Size Analysis	Comment #
								Analysis											
23	1 12	3-25-15	0930	G	S	GZ-209 (0'-0.5')		X	X	X	X	X	X						
						GZ-209 (0.5'-2')		HOLD AND FREEZE											
24	2 13					GZ-209 (2'-4')		X	X	X	X	X	X						
						GZ-209 (4'-6')		HOLD AND FREEZE											
25	3 14		↓			GZ-209 (6'-8')		X	X										
26	4 15		10:00			GZ-208 (0'-0.5')		X	X	X	X	X	X						
27						GZ-208 (0.5'-2')		HOLD AND FREEZE											
						GZ-208 (2'-4')		HOLD AND FREEZE											
28	5 16					GZ-208 (4'-6')		X	X										
		↓	↓	↓	↓	GZ-208 (6'-8')		HOLD AND FREEZE											

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-_____

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present ___X___ Yes _____ No

Seals Intact _____ Yes _____ No NA: X

Cooler Temperature: 3.8° / 4.2° IC 3/26/15

Sampled by : Daniel Scanlon (Daniel.Scanlon@gza.com)

Comments: (1) TCLP 20X Rule Applies

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
	3/25/15 @ 1800	0830 Bill Beacon 3/26/15	0845 Bill Beacon 3/26/15		3/26/15 1011

ESS Laboratory

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS LAB PROJECT ID: 1503447

Turn Time ___X___ Standard Rush_____ Approved By: _____

Reporting Limits -

State where samples were collected: **MA** RI CT NH NJ NY ME Other_____

Is this project for any of the following: (please circle)
MA-MCP CT-RCP NJ-DKQP RGP DOD Other____

Electonic Deliverable Yes____ No____
Format: Excel___ Access___ PDF___ Other_____

GZA Project Manager: David E. Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Ave
Norwood, MA 02062
(781) 278-3700

Project No.: 01.0171521.13 Task 001
Project Name: Wynn - Everett
Contract Pricing _____
Special Pricing WO#: _____

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	Analysis: MCP-14 Metals	PAHs by SIM	TOC	SVOCs	PCBs (Aroclors)	EPH	Hexavalent Chromium	Reactivity (Sulfide and Cyanide)	VOCs	% water	Grain Size Analysis	Comment #
6 17	3-25-15	1045	G	S	GZ-207 (0'-0.5')		X	X	X	X	X	X						
					GZ-207 (0.5'-2')		HOLD	AND	FREEZE									
					GZ-207 (2'-4')		HOLD	AND	FREEZE									
7 18					GZ-207 (4'-6')		X	X										
8 19		↓			GZ-207 (6-7.5')		X	X										
9 20		1045			GZ-207 (0'-3')		X		X	X	X	X	X	X	X	X	X	(1)
10 21		1110			GZ-206 (0'-0.5')		X	X	X	X	X	X						
					GZ-206 (0.5'-2')		HOLD	AND	FREEZE									
					GZ-206 (2'-4')		HOLD	AND	FREEZE									
11 22	↓	↓	↓	↓	GZ-206 (4'-6')		X	X	X	X	X	X						

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-_____

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present ___X___ Yes _____No
Seals Intact _____ Yes _____No NA: K
Cooler Temperature: 3.8°/4.2° ICE NP 3/26/15

Sampled by : Daniel Scanlon (Daniel.Scanlon@gza.com)

Comments: (1) TCLP 20X Rule Applies

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
	3-25-15 @ 1800	0630 Bill Beacon 3/26/15	0845 Bill Beacon 3/26/15		1011 3/26/15 total

Page 2 of 5

CERTIFICATE OF ANALYSIS

David E Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Avenue
Norwood, MA 02062

RE: Wynn Everett Sediment Phase (01.0171521.13 Task 001)
ESS Laboratory Work Order Number: 1503448

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director

REVIEWED
By ESS Laboratory at 9:48 am, Apr 10, 2015

Analytical Summary
The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with NELAC Standards, A2LA and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.

Subcontracted Analyses

CTS - Cranston, RI	Grain Size Analysis, Percent Water

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503448

SAMPLE RECEIPT

The following samples were received on March 26, 2015 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has performed and reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Data Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

For EPH soil samples, the aromatic range results have been corrected for identified cartridge contaminant in accordance with the CAM protocol.

Low Level VOA vials were frozen by ESS Laboratory on March 26, 2015 at 1325.

Question I: Samples GZ-205 (4-6), GZ-205 (6-8), GZ--213 (4-6), GZ-218 (4-6), and GZ-219 (4-6) samples for SVOC were analyzed for a subset of the required MCP list per the client's request.

Samples were decanted, per client request, upon receipt by ESS.

Lab Number	Sample Name	Matrix	Analysis
1503448-01	GZ-206 0ft-3ft	Soil	§, 2580, 7.3.3.2, 7.3.4.1, 7196A, 8260B, 8260B Low, 8270D, 9045, EPH8270, MADEP-EPH
1503448-02	GZ-205 0ft-0.5ft	Soil	8270D, EPH8270, MADEP-EPH
1503448-03	GZ-205 4ft-6ft	Soil	8270D
1503448-04	GZ-205 6ft-8ft	Soil	8270D
1503448-05	GZ-205 0ft-3ft	Soil	§, 2580, 7.3.3.2, 7.3.4.1, 7196A, 8260B Low, 8270D, 9045, EPH8270, MADEP-EPH
1503448-06	GZ-213 0ft-0.5ft	Soil	8270D, EPH8270, MADEP-EPH
1503448-07	GZ-213 4ft-6ft	Soil	8270D
1503448-08	GZ-213 0ft-3ft	Soil	§, 2580, 7.3.3.2, 7.3.4.1, 7196A, 8260B Low, 8270D, 9045, EPH8270, MADEP-EPH
1503448-09	GZ-218 0ft-0.5ft	Soil	8270D, EPH8270, MADEP-EPH
1503448-10	GZ-218 0.5ft-2ft	Soil	8270D, EPH8270, MADEP-EPH
1503448-11	GZ-218 4ft-6ft	Soil	8270D
1503448-12	GZ-219 0ft-0.5ft	Soil	8270D, EPH8270, MADEP-EPH
1503448-13	GZ-219 4ft-6ft	Soil	8270D

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase ESS Laboratory Work Order: 1503448

1503448-14	GZ-219 0ft-3ft	Soil	§, 2580, 7.3.3.2, 7.3.4.1, 7196A, 8260B Low, 8270D, 9045, EPH8270, MADEP-EPH
1503448-15	GZ-206 0ft-3ft	Soil	6010C, 7010, 7471B
1503448-16	GZ-205 0ft-0.5ft	Soil	6010C, 7010, 7471B
1503448-17	GZ-205 4ft-6ft	Soil	6010C, 7010, 7471B
1503448-18	GZ-205 6ft-8ft	Soil	6010C, 7010, 7471B
1503448-19	GZ-205 0ft-3ft	Soil	6010C, 7010, 7471B
1503448-20	GZ-213 0ft-0.5ft	Soil	6010C, 7010, 7471B
1503448-21	GZ-213 4ft-6ft	Soil	6010C, 7010, 7471B
1503448-22	GZ-213 0ft-3ft	Soil	6010C, 7010, 7471B
1503448-23	GZ-218 0ft-0.5ft	Soil	6010C, 7010, 7471B
1503448-24	GZ-218 0.5ft-2ft	Soil	6010C, 7010, 7471B
1503448-25	GZ-218 4ft-6ft	Soil	6010C, 7010, 7471B
1503448-26	GZ-219 0ft-0.5ft	Soil	6010C, 7010, 7471B
1503448-27	GZ-219 4ft-6ft	Soil	6010C, 7010, 7471B
1503448-28	GZ-219 0ft-3ft	Soil	6010C, 7010, 7471B
1503448-29	GZ-206 0ft-3ft	Soil	8082A
1503448-30	GZ-205 0ft-0.5ft	Soil	8082A
1503448-31	GZ-205 0ft-3ft	Soil	8082A
1503448-32	GZ-213 0ft-0.5ft	Soil	8082A
1503448-33	GZ-213 0ft-3ft	Soil	8082A
1503448-34	GZ-218 0ft-0.5ft	Soil	8082A
1503448-35	GZ-218 0.5ft-2ft	Soil	8082A
1503448-36	GZ-219 0ft-0.5ft	Soil	8082A
1503448-37	GZ-219 0ft-3ft	Soil	8082A

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase ESS Laboratory Work Order: 1503448

PROJECT NARRATIVE

5035/8260B Volatile Organic Compounds / Low Level

1503448-01 **Reported above the quantitation limit; Estimated value (E).**
2-Chlorotoluene , 4-Chlorotoluene , Naphthalene

CC52627-BS1 **Blank Spike recovery is above upper control limit (B+).**
Bromomethane (185% @ 70-130%)

CC52627-BSD1 **Blank Spike recovery is above upper control limit (B+).**
Bromomethane (152% @ 70-130%)

CC52716-BS1 **Blank Spike recovery is above upper control limit (B+).**
Acetone (160% @ 70-130%), Bromomethane (155% @ 70-130%)

CC52716-BSD1 **Blank Spike recovery is above upper control limit (B+).**
Bromomethane (150% @ 70-130%)

CC52716-BSD1 **Relative percent difference for duplicate is outside of criteria (D+).**
Acetone (55% @ 25%)

CYC0308-CCV1 **Continuing Calibration recovery is above upper control limit (C+).**
Bromomethane (171% @ 70-130%)

CYC0324-CCV1 **Continuing Calibration recovery is above upper control limit (C+).**
Bromomethane (150% @ 70-130%)

5035/8260B Volatile Organic Compounds / Methanol

1503448-01 **Present in Method Blank (B).**
Acetone

CC52745-BS1 **Blank Spike recovery is above upper control limit (B+).**
Acetone (141% @ 70-130%)

CC52745-BSD1 **Blank Spike recovery is above upper control limit (B+).**
Acetone (140% @ 70-130%)

8082A Polychlorinated Biphenyls (PCB)

1503448-29 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

1503448-30 **Percent difference between primary and confirmation results exceeds 40% (P).**
Aroclor 1248 , Aroclor 1260

1503448-31 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

1503448-32 **Percent difference between primary and confirmation results exceeds 40% (P).**
Aroclor 1248

1503448-34 **Lower value is used due to matrix interferences (LC).**
Aroclor 1248

1503448-34 **Percent difference between primary and confirmation results exceeds 40% (P).**
Aroclor 1248

1503448-36 **Percent difference between primary and confirmation results exceeds 40% (P).**

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase Aroclor 1248

ESS Laboratory Work Order: 1503448

8270D Semi-Volatile Organic Compounds

1503448-02	**Internal Standard(s) outside of criteria due to matrix (UCM/coelution is present) (IM).**
	Chrysene-d12 (217% @ 50-200%), Perylene-d12 (205% @ 50-200%)
1503448-06	**Internal Standard(s) outside of criteria due to matrix (UCM/coelution is present) (IM).**
	Chrysene-d12 (205% @ 50-200%)
1503448-10	**Internal Standard(s) outside of criteria due to matrix (UCM/coelution is present) (IM).**
	Perylene-d12 (204% @ 50-200%)
1503448-10	**Surrogate recovery(ies) below lower control limit (S-).**
	2,4,6-Tribromophenol (27% @ 30-130%)
CD50205-BS1	**Blank Spike recovery is below lower control limit (B-).**
	Aniline (32% @ 40-140%), bis(2-chloroisopropyl)Ether (36% @ 40-140%)
CD50205-BSD1	**Blank Spike recovery is below lower control limit (B-).**
	Aniline (32% @ 40-140%)
CYC0348-CCV1	**Continuing Calibration recovery is above upper control limit (C+).**
	2,4,6-Tribromophenol (135% @ 80-120%), 4-Nitrophenol (131% @ 80-120%)
CYC0348-CCV1	**Continuing Calibration recovery is below lower control limit (C-).**
	2,4-Dinitrophenol (68% @ 80-120%), bis(2-chloroisopropyl)Ether (74% @ 80-120%)
CYC0348-TUN1	**Pentachlorophenol tailing factor > 2.**
CYC0357-CCV1	**Continuing Calibration recovery is above upper control limit (C+).**
	2,4,6-Tribromophenol (129% @ 80-120%), 4-Nitrophenol (122% @ 80-120%)
CYC0357-CCV1	**Continuing Calibration recovery is below lower control limit (C-).**
	bis(2-chloroisopropyl)Ether (78% @ 80-120%)
CYC0357-TUN1	**Pentachlorophenol tailing factor > 2.**

8270D(SIM) Polynuclear Aromatic Hydrocarbons

1503448-03	**Elevated Method Reporting Limits due to sample matrix (EL).**
1503448-10	**Elevated Method Reporting Limits due to sample matrix (EL).**
CC52823-BSD1	**Relative percent difference for duplicate is outside of criteria (D+).**
	Hexachlorobenzene (39% @ 30%)
CYC0345-CCV1	**Continuing Calibration recovery is above upper control limit (C+).**
	Hexachlorobenzene (178% @ 70-130%)
CYD0018-CCV1	**Continuing Calibration recovery is above upper control limit (C+).**
	Hexachlorobenzene (158% @ 70-130%)

Classical Chemistry

1503448-01	**Estimated value. Sample hold times were exceeded (H).**
	Corrosivity (pH) , Eh (ORP)
1503448-05	**Estimated value. Sample hold times were exceeded (H).**
	Corrosivity (pH) , Eh (ORP)
1503448-08	**Estimated value. Sample hold times were exceeded (H).**
	Corrosivity (pH) , Eh (ORP)
1503448-14	**Estimated value. Sample hold times were exceeded (H).**
	Corrosivity (pH) , Eh (ORP)

Total Metals

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase ESS Laboratory Work Order: 1503448

CC52816-BS1 **Blank Spike recovery is above upper control limit (B+).**
Antimony (134% @ 80-120%)

CC52816-BSD1 **Relative percent difference for duplicate is outside of criteria (D+).**
Zinc (32% @ 20%)

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

Definitions of Quality Control Parameters

Semivolatile Organics Internal Standard Information

Semivolatile Organics Surrogate Information

Volatile Organics Internal Standard Information

Volatile Organics Surrogate Information

EPH and VPH Alkane Lists

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503448

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

1010A - Flashpoint
6010C - ICP
6020A - ICP MS
7010 - Graphite Furnace
7196A - Hexavalent Chromium
7470A - Aqueous Mercury
7471B - Solid Mercury
8011 - EDB/DBCP/TCP
8015D - GRO/DRO
8081B - Pesticides
8082A - PCB
8100M - TPH
8151A - Herbicides
8260B - VOA
8270D - SVOA
8270D SIM - SVOA Low Level
9014 - Cyanide
9038 - Sulfate
9040C - Aqueous pH
9045D - Solid pH (Corrosivity)
9050A - Specific Conductance
9056A - Anions (IC)
9060A - TOC
9095B - Paint Filter
MADEP 04-1.1 - EPH / VPH

Prep Methods

3005A - Aqueous ICP and Graphite Furnace Digestion
3020A - Aqueous ICP MS Digestion
3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
3060A - Solid Hexavalent Chromium Digestion
3510C - Separatory Funnel Extraction
3520C - Liquid / Liquid Extraction
3540C - Manual Soxhlet Extraction
3541 - Automated Soxhlet Extraction
3546 - Microwave Extraction
3580A - Waste Dilution
5030B - Aqueous Purge and Trap
5030C - Aqueous Purge and Trap
5035 - Solid Purge and Trap

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503448

MassDEP Analytical Protocol Certification Form

MADEP RTN: _____

This form provides certification for the following data set: **1503448-01 through 1503448-37**

Matrices: ( ) Ground Water/Surface Water (X) Soil/Sediment ( ) Drinking Water ( ) Air ( ) Other:_____

CAM Protocol (check all that apply below):

(X) 8260 VOC CAM II A	(X) 7470/7471 Hg CAM III B	( ) MassDEP VPH CAM IV A	( ) 8081 Pesticides CAM V B	(X) 7196 Hex Cr CAM VI B	( ) MassDEP APH CAM IX A
(X) 8270 SVOC CAM II B	(X) 7010 Metals CAM III C	(X) MassDEP EPH CAM IV B	( ) 8151 Herbicides CAM V C	( ) 8330 Explosives CAM VIII A	( ) TO-15 VOC CAM IX B
(X) 6010 Metals CAM III A	( ) 6020 Metals CAM III D	(X) 8082 PCB CAM V A	( ) 6860 Perchlorate CAM VIII B	( ) 9014 Total Cyanide/PAC CAM VI A	

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	Yes ( ) No (X)
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	Yes (X) No ( )
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	Yes (X) No ( )
D	Does the laboratory report comply with all the reporting requirements specified in the CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	Yes (X) No ( )
E	a. VPH, EPH, APH and TO-15 only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	Yes (X) No ( )
	b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	Yes ( ) No ( )
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	Yes (X) No ( )

Responses to Questions G, H and I below are required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocols(s)?	Yes (X) No ( )*
	***Data User Note:* Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.**	
H	Were **all** QC performance standards specified in the CAM protocol(s) achieved?	Yes ( ) No (X)*
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	Yes ( ) No (X)*

All negative responses must be addressed in an attached laboratory narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: _____ Date: April 10, 2015

Printed Name: Laurel Stoddard Position: Laboratory Director

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-206 0ft-3ft
Date Sampled: 03/25/15 11:10
Percent Solids: 34
Initial Volume: 5.1
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1503448
ESS Laboratory Sample ID: 1503448-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.0143)		8260B Low		1	03/26/15 15:40	CYC0308	CC52627
1,1,1-Trichloroethane	ND (0.0143)		8260B Low		1	03/26/15 15:40	CYC0308	CC52627
1,1,2,2-Tetrachloroethane	ND (0.0057)		8260B Low		1	03/26/15 15:40	CYC0308	CC52627
1,1,2-Trichloroethane	ND (0.0143)		8260B Low		1	03/26/15 15:40	CYC0308	CC52627
1,1-Dichloroethane	ND (0.0143)		8260B Low		1	03/26/15 15:40	CYC0308	CC52627
1,1-Dichloroethene	ND (0.0143)		8260B Low		1	03/26/15 15:40	CYC0308	CC52627
1,1-Dichloropropene	ND (0.0143)		8260B Low		1	03/26/15 15:40	CYC0308	CC52627
1,2,3-Trichlorobenzene	ND (0.0143)		8260B Low		1	03/26/15 15:40	CYC0308	CC52627
1,2,3-Trichloropropane	ND (0.0143)		8260B Low		1	03/26/15 15:40	CYC0308	CC52627
1,2,4-Trichlorobenzene	ND (0.0143)		8260B Low		1	03/26/15 15:40	CYC0308	CC52627
1,2,4-Trimethylbenzene	**0.0716** (0.0143)		8260B Low		1	03/26/15 15:40	CYC0308	CC52627
1,2-Dibromo-3-Chloropropane	ND (0.0143)		8260B Low		1	03/26/15 15:40	CYC0308	CC52627
1,2-Dibromoethane	ND (0.0143)		8260B Low		1	03/26/15 15:40	CYC0308	CC52627
1,2-Dichlorobenzene	ND (0.0143)		8260B Low		1	03/26/15 15:40	CYC0308	CC52627
1,2-Dichloroethane	ND (0.0143)		8260B Low		1	03/26/15 15:40	CYC0308	CC52627
1,2-Dichloropropane	ND (0.0143)		8260B Low		1	03/26/15 15:40	CYC0308	CC52627
1,3,5-Trimethylbenzene	**0.0448** (0.0143)		8260B Low		1	03/26/15 15:40	CYC0308	CC52627
1,3-Dichlorobenzene	ND (0.0143)		8260B Low		1	03/26/15 15:40	CYC0308	CC52627
1,3-Dichloropropane	ND (0.0143)		8260B Low		1	03/26/15 15:40	CYC0308	CC52627
1,4-Dichlorobenzene	ND (0.0143)		8260B Low		1	03/26/15 15:40	CYC0308	CC52627
1,4-Dioxane	ND (0.285)		8260B Low		1	03/26/15 15:40	CYC0308	CC52627
2,2-Dichloropropane	ND (0.0143)		8260B Low		1	03/26/15 15:40	CYC0308	CC52627
2-Butanone	**0.316** (0.0285)		8260B Low		1	03/26/15 15:40	CYC0308	CC52627
2-Chlorotoluene	**E 3.35** (0.0143)		8260B Low		1	03/26/15 15:40	CYC0308	CC52627
2-Hexanone	ND (0.0285)		8260B Low		1	03/26/15 15:40	CYC0308	CC52627
4-Chlorotoluene	**E 1.89** (0.0143)		8260B Low		1	03/26/15 15:40	CYC0308	CC52627
4-Isopropyltoluene	ND (0.0143)		8260B Low		1	03/26/15 15:40	CYC0308	CC52627
4-Methyl-2-Pentanone	ND (0.0285)		8260B Low		1	03/26/15 15:40	CYC0308	CC52627
Acetone	**1.75** (0.0285)		8260B Low		1	03/26/15 15:40	CYC0308	CC52627
Benzene	**0.0469** (0.0143)		8260B Low		1	03/26/15 15:40	CYC0308	CC52627
Bromobenzene	ND (0.0143)		8260B Low		1	03/26/15 15:40	CYC0308	CC52627
Bromochloromethane	ND (0.0143)		8260B Low		1	03/26/15 15:40	CYC0308	CC52627

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-206 0ft-3ft
Date Sampled: 03/25/15 11:10
Percent Solids: 34
Initial Volume: 5.1
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1503448
ESS Laboratory Sample ID: 1503448-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromodichloromethane	ND (0.0143)		8260B Low		1	03/26/15 15:40	CYC0308	CC52627
Bromoform	ND (0.0143)		8260B Low		1	03/26/15 15:40	CYC0308	CC52627
Bromomethane	ND (0.0285)		8260B Low		1	03/26/15 15:40	CYC0308	CC52627
Carbon Disulfide	**0.0422** (0.0143)		8260B Low		1	03/26/15 15:40	CYC0308	CC52627
Carbon Tetrachloride	ND (0.0143)		8260B Low		1	03/26/15 15:40	CYC0308	CC52627
Chlorobenzene	**0.0641** (0.0143)		8260B Low		1	03/26/15 15:40	CYC0308	CC52627
Chloroethane	ND (0.0285)		8260B Low		1	03/26/15 15:40	CYC0308	CC52627
Chloroform	ND (0.0143)		8260B Low		1	03/26/15 15:40	CYC0308	CC52627
Chloromethane	ND (0.0285)		8260B Low		1	03/26/15 15:40	CYC0308	CC52627
cis-1,2-Dichloroethene	ND (0.0143)		8260B Low		1	03/26/15 15:40	CYC0308	CC52627
cis-1,3-Dichloropropene	ND (0.0143)		8260B Low		1	03/26/15 15:40	CYC0308	CC52627
Dibromochloromethane	ND (0.0057)		8260B Low		1	03/26/15 15:40	CYC0308	CC52627
Dibromomethane	ND (0.0143)		8260B Low		1	03/26/15 15:40	CYC0308	CC52627
Dichlorodifluoromethane	ND (0.0285)		8260B Low		1	03/26/15 15:40	CYC0308	CC52627
Diethyl Ether	ND (0.0143)		8260B Low		1	03/26/15 15:40	CYC0308	CC52627
Di-isopropyl ether	ND (0.0143)		8260B Low		1	03/26/15 15:40	CYC0308	CC52627
Ethyl tertiary-butyl ether	ND (0.0143)		8260B Low		1	03/26/15 15:40	CYC0308	CC52627
Ethylbenzene	**0.398** (0.0143)		8260B Low		1	03/26/15 15:40	CYC0308	CC52627
Hexachlorobutadiene	ND (0.0143)		8260B Low		1	03/26/15 15:40	CYC0308	CC52627
Isopropylbenzene	**0.0155** (0.0143)		8260B Low		1	03/26/15 15:40	CYC0308	CC52627
Methyl tert-Butyl Ether	ND (0.0143)		8260B Low		1	03/26/15 15:40	CYC0308	CC52627
Methylene Chloride	ND (0.0285)		8260B Low		1	03/26/15 15:40	CYC0308	CC52627
Naphthalene	**E 0.994** (0.0143)		8260B Low		1	03/26/15 15:40	CYC0308	CC52627
n-Butylbenzene	ND (0.0143)		8260B Low		1	03/26/15 15:40	CYC0308	CC52627
n-Propylbenzene	ND (0.0143)		8260B Low		1	03/26/15 15:40	CYC0308	CC52627
sec-Butylbenzene	**0.0161** (0.0143)		8260B Low		1	03/26/15 15:40	CYC0308	CC52627
Styrene	ND (0.0143)		8260B Low		1	03/26/15 15:40	CYC0308	CC52627
tert-Butylbenzene	ND (0.0143)		8260B Low		1	03/26/15 15:40	CYC0308	CC52627
Tertiary-amyl methyl ether	ND (0.0143)		8260B Low		1	03/26/15 15:40	CYC0308	CC52627
Tetrachloroethene	ND (0.0143)		8260B Low		1	03/26/15 15:40	CYC0308	CC52627
Tetrahydrofuran	ND (0.0143)		8260B Low		1	03/26/15 15:40	CYC0308	CC52627
Toluene	**0.100** (0.0143)		8260B Low		1	03/26/15 15:40	CYC0308	CC52627

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-206 0ft-3ft
Date Sampled: 03/25/15 11:10
Percent Solids: 34
Initial Volume: 5.1
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1503448
ESS Laboratory Sample ID: 1503448-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
trans-1,2-Dichloroethene	ND (0.0143)		8260B Low		1	03/26/15 15:40	CYC0308	CC52627
trans-1,3-Dichloropropene	ND (0.0143)		8260B Low		1	03/26/15 15:40	CYC0308	CC52627
Trichloroethene	ND (0.0143)		8260B Low		1	03/26/15 15:40	CYC0308	CC52627
Trichlorofluoromethane	ND (0.0143)		8260B Low		1	03/26/15 15:40	CYC0308	CC52627
Vinyl Chloride	ND (0.0285)		8260B Low		1	03/26/15 15:40	CYC0308	CC52627
Xylene O	**0.102** (0.0143)		8260B Low		1	03/26/15 15:40	CYC0308	CC52627
Xylene P,M	**0.143** (0.0285)		8260B Low		1	03/26/15 15:40	CYC0308	CC52627
Xylenes (Total)	**0.245** (0.0285)		8260B Low		1	03/26/15 15:40		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*89 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*85 %*		*70-130*
Surrogate: Dibromofluoromethane	*90 %*		*70-130*
Surrogate: Toluene-d8	*100 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-206 0ft-3ft
Date Sampled: 03/25/15 11:10
Percent Solids: 34
Initial Volume: 14.3
Final Volume: 15
Extraction Method: 5035

ESS Laboratory Work Order: 1503448
ESS Laboratory Sample ID: 1503448-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MD

5035/8260B Volatile Organic Compounds / Methanol

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.497)		8260B		1	03/27/15 21:08	CYC0336	CC52745
1,1,1-Trichloroethane	ND (0.248)		8260B		1	03/27/15 21:08	CYC0336	CC52745
1,1,2,2-Tetrachloroethane	ND (0.248)		8260B		1	03/27/15 21:08	CYC0336	CC52745
1,1,2-Trichloroethane	ND (0.248)		8260B		1	03/27/15 21:08	CYC0336	CC52745
1,1-Dichloroethane	ND (0.248)		8260B		1	03/27/15 21:08	CYC0336	CC52745
1,1-Dichloroethene	ND (0.248)		8260B		1	03/27/15 21:08	CYC0336	CC52745
1,1-Dichloropropene	ND (0.248)		8260B		1	03/27/15 21:08	CYC0336	CC52745
1,2,3-Trichlorobenzene	ND (0.248)		8260B		1	03/27/15 21:08	CYC0336	CC52745
1,2,3-Trichloropropane	ND (0.248)		8260B		1	03/27/15 21:08	CYC0336	CC52745
1,2,4-Trichlorobenzene	ND (0.248)		8260B		1	03/27/15 21:08	CYC0336	CC52745
1,2,4-Trimethylbenzene	ND (0.248)		8260B		1	03/27/15 21:08	CYC0336	CC52745
1,2-Dibromo-3-Chloropropane	ND (0.993)		8260B		1	03/27/15 21:08	CYC0336	CC52745
1,2-Dibromoethane	ND (0.248)		8260B		1	03/27/15 21:08	CYC0336	CC52745
1,2-Dichlorobenzene	ND (0.248)		8260B		1	03/27/15 21:08	CYC0336	CC52745
1,2-Dichloroethane	ND (0.248)		8260B		1	03/27/15 21:08	CYC0336	CC52745
1,2-Dichloropropane	ND (0.248)		8260B		1	03/27/15 21:08	CYC0336	CC52745
1,3,5-Trimethylbenzene	ND (0.248)		8260B		1	03/27/15 21:08	CYC0336	CC52745
1,3-Dichlorobenzene	ND (0.248)		8260B		1	03/27/15 21:08	CYC0336	CC52745
1,3-Dichloropropane	ND (0.248)		8260B		1	03/27/15 21:08	CYC0336	CC52745
1,4-Dichlorobenzene	ND (0.248)		8260B		1	03/27/15 21:08	CYC0336	CC52745
1,4-Dioxane - Screen	ND (24.8)		8260B		1	03/27/15 21:08	CYC0336	CC52745
2,2-Dichloropropane	ND (0.497)		8260B		1	03/27/15 21:08	CYC0336	CC52745
2-Butanone	ND (0.993)		8260B		1	03/27/15 21:08	CYC0336	CC52745
2-Chlorotoluene	**7.56** (0.248)		8260B		1	03/27/15 21:08	CYC0336	CC52745
2-Hexanone	ND (0.993)		8260B		1	03/27/15 21:08	CYC0336	CC52745
4-Chlorotoluene	**2.25** (0.248)		8260B		1	03/27/15 21:08	CYC0336	CC52745
4-Isopropyltoluene	ND (0.248)		8260B		1	03/27/15 21:08	CYC0336	CC52745
4-Methyl-2-Pentanone	ND (0.993)		8260B		1	03/27/15 21:08	CYC0336	CC52745
Acetone	**B 1.44** (0.993)		8260B		1	03/27/15 21:08	CYC0336	CC52745
Benzene	ND (0.248)		8260B		1	03/27/15 21:08	CYC0336	CC52745
Bromobenzene	ND (0.248)		8260B		1	03/27/15 21:08	CYC0336	CC52745
Bromochloromethane	ND (0.248)		8260B		1	03/27/15 21:08	CYC0336	CC52745

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-206 0ft-3ft
Date Sampled: 03/25/15 11:10
Percent Solids: 34
Initial Volume: 14.3
Final Volume: 15
Extraction Method: 5035

ESS Laboratory Work Order: 1503448
ESS Laboratory Sample ID: 1503448-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MD

5035/8260B Volatile Organic Compounds / Methanol

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromodichloromethane	ND (0.248)		8260B		1	03/27/15 21:08	CYC0336	CC52745
Bromoform	ND (0.248)		8260B		1	03/27/15 21:08	CYC0336	CC52745
Bromomethane	ND (0.497)		8260B		1	03/27/15 21:08	CYC0336	CC52745
Carbon Disulfide	ND (0.248)		8260B		1	03/27/15 21:08	CYC0336	CC52745
Carbon Tetrachloride	ND (0.248)		8260B		1	03/27/15 21:08	CYC0336	CC52745
Chlorobenzene	ND (0.248)		8260B		1	03/27/15 21:08	CYC0336	CC52745
Chloroethane	ND (0.497)		8260B		1	03/27/15 21:08	CYC0336	CC52745
Chloroform	ND (0.248)		8260B		1	03/27/15 21:08	CYC0336	CC52745
Chloromethane	ND (0.497)		8260B		1	03/27/15 21:08	CYC0336	CC52745
cis-1,2-Dichloroethene	ND (0.248)		8260B		1	03/27/15 21:08	CYC0336	CC52745
cis-1,3-Dichloropropene	ND (0.248)		8260B		1	03/27/15 21:08	CYC0336	CC52745
Dibromochloromethane	ND (0.248)		8260B		1	03/27/15 21:08	CYC0336	CC52745
Dibromomethane	ND (0.248)		8260B		1	03/27/15 21:08	CYC0336	CC52745
Dichlorodifluoromethane	ND (0.248)		8260B		1	03/27/15 21:08	CYC0336	CC52745
Diethyl Ether	ND (0.248)		8260B		1	03/27/15 21:08	CYC0336	CC52745
Di-isopropyl ether	ND (0.248)		8260B		1	03/27/15 21:08	CYC0336	CC52745
Ethyl tertiary-butyl ether	ND (0.248)		8260B		1	03/27/15 21:08	CYC0336	CC52745
Ethylbenzene	**0.447** (0.248)		8260B		1	03/27/15 21:08	CYC0336	CC52745
Hexachlorobutadiene	ND (0.248)		8260B		1	03/27/15 21:08	CYC0336	CC52745
Isopropylbenzene	ND (0.248)		8260B		1	03/27/15 21:08	CYC0336	CC52745
Methyl tert-Butyl Ether	ND (0.248)		8260B		1	03/27/15 21:08	CYC0336	CC52745
Methylene Chloride	ND (0.993)		8260B		1	03/27/15 21:08	CYC0336	CC52745
Naphthalene	**4.84** (0.248)		8260B		1	03/27/15 21:08	CYC0336	CC52745
n-Butylbenzene	ND (0.248)		8260B		1	03/27/15 21:08	CYC0336	CC52745
n-Propylbenzene	ND (0.248)		8260B		1	03/27/15 21:08	CYC0336	CC52745
sec-Butylbenzene	ND (0.248)		8260B		1	03/27/15 21:08	CYC0336	CC52745
Styrene	ND (0.248)		8260B		1	03/27/15 21:08	CYC0336	CC52745
tert-Butylbenzene	ND (0.248)		8260B		1	03/27/15 21:08	CYC0336	CC52745
Tertiary-amyl methyl ether	ND (0.248)		8260B		1	03/27/15 21:08	CYC0336	CC52745
Tetrachloroethene	ND (0.248)		8260B		1	03/27/15 21:08	CYC0336	CC52745
Tetrahydrofuran	ND (0.993)		8260B		1	03/27/15 21:08	CYC0336	CC52745
Toluene	ND (0.248)		8260B		1	03/27/15 21:08	CYC0336	CC52745

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-206 0ft-3ft
Date Sampled: 03/25/15 11:10
Percent Solids: 34
Initial Volume: 14.3
Final Volume: 15
Extraction Method: 5035

ESS Laboratory Work Order: 1503448
ESS Laboratory Sample ID: 1503448-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MD

5035/8260B Volatile Organic Compounds / Methanol

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
trans-1,2-Dichloroethene	ND (0.248)		8260B		1	03/27/15 21:08	CYC0336	CC52745
trans-1,3-Dichloropropene	ND (0.248)		8260B		1	03/27/15 21:08	CYC0336	CC52745
Trichloroethene	ND (0.248)		8260B		1	03/27/15 21:08	CYC0336	CC52745
Trichlorofluoromethane	ND (0.248)		8260B		1	03/27/15 21:08	CYC0336	CC52745
Vinyl Chloride	ND (0.248)		8260B		1	03/27/15 21:08	CYC0336	CC52745
Xylene O	ND (0.248)		8260B		1	03/27/15 21:08	CYC0336	CC52745
Xylene P,M	ND (0.497)		8260B		1	03/27/15 21:08	CYC0336	CC52745
Xylenes (Total)	ND (0.497)		8260B		1	03/27/15 21:08		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*81 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*71 %*		*70-130*
Surrogate: Dibromofluoromethane	*92 %*		*70-130*
Surrogate: Toluene-d8	*76 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-206 0ft-3ft
Date Sampled: 03/25/15 11:10
Percent Solids: 34
Initial Volume: 30.7
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503448
ESS Laboratory Sample ID: 1503448-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JXS
Prepared: 3/30/15 12:52

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.474)		8270D		1	03/31/15 1:49	CYC0357	CD50205
1,2-Dichlorobenzene	ND (0.474)		8270D		1	03/31/15 1:49	CYC0357	CD50205
1,3-Dichlorobenzene	ND (0.474)		8270D		1	03/31/15 1:49	CYC0357	CD50205
1,4-Dichlorobenzene	ND (0.474)		8270D		1	03/31/15 1:49	CYC0357	CD50205
2,4,5-Trichlorophenol	ND (0.474)		8270D		1	03/31/15 1:49	CYC0357	CD50205
2,4,6-Trichlorophenol	ND (0.474)		8270D		1	03/31/15 1:49	CYC0357	CD50205
2,4-Dichlorophenol	ND (0.474)		8270D		1	03/31/15 1:49	CYC0357	CD50205
2,4-Dimethylphenol	ND (0.474)		8270D		1	03/31/15 1:49	CYC0357	CD50205
2,4-Dinitrophenol	ND (2.38)		8270D		1	03/31/15 1:49	CYC0357	CD50205
2,4-Dinitrotoluene	ND (0.474)		8270D		1	03/31/15 1:49	CYC0357	CD50205
2,6-Dinitrotoluene	ND (0.474)		8270D		1	03/31/15 1:49	CYC0357	CD50205
2-Chloronaphthalene	ND (0.474)		8270D		1	03/31/15 1:49	CYC0357	CD50205
2-Chlorophenol	ND (0.474)		8270D		1	03/31/15 1:49	CYC0357	CD50205
2-Methylphenol	ND (0.474)		8270D		1	03/31/15 1:49	CYC0357	CD50205
2-Nitrophenol	ND (0.474)		8270D		1	03/31/15 1:49	CYC0357	CD50205
3,3´-Dichlorobenzidine	ND (0.949)		8270D		1	03/31/15 1:49	CYC0357	CD50205
3+4-Methylphenol	ND (0.949)		8270D		1	03/31/15 1:49	CYC0357	CD50205
4-Bromophenyl-phenylether	ND (0.474)		8270D		1	03/31/15 1:49	CYC0357	CD50205
4-Chloroaniline	ND (0.949)		8270D		1	03/31/15 1:49	CYC0357	CD50205
4-Nitrophenol	ND (2.38)		8270D		1	03/31/15 1:49	CYC0357	CD50205
Acetophenone	ND (0.949)		8270D		1	03/31/15 1:49	CYC0357	CD50205
Aniline	ND (2.38)		8270D		1	03/31/15 1:49	CYC0357	CD50205
Azobenzene	ND (0.474)		8270D		1	03/31/15 1:49	CYC0357	CD50205
bis(2-Chloroethoxy)methane	ND (0.474)		8270D		1	03/31/15 1:49	CYC0357	CD50205
bis(2-Chloroethyl)ether	ND (0.474)		8270D		1	03/31/15 1:49	CYC0357	CD50205
bis(2-chloroisopropyl)Ether	ND (0.474)		8270D		1	03/31/15 1:49	CYC0357	CD50205
bis(2-Ethylhexyl)phthalate	**113** (47.4)		8270D		100	04/01/15 8:54	CYC0357	CD50205
Butylbenzylphthalate	ND (0.474)		8270D		1	03/31/15 1:49	CYC0357	CD50205
Dibenzofuran	ND (0.474)		8270D		1	03/31/15 1:49	CYC0357	CD50205
Diethylphthalate	ND (0.474)		8270D		1	03/31/15 1:49	CYC0357	CD50205
Dimethylphthalate	ND (0.474)		8270D		1	03/31/15 1:49	CYC0357	CD50205
Di-n-butylphthalate	ND (0.474)		8270D		1	03/31/15 1:49	CYC0357	CD50205

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-206 0ft-3ft
Date Sampled: 03/25/15 11:10
Percent Solids: 34
Initial Volume: 30.7
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503448
ESS Laboratory Sample ID: 1503448-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JXS
Prepared: 3/30/15 12:52

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Di-n-octylphthalate	**2.85** (0.474)		8270D		1	03/31/15 1:49	CYC0357	CD50205
Hexachlorobenzene	ND (0.474)		8270D		1	03/31/15 1:49	CYC0357	CD50205
Hexachlorobutadiene	ND (0.474)		8270D		1	03/31/15 1:49	CYC0357	CD50205
Hexachloroethane	ND (0.474)		8270D		1	03/31/15 1:49	CYC0357	CD50205
Isophorone	ND (0.474)		8270D		1	03/31/15 1:49	CYC0357	CD50205
Nitrobenzene	ND (0.474)		8270D		1	03/31/15 1:49	CYC0357	CD50205
N-Nitrosodimethylamine	ND (0.474)		8270D		1	03/31/15 1:49	CYC0357	CD50205
Pentachlorophenol	ND (2.38)		8270D		1	03/31/15 1:49	CYC0357	CD50205
Phenol	ND (0.474)		8270D		1	03/31/15 1:49	CYC0357	CD50205

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*43 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*84 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*46 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*59 %*		*30-130*
Surrogate: 2-Fluorophenol	*41 %*		*30-130*
Surrogate: Nitrobenzene-d5	*46 %*		*30-130*
Surrogate: Phenol-d6	*47 %*		*30-130*
Surrogate: p-Terphenyl-d14	*84 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-206 0ft-3ft
Date Sampled: 03/25/15 11:10
Percent Solids: 34

ESS Laboratory Work Order: 1503448
ESS Laboratory Sample ID: 1503448-01
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Corrosivity (pH)	**H 7.44** (N/A)		9045		1	JLK	03/27/15 10:44	S.U.	CC52721
Corrosivity (pH) Sample Temp	**Soil pH measured in water at 17.3 °C.**								
Eh (ORP)	**H, WL 190** (N/A)		2580		1	JLK	03/27/15 10:44	mv	CC52722
Grain Size	**See Attached** (N/A)								
Hexavalent Chromium	ND (1.2)		7196A		1	JLK	03/28/15 11:00	mg/kg dry	CC52807
Percent Water	**See Attached** (N/A)								
Reactive Cyanide	ND (2.0)		7.3.3.2		1	JLK	03/30/15 11:05	mg/kg	CC53003
Reactive Sulfide	ND (2.0)		7.3.4.1		1	JLK	03/30/15 11:05	mg/kg	CC53003

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-206 0ft-3ft
Date Sampled: 03/25/15 11:10
Percent Solids: 34
Initial Volume: 30.1
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1503448
ESS Laboratory Sample ID: 1503448-01
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 3/27/15 17:04

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	**123** (36.3)		MADEP-EPH		1	DPS	03/30/15 23:14	CYC0346	CC52711
C19-C36 Aliphatics1	**184** (36.3)		MADEP-EPH		1	DPS	03/30/15 23:14	CYC0346	CC52711
C11-C22 Unadjusted Aromatics1	**1950** (36.3)		EPH8270		1	VSC	03/30/15 21:26	CYC0347	CC52711
C11-C22 Aromatics1,2	**1950** (36.3)		EPH8270			VSC	03/30/15 21:26		[CALC]

	%Recovery	*Qualifier*	*Limits*
Surrogate: 1-Chlorooctadecane	*57 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*111 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*109 %*		*40-140*
Surrogate: O-Terphenyl	*110 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-205 0ft-0.5ft
Date Sampled: 03/25/15 11:45
Percent Solids: 39
Initial Volume: 30.8
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503448
ESS Laboratory Sample ID: 1503448-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JXS
Prepared: 3/30/15 12:52

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.419)		8270D		1	04/01/15 15:22	CYD0001	CD50205
1,2-Dichlorobenzene	ND (0.419)		8270D		1	04/01/15 15:22	CYD0001	CD50205
1,3-Dichlorobenzene	ND (0.419)		8270D		1	04/01/15 15:22	CYD0001	CD50205
1,4-Dichlorobenzene	ND (0.419)		8270D		1	04/01/15 15:22	CYD0001	CD50205
2,4,5-Trichlorophenol	ND (0.419)		8270D		1	04/01/15 15:22	CYD0001	CD50205
2,4,6-Trichlorophenol	ND (0.419)		8270D		1	04/01/15 15:22	CYD0001	CD50205
2,4-Dichlorophenol	ND (0.419)		8270D		1	04/01/15 15:22	CYD0001	CD50205
2,4-Dimethylphenol	ND (0.419)		8270D		1	04/01/15 15:22	CYD0001	CD50205
2,4-Dinitrophenol	ND (2.10)		8270D		1	04/01/15 15:22	CYD0001	CD50205
2,4-Dinitrotoluene	ND (0.419)		8270D		1	04/01/15 15:22	CYD0001	CD50205
2,6-Dinitrotoluene	ND (0.419)		8270D		1	04/01/15 15:22	CYD0001	CD50205
2-Chloronaphthalene	ND (0.419)		8270D		1	04/01/15 15:22	CYD0001	CD50205
2-Chlorophenol	ND (0.419)		8270D		1	04/01/15 15:22	CYD0001	CD50205
2-Methylphenol	ND (0.419)		8270D		1	04/01/15 15:22	CYD0001	CD50205
2-Nitrophenol	ND (0.419)		8270D		1	04/01/15 15:22	CYD0001	CD50205
3,3´-Dichlorobenzidine	ND (0.839)		8270D		1	04/01/15 15:22	CYD0001	CD50205
3+4-Methylphenol	ND (0.839)		8270D		1	04/01/15 15:22	CYD0001	CD50205
4-Bromophenyl-phenylether	ND (0.419)		8270D		1	04/01/15 15:22	CYD0001	CD50205
4-Chloroaniline	ND (0.839)		8270D		1	04/01/15 15:22	CYD0001	CD50205
4-Nitrophenol	ND (2.10)		8270D		1	04/01/15 15:22	CYD0001	CD50205
Acetophenone	ND (0.839)		8270D		1	04/01/15 15:22	CYD0001	CD50205
Aniline	ND (2.10)		8270D		1	04/01/15 15:22	CYD0001	CD50205
Azobenzene	ND (0.419)		8270D		1	04/01/15 15:22	CYD0001	CD50205
bis(2-Chloroethoxy)methane	ND (0.419)		8270D		1	04/01/15 15:22	CYD0001	CD50205
bis(2-Chloroethyl)ether	ND (0.419)		8270D		1	04/01/15 15:22	CYD0001	CD50205
bis(2-chloroisopropyl)Ether	ND (0.419)		8270D		1	04/01/15 15:22	CYD0001	CD50205
bis(2-Ethylhexyl)phthalate	**1.67** (0.419)		8270D		1	04/01/15 15:22	CYD0001	CD50205
Butylbenzylphthalate	ND (0.419)		8270D		1	04/01/15 15:22	CYD0001	CD50205
Dibenzofuran	ND (0.419)		8270D		1	04/01/15 15:22	CYD0001	CD50205
Diethylphthalate	ND (0.419)		8270D		1	04/01/15 15:22	CYD0001	CD50205
Dimethylphthalate	ND (0.419)		8270D		1	04/01/15 15:22	CYD0001	CD50205
Di-n-butylphthalate	ND (0.419)		8270D		1	04/01/15 15:22	CYD0001	CD50205

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-205 0ft-0.5ft
Date Sampled: 03/25/15 11:45
Percent Solids: 39
Initial Volume: 30.8
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503448
ESS Laboratory Sample ID: 1503448-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JXS
Prepared: 3/30/15 12:52

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Di-n-octylphthalate	ND (0.419)		8270D		1	04/01/15 15:22	CYD0001	CD50205
Hexachlorobenzene	ND (0.419)		8270D		1	04/01/15 15:22	CYD0001	CD50205
Hexachlorobutadiene	ND (0.419)		8270D		1	04/01/15 15:22	CYD0001	CD50205
Hexachloroethane	ND (0.419)		8270D		1	04/01/15 15:22	CYD0001	CD50205
Isophorone	ND (0.419)		8270D		1	04/01/15 15:22	CYD0001	CD50205
Nitrobenzene	ND (0.419)		8270D		1	04/01/15 15:22	CYD0001	CD50205
N-Nitrosodimethylamine	ND (0.419)		8270D		1	04/01/15 15:22	CYD0001	CD50205
Pentachlorophenol	ND (2.10)		8270D		1	04/01/15 15:22	CYD0001	CD50205
Phenol	ND (0.419)		8270D		1	04/01/15 15:22	CYD0001	CD50205

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*37 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*62 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*42 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*50 %*		*30-130*
Surrogate: 2-Fluorophenol	*38 %*		*30-130*
Surrogate: Nitrobenzene-d5	*40 %*		*30-130*
Surrogate: Phenol-d6	*48 %*		*30-130*
Surrogate: p-Terphenyl-d14	*64 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-205 0ft-0.5ft
Date Sampled: 03/25/15 11:45
Percent Solids: 39
Initial Volume: 20.1
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503448
ESS Laboratory Sample ID: 1503448-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 3/28/15 12:00

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.032)		8270D		1	04/01/15 13:38	CYC0376	CC52823
Acenaphthene	ND (0.032)		8270D		1	04/01/15 13:38	CYC0376	CC52823
Acenaphthylene	**0.131** (0.032)		8270D		1	04/01/15 13:38	CYC0376	CC52823
Anthracene	**0.143** (0.032)		8270D		1	04/01/15 13:38	CYC0376	CC52823
Benzo(a)anthracene	**0.421** (0.032)		8270D		1	04/01/15 13:38	CYC0376	CC52823
Benzo(a)pyrene	**0.552** (0.032)		8270D		1	04/01/15 13:38	CYC0376	CC52823
Benzo(b)fluoranthene	**0.785** (0.032)		8270D		1	04/01/15 13:38	CYC0376	CC52823
Benzo(g,h,i)perylene	**0.347** (0.032)		8270D		1	04/01/15 13:38	CYC0376	CC52823
Benzo(k)fluoranthene	**0.252** (0.032)		8270D		1	04/01/15 13:38	CYC0376	CC52823
Chrysene	**0.526** (0.032)		8270D		1	04/01/15 13:38	CYC0376	CC52823
Dibenzo(a,h)Anthracene	**0.099** (0.032)		8270D		1	04/01/15 13:38	CYC0376	CC52823
Fluoranthene	**0.813** (0.032)		8270D		1	04/01/15 13:38	CYC0376	CC52823
Fluorene	**0.043** (0.032)		8270D		1	04/01/15 13:38	CYC0376	CC52823
Hexachlorobenzene	ND (0.013)		8270D		1	04/01/15 13:38	CYC0376	CC52823
Indeno(1,2,3-cd)Pyrene	**0.407** (0.032)		8270D		1	04/01/15 13:38	CYC0376	CC52823
Naphthalene	**0.126** (0.032)		8270D		1	04/01/15 13:38	CYC0376	CC52823
Phenanthrene	**0.302** (0.032)		8270D		1	04/01/15 13:38	CYC0376	CC52823
Pyrene	**0.847** (0.032)		8270D		1	04/01/15 13:38	CYC0376	CC52823

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*33 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*58 %*		*30-130*
Surrogate: Nitrobenzene-d5	*48 %*		*30-130*
Surrogate: p-Terphenyl-d14	*79 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-205 0ft-0.5ft
Date Sampled: 03/25/15 11:45
Percent Solids: 39
Initial Volume: 30.7
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1503448
ESS Laboratory Sample ID: 1503448-02
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 3/27/15 17:04

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	ND (31.6)		MADEP-EPH		1	DPS	03/31/15 0:06	CYC0346	CC52711
C19-C36 Aliphatics1	**71.8** (31.6)		MADEP-EPH		1	DPS	03/31/15 0:06	CYC0346	CC52711
C11-C22 Unadjusted Aromatics1	**43.2** (31.6)		EPH8270		1	VSC	03/30/15 22:00	CYC0347	CC52711
C11-C22 Aromatics1,2	**43.2** (31.6)		EPH8270			VSC	03/30/15 22:00		[CALC]

	%Recovery	*Qualifier*	*Limits*
Surrogate: 1-Chlorooctadecane	*64 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*113 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*112 %*		*40-140*
Surrogate: O-Terphenyl	*80 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-205 4ft-6ft
Date Sampled: 03/25/15 11:45
Percent Solids: 41
Initial Volume: 20.6
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503448
ESS Laboratory Sample ID: 1503448-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 3/28/15 12:00

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	**0.430** (0.148)		8270D		5	04/01/15 23:28	CYD0015	CC52823
Acenaphthene	**0.447** (0.148)		8270D		5	04/01/15 23:28	CYD0015	CC52823
Acenaphthylene	**0.509** (0.148)		8270D		5	04/01/15 23:28	CYD0015	CC52823
Anthracene	**1.07** (0.148)		8270D		5	04/01/15 23:28	CYD0015	CC52823
Benzo(a)anthracene	**0.975** (0.148)		8270D		5	04/01/15 23:28	CYD0015	CC52823
Benzo(a)pyrene	**0.904** (0.148)		8270D		5	04/01/15 23:28	CYD0015	CC52823
Benzo(b)fluoranthene	**1.16** (0.148)		8270D		5	04/01/15 23:28	CYD0015	CC52823
Benzo(g,h,i)perylene	**0.420** (0.295)		8270D		10	04/02/15 15:00	CYD0015	CC52823
Benzo(k)fluoranthene	**0.392** (0.148)		8270D		5	04/01/15 23:28	CYD0015	CC52823
Chrysene	**1.12** (0.148)		8270D		5	04/01/15 23:28	CYD0015	CC52823
Dibenzo(a,h)Anthracene	**0.121** (0.118)		8270D		10	04/02/15 15:00	CYD0015	CC52823
Fluoranthene	**2.30** (0.148)		8270D		5	04/01/15 23:28	CYD0015	CC52823
Fluorene	**0.665** (0.148)		8270D		5	04/01/15 23:28	CYD0015	CC52823
Hexachlorobenzene	ND (0.030)		8270D		5	04/01/15 23:28	CYD0015	CC52823
Indeno(1,2,3-cd)Pyrene	**0.459** (0.295)		8270D		10	04/02/15 15:00	CYD0015	CC52823
Naphthalene	**3.52** (0.148)		8270D		5	04/01/15 23:28	CYD0015	CC52823
Phenanthrene	**2.26** (0.148)		8270D		5	04/01/15 23:28	CYD0015	CC52823
Pyrene	**2.58** (0.148)		8270D		5	04/01/15 23:28	CYD0015	CC52823

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*40 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*62 %*		*30-130*
Surrogate: Nitrobenzene-d5	*54 %*		*30-130*
Surrogate: p-Terphenyl-d14	*70 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-205 6ft-8ft
Date Sampled: 03/25/15 11:45
Percent Solids: 72
Initial Volume: 20.2
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503448
ESS Laboratory Sample ID: 1503448-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 3/28/15 12:00

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.017)		8270D		1	04/01/15 5:26	CYC0376	CC52823
Acenaphthene	ND (0.017)		8270D		1	04/01/15 5:26	CYC0376	CC52823
Acenaphthylene	**0.018** (0.017)		8270D		1	04/01/15 5:26	CYC0376	CC52823
Anthracene	**0.034** (0.017)		8270D		1	04/01/15 5:26	CYC0376	CC52823
Benzo(a)anthracene	**0.052** (0.017)		8270D		1	04/01/15 5:26	CYC0376	CC52823
Benzo(a)pyrene	**0.048** (0.017)		8270D		1	04/01/15 5:26	CYC0376	CC52823
Benzo(b)fluoranthene	**0.054** (0.017)		8270D		1	04/01/15 5:26	CYC0376	CC52823
Benzo(g,h,i)perylene	**0.029** (0.017)		8270D		1	04/01/15 5:26	CYC0376	CC52823
Benzo(k)fluoranthene	ND (0.017)		8270D		1	04/01/15 5:26	CYC0376	CC52823
Chrysene	**0.057** (0.017)		8270D		1	04/01/15 5:26	CYC0376	CC52823
Dibenzo(a,h)Anthracene	ND (0.017)		8270D		1	04/01/15 5:26	CYC0376	CC52823
Fluoranthene	**0.095** (0.017)		8270D		1	04/01/15 5:26	CYC0376	CC52823
Fluorene	ND (0.017)		8270D		1	04/01/15 5:26	CYC0376	CC52823
Hexachlorobenzene	ND (0.007)		8270D		1	04/01/15 5:26	CYC0376	CC52823
Indeno(1,2,3-cd)Pyrene	**0.031** (0.017)		8270D		1	04/01/15 5:26	CYC0376	CC52823
Naphthalene	**0.025** (0.017)		8270D		1	04/01/15 5:26	CYC0376	CC52823
Phenanthrene	**0.026** (0.017)		8270D		1	04/01/15 5:26	CYC0376	CC52823
Pyrene	**0.106** (0.017)		8270D		1	04/01/15 5:26	CYC0376	CC52823

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*54 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*68 %*		*30-130*
Surrogate: Nitrobenzene-d5	*68 %*		*30-130*
Surrogate: p-Terphenyl-d14	*80 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-205 0ft-3ft
Date Sampled: 03/25/15 11:45
Percent Solids: 32
Initial Volume: 5
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1503448
ESS Laboratory Sample ID: 1503448-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.0158)		8260B Low		1	03/27/15 13:19	CYC0324	CC52716
1,1,1-Trichloroethane	ND (0.0158)		8260B Low		1	03/27/15 13:19	CYC0324	CC52716
1,1,2,2-Tetrachloroethane	ND (0.0063)		8260B Low		1	03/27/15 13:19	CYC0324	CC52716
1,1,2-Trichloroethane	ND (0.0158)		8260B Low		1	03/27/15 13:19	CYC0324	CC52716
1,1-Dichloroethane	ND (0.0158)		8260B Low		1	03/27/15 13:19	CYC0324	CC52716
1,1-Dichloroethene	ND (0.0158)		8260B Low		1	03/27/15 13:19	CYC0324	CC52716
1,1-Dichloropropene	ND (0.0158)		8260B Low		1	03/27/15 13:19	CYC0324	CC52716
1,2,3-Trichlorobenzene	ND (0.0158)		8260B Low		1	03/27/15 13:19	CYC0324	CC52716
1,2,3-Trichloropropane	ND (0.0158)		8260B Low		1	03/27/15 13:19	CYC0324	CC52716
1,2,4-Trichlorobenzene	ND (0.0158)		8260B Low		1	03/27/15 13:19	CYC0324	CC52716
1,2,4-Trimethylbenzene	ND (0.0158)		8260B Low		1	03/27/15 13:19	CYC0324	CC52716
1,2-Dibromo-3-Chloropropane	ND (0.0158)		8260B Low		1	03/27/15 13:19	CYC0324	CC52716
1,2-Dibromoethane	ND (0.0158)		8260B Low		1	03/27/15 13:19	CYC0324	CC52716
1,2-Dichlorobenzene	ND (0.0158)		8260B Low		1	03/27/15 13:19	CYC0324	CC52716
1,2-Dichloroethane	ND (0.0158)		8260B Low		1	03/27/15 13:19	CYC0324	CC52716
1,2-Dichloropropane	ND (0.0158)		8260B Low		1	03/27/15 13:19	CYC0324	CC52716
1,3,5-Trimethylbenzene	ND (0.0158)		8260B Low		1	03/27/15 13:19	CYC0324	CC52716
1,3-Dichlorobenzene	ND (0.0158)		8260B Low		1	03/27/15 13:19	CYC0324	CC52716
1,3-Dichloropropane	ND (0.0158)		8260B Low		1	03/27/15 13:19	CYC0324	CC52716
1,4-Dichlorobenzene	ND (0.0158)		8260B Low		1	03/27/15 13:19	CYC0324	CC52716
1,4-Dioxane	ND (0.316)		8260B Low		1	03/27/15 13:19	CYC0324	CC52716
2,2-Dichloropropane	ND (0.0158)		8260B Low		1	03/27/15 13:19	CYC0324	CC52716
2-Butanone	**0.0433** (0.0316)		8260B Low		1	03/27/15 13:19	CYC0324	CC52716
2-Chlorotoluene	**0.0790** (0.0158)		8260B Low		1	03/27/15 13:19	CYC0324	CC52716
2-Hexanone	ND (0.0316)		8260B Low		1	03/27/15 13:19	CYC0324	CC52716
4-Chlorotoluene	ND (0.0158)		8260B Low		1	03/27/15 13:19	CYC0324	CC52716
4-Isopropyltoluene	ND (0.0158)		8260B Low		1	03/27/15 13:19	CYC0324	CC52716
4-Methyl-2-Pentanone	ND (0.0316)		8260B Low		1	03/27/15 13:19	CYC0324	CC52716
Acetone	**0.278** (0.0316)		8260B Low		1	03/27/15 13:19	CYC0324	CC52716
Benzene	ND (0.0158)		8260B Low		1	03/27/15 13:19	CYC0324	CC52716
Bromobenzene	ND (0.0158)		8260B Low		1	03/27/15 13:19	CYC0324	CC52716
Bromochloromethane	ND (0.0158)		8260B Low		1	03/27/15 13:19	CYC0324	CC52716

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-205 0ft-3ft
Date Sampled: 03/25/15 11:45
Percent Solids: 32
Initial Volume: 5
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1503448
ESS Laboratory Sample ID: 1503448-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromodichloromethane	ND (0.0158)		8260B Low		1	03/27/15 13:19	CYC0324	CC52716
Bromoform	ND (0.0158)		8260B Low		1	03/27/15 13:19	CYC0324	CC52716
Bromomethane	ND (0.0316)		8260B Low		1	03/27/15 13:19	CYC0324	CC52716
Carbon Disulfide	**0.0240** (0.0158)		8260B Low		1	03/27/15 13:19	CYC0324	CC52716
Carbon Tetrachloride	ND (0.0158)		8260B Low		1	03/27/15 13:19	CYC0324	CC52716
Chlorobenzene	ND (0.0158)		8260B Low		1	03/27/15 13:19	CYC0324	CC52716
Chloroethane	ND (0.0316)		8260B Low		1	03/27/15 13:19	CYC0324	CC52716
Chloroform	ND (0.0158)		8260B Low		1	03/27/15 13:19	CYC0324	CC52716
Chloromethane	ND (0.0316)		8260B Low		1	03/27/15 13:19	CYC0324	CC52716
cis-1,2-Dichloroethene	ND (0.0158)		8260B Low		1	03/27/15 13:19	CYC0324	CC52716
cis-1,3-Dichloropropene	ND (0.0158)		8260B Low		1	03/27/15 13:19	CYC0324	CC52716
Dibromochloromethane	ND (0.0063)		8260B Low		1	03/27/15 13:19	CYC0324	CC52716
Dibromomethane	ND (0.0158)		8260B Low		1	03/27/15 13:19	CYC0324	CC52716
Dichlorodifluoromethane	ND (0.0316)		8260B Low		1	03/27/15 13:19	CYC0324	CC52716
Diethyl Ether	ND (0.0158)		8260B Low		1	03/27/15 13:19	CYC0324	CC52716
Di-isopropyl ether	ND (0.0158)		8260B Low		1	03/27/15 13:19	CYC0324	CC52716
Ethyl tertiary-butyl ether	ND (0.0158)		8260B Low		1	03/27/15 13:19	CYC0324	CC52716
Ethylbenzene	ND (0.0158)		8260B Low		1	03/27/15 13:19	CYC0324	CC52716
Hexachlorobutadiene	ND (0.0158)		8260B Low		1	03/27/15 13:19	CYC0324	CC52716
Isopropylbenzene	ND (0.0158)		8260B Low		1	03/27/15 13:19	CYC0324	CC52716
Methyl tert-Butyl Ether	ND (0.0158)		8260B Low		1	03/27/15 13:19	CYC0324	CC52716
Methylene Chloride	ND (0.0316)		8260B Low		1	03/27/15 13:19	CYC0324	CC52716
Naphthalene	ND (0.0158)		8260B Low		1	03/27/15 13:19	CYC0324	CC52716
n-Butylbenzene	ND (0.0158)		8260B Low		1	03/27/15 13:19	CYC0324	CC52716
n-Propylbenzene	ND (0.0158)		8260B Low		1	03/27/15 13:19	CYC0324	CC52716
sec-Butylbenzene	ND (0.0158)		8260B Low		1	03/27/15 13:19	CYC0324	CC52716
Styrene	ND (0.0158)		8260B Low		1	03/27/15 13:19	CYC0324	CC52716
tert-Butylbenzene	ND (0.0158)		8260B Low		1	03/27/15 13:19	CYC0324	CC52716
Tertiary-amyl methyl ether	ND (0.0158)		8260B Low		1	03/27/15 13:19	CYC0324	CC52716
Tetrachloroethene	ND (0.0158)		8260B Low		1	03/27/15 13:19	CYC0324	CC52716
Tetrahydrofuran	ND (0.0158)		8260B Low		1	03/27/15 13:19	CYC0324	CC52716
Toluene	ND (0.0158)		8260B Low		1	03/27/15 13:19	CYC0324	CC52716

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-205 0ft-3ft
Date Sampled: 03/25/15 11:45
Percent Solids: 32
Initial Volume: 5
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1503448
ESS Laboratory Sample ID: 1503448-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
trans-1,2-Dichloroethene	ND (0.0158)		8260B Low		1	03/27/15 13:19	CYC0324	CC52716
trans-1,3-Dichloropropene	ND (0.0158)		8260B Low		1	03/27/15 13:19	CYC0324	CC52716
Trichloroethene	ND (0.0158)		8260B Low		1	03/27/15 13:19	CYC0324	CC52716
Trichlorofluoromethane	ND (0.0158)		8260B Low		1	03/27/15 13:19	CYC0324	CC52716
Vinyl Chloride	ND (0.0316)		8260B Low		1	03/27/15 13:19	CYC0324	CC52716
Xylene O	ND (0.0158)		8260B Low		1	03/27/15 13:19	CYC0324	CC52716
Xylene P,M	ND (0.0316)		8260B Low		1	03/27/15 13:19	CYC0324	CC52716
Xylenes (Total)	ND (0.0316)		8260B Low		1	03/27/15 13:19		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*92 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*82 %*		*70-130*
Surrogate: Dibromofluoromethane	*88 %*		*70-130*
Surrogate: Toluene-d8	*99 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-205 0ft-3ft
Date Sampled: 03/25/15 11:45
Percent Solids: 32
Initial Volume: 30.3
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503448
ESS Laboratory Sample ID: 1503448-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JXS
Prepared: 3/30/15 12:52

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.521)		8270D		1	03/31/15 2:52	CYC0357	CD50205
1,2-Dichlorobenzene	ND (0.521)		8270D		1	03/31/15 2:52	CYC0357	CD50205
1,3-Dichlorobenzene	ND (0.521)		8270D		1	03/31/15 2:52	CYC0357	CD50205
1,4-Dichlorobenzene	ND (0.521)		8270D		1	03/31/15 2:52	CYC0357	CD50205
2,4,5-Trichlorophenol	ND (0.521)		8270D		1	03/31/15 2:52	CYC0357	CD50205
2,4,6-Trichlorophenol	ND (0.521)		8270D		1	03/31/15 2:52	CYC0357	CD50205
2,4-Dichlorophenol	ND (0.521)		8270D		1	03/31/15 2:52	CYC0357	CD50205
2,4-Dimethylphenol	ND (0.521)		8270D		1	03/31/15 2:52	CYC0357	CD50205
2,4-Dinitrophenol	ND (2.61)		8270D		1	03/31/15 2:52	CYC0357	CD50205
2,4-Dinitrotoluene	ND (0.521)		8270D		1	03/31/15 2:52	CYC0357	CD50205
2,6-Dinitrotoluene	ND (0.521)		8270D		1	03/31/15 2:52	CYC0357	CD50205
2-Chloronaphthalene	ND (0.521)		8270D		1	03/31/15 2:52	CYC0357	CD50205
2-Chlorophenol	ND (0.521)		8270D		1	03/31/15 2:52	CYC0357	CD50205
2-Methylphenol	ND (0.521)		8270D		1	03/31/15 2:52	CYC0357	CD50205
2-Nitrophenol	ND (0.521)		8270D		1	03/31/15 2:52	CYC0357	CD50205
3,3´-Dichlorobenzidine	ND (1.04)		8270D		1	03/31/15 2:52	CYC0357	CD50205
3+4-Methylphenol	ND (1.04)		8270D		1	03/31/15 2:52	CYC0357	CD50205
4-Bromophenyl-phenylether	ND (0.521)		8270D		1	03/31/15 2:52	CYC0357	CD50205
4-Chloroaniline	ND (1.04)		8270D		1	03/31/15 2:52	CYC0357	CD50205
4-Nitrophenol	ND (2.61)		8270D		1	03/31/15 2:52	CYC0357	CD50205
Acetophenone	ND (1.04)		8270D		1	03/31/15 2:52	CYC0357	CD50205
Aniline	ND (2.61)		8270D		1	03/31/15 2:52	CYC0357	CD50205
Azobenzene	ND (0.521)		8270D		1	03/31/15 2:52	CYC0357	CD50205
bis(2-Chloroethoxy)methane	ND (0.521)		8270D		1	03/31/15 2:52	CYC0357	CD50205
bis(2-Chloroethyl)ether	ND (0.521)		8270D		1	03/31/15 2:52	CYC0357	CD50205
bis(2-chloroisopropyl)Ether	ND (0.521)		8270D		1	03/31/15 2:52	CYC0357	CD50205
bis(2-Ethylhexyl)phthalate	**694** (52.1)		8270D		100	04/01/15 9:30	CYC0357	CD50205
Butylbenzylphthalate	ND (0.521)		8270D		1	03/31/15 2:52	CYC0357	CD50205
Dibenzofuran	ND (0.521)		8270D		1	03/31/15 2:52	CYC0357	CD50205
Diethylphthalate	ND (0.521)		8270D		1	03/31/15 2:52	CYC0357	CD50205
Dimethylphthalate	ND (0.521)		8270D		1	03/31/15 2:52	CYC0357	CD50205
Di-n-butylphthalate	ND (0.521)		8270D		1	03/31/15 2:52	CYC0357	CD50205

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-205 0ft-3ft
Date Sampled: 03/25/15 11:45
Percent Solids: 32
Initial Volume: 30.3
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503448
ESS Laboratory Sample ID: 1503448-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JXS
Prepared: 3/30/15 12:52

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Di-n-octylphthalate	**2.47** (0.521)		8270D		1	03/31/15 2:52	CYC0357	CD50205
Hexachlorobenzene	ND (0.521)		8270D		1	03/31/15 2:52	CYC0357	CD50205
Hexachlorobutadiene	ND (0.521)		8270D		1	03/31/15 2:52	CYC0357	CD50205
Hexachloroethane	ND (0.521)		8270D		1	03/31/15 2:52	CYC0357	CD50205
Isophorone	ND (0.521)		8270D		1	03/31/15 2:52	CYC0357	CD50205
Nitrobenzene	ND (0.521)		8270D		1	03/31/15 2:52	CYC0357	CD50205
N-Nitrosodimethylamine	ND (0.521)		8270D		1	03/31/15 2:52	CYC0357	CD50205
Pentachlorophenol	ND (2.61)		8270D		1	03/31/15 2:52	CYC0357	CD50205
Phenol	ND (0.521)		8270D		1	03/31/15 2:52	CYC0357	CD50205

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*40 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*77 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*42 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*57 %*		*30-130*
Surrogate: 2-Fluorophenol	*37 %*		*30-130*
Surrogate: Nitrobenzene-d5	*39 %*		*30-130*
Surrogate: Phenol-d6	*43 %*		*30-130*
Surrogate: p-Terphenyl-d14	*77 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-205 0ft-3ft
Date Sampled: 03/25/15 11:45
Percent Solids: 32

ESS Laboratory Work Order: 1503448
ESS Laboratory Sample ID: 1503448-05
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Corrosivity (pH)	**H 7.51** (N/A)		9045		1	JLK	03/27/15 10:44	S.U.	CC52721
Corrosivity (pH) Sample Temp	**Soil pH measured in water at 13.7 ºC.**								
Eh (ORP)	**H, WL 96** (N/A)		2580		1	JLK	03/27/15 10:44	mv	CC52722
Grain Size	**See Attached** (N/A)								
Hexavalent Chromium	ND (1.2)		7196A		1	JLK	03/28/15 11:00	mg/kg dry	CC52807
Percent Water	**See Attached** (N/A)								
Reactive Cyanide	ND (2.0)		7.3.3.2		1	JLK	03/30/15 11:05	mg/kg	CC53003
Reactive Sulfide	ND (2.0)		7.3.4.1		1	JLK	03/30/15 11:05	mg/kg	CC53003

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-205 0ft-3ft
Date Sampled: 03/25/15 11:45
Percent Solids: 32
Initial Volume: 30
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1503448
ESS Laboratory Sample ID: 1503448-05
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 3/27/15 17:04

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	**269** (39.5)		MADEP-EPH		1	DPS	03/31/15 0:56	CYC0346	CC52711
C19-C36 Aliphatics1	**141** (39.5)		MADEP-EPH		1	DPS	03/31/15 0:56	CYC0346	CC52711
C11-C22 Unadjusted Aromatics1	**744** (39.5)		EPH8270		1	VSC	03/30/15 22:34	CYC0347	CC52711
C11-C22 Aromatics1,2	**744** (39.5)		EPH8270			VSC	03/30/15 22:34		[CALC]

	%Recovery	*Qualifier*	*Limits*
Surrogate: 1-Chlorooctadecane	*58 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*114 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*113 %*		*40-140*
Surrogate: O-Terphenyl	*87 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-213 0ft-0.5ft
Date Sampled: 03/25/15 13:52
Percent Solids: 58
Initial Volume: 30.4
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503448
ESS Laboratory Sample ID: 1503448-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JXS
Prepared: 3/30/15 12:52

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.284)		8270D		1	04/01/15 15:57	CYD0001	CD50205
1,2-Dichlorobenzene	ND (0.284)		8270D		1	04/01/15 15:57	CYD0001	CD50205
1,3-Dichlorobenzene	ND (0.284)		8270D		1	04/01/15 15:57	CYD0001	CD50205
1,4-Dichlorobenzene	ND (0.284)		8270D		1	04/01/15 15:57	CYD0001	CD50205
2,4,5-Trichlorophenol	ND (0.284)		8270D		1	04/01/15 15:57	CYD0001	CD50205
2,4,6-Trichlorophenol	ND (0.284)		8270D		1	04/01/15 15:57	CYD0001	CD50205
2,4-Dichlorophenol	ND (0.284)		8270D		1	04/01/15 15:57	CYD0001	CD50205
2,4-Dimethylphenol	ND (0.284)		8270D		1	04/01/15 15:57	CYD0001	CD50205
2,4-Dinitrophenol	ND (1.43)		8270D		1	04/01/15 15:57	CYD0001	CD50205
2,4-Dinitrotoluene	ND (0.284)		8270D		1	04/01/15 15:57	CYD0001	CD50205
2,6-Dinitrotoluene	ND (0.284)		8270D		1	04/01/15 15:57	CYD0001	CD50205
2-Chloronaphthalene	ND (0.284)		8270D		1	04/01/15 15:57	CYD0001	CD50205
2-Chlorophenol	ND (0.284)		8270D		1	04/01/15 15:57	CYD0001	CD50205
2-Methylphenol	ND (0.284)		8270D		1	04/01/15 15:57	CYD0001	CD50205
2-Nitrophenol	ND (0.284)		8270D		1	04/01/15 15:57	CYD0001	CD50205
3,3´-Dichlorobenzidine	ND (0.570)		8270D		1	04/01/15 15:57	CYD0001	CD50205
3+4-Methylphenol	ND (0.570)		8270D		1	04/01/15 15:57	CYD0001	CD50205
4-Bromophenyl-phenylether	ND (0.284)		8270D		1	04/01/15 15:57	CYD0001	CD50205
4-Chloroaniline	ND (0.570)		8270D		1	04/01/15 15:57	CYD0001	CD50205
4-Nitrophenol	ND (1.43)		8270D		1	04/01/15 15:57	CYD0001	CD50205
Acetophenone	ND (0.570)		8270D		1	04/01/15 15:57	CYD0001	CD50205
Aniline	ND (1.43)		8270D		1	04/01/15 15:57	CYD0001	CD50205
Azobenzene	ND (0.284)		8270D		1	04/01/15 15:57	CYD0001	CD50205
bis(2-Chloroethoxy)methane	ND (0.284)		8270D		1	04/01/15 15:57	CYD0001	CD50205
bis(2-Chloroethyl)ether	ND (0.284)		8270D		1	04/01/15 15:57	CYD0001	CD50205
bis(2-chloroisopropyl)Ether	ND (0.284)		8270D		1	04/01/15 15:57	CYD0001	CD50205
bis(2-Ethylhexyl)phthalate	**3.29** (0.284)		8270D		1	04/01/15 15:57	CYD0001	CD50205
Butylbenzylphthalate	ND (0.284)		8270D		1	04/01/15 15:57	CYD0001	CD50205
Dibenzofuran	ND (0.284)		8270D		1	04/01/15 15:57	CYD0001	CD50205
Diethylphthalate	ND (0.284)		8270D		1	04/01/15 15:57	CYD0001	CD50205
Dimethylphthalate	ND (0.284)		8270D		1	04/01/15 15:57	CYD0001	CD50205
Di-n-butylphthalate	ND (0.284)		8270D		1	04/01/15 15:57	CYD0001	CD50205

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-213 0ft-0.5ft
Date Sampled: 03/25/15 13:52
Percent Solids: 58
Initial Volume: 30.4
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503448
ESS Laboratory Sample ID: 1503448-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JXS
Prepared: 3/30/15 12:52

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Di-n-octylphthalate	ND (0.284)		8270D		1	04/01/15 15:57	CYD0001	CD50205
Hexachlorobenzene	ND (0.284)		8270D		1	04/01/15 15:57	CYD0001	CD50205
Hexachlorobutadiene	ND (0.284)		8270D		1	04/01/15 15:57	CYD0001	CD50205
Hexachloroethane	ND (0.284)		8270D		1	04/01/15 15:57	CYD0001	CD50205
Isophorone	ND (0.284)		8270D		1	04/01/15 15:57	CYD0001	CD50205
Nitrobenzene	ND (0.284)		8270D		1	04/01/15 15:57	CYD0001	CD50205
N-Nitrosodimethylamine	ND (0.284)		8270D		1	04/01/15 15:57	CYD0001	CD50205
Pentachlorophenol	ND (1.43)		8270D		1	04/01/15 15:57	CYD0001	CD50205
Phenol	ND (0.284)		8270D		1	04/01/15 15:57	CYD0001	CD50205

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*36 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*58 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*38 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*46 %*		*30-130*
Surrogate: 2-Fluorophenol	*36 %*		*30-130*
Surrogate: Nitrobenzene-d5	*38 %*		*30-130*
Surrogate: Phenol-d6	*41 %*		*30-130*
Surrogate: p-Terphenyl-d14	*61 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-213 0ft-0.5ft
Date Sampled: 03/25/15 13:52
Percent Solids: 58
Initial Volume: 20
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503448
ESS Laboratory Sample ID: 1503448-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 3/28/15 12:00

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	**0.028** (0.022)		8270D		1	04/01/15 16:53	CYD0015	CC52823
Acenaphthene	**0.024** (0.022)		8270D		1	04/01/15 16:53	CYD0015	CC52823
Acenaphthylene	**0.163** (0.022)		8270D		1	04/01/15 16:53	CYD0015	CC52823
Anthracene	**0.171** (0.022)		8270D		1	04/01/15 16:53	CYD0015	CC52823
Benzo(a)anthracene	**0.314** (0.022)		8270D		1	04/01/15 16:53	CYD0015	CC52823
Benzo(a)pyrene	**0.425** (0.022)		8270D		1	04/01/15 16:53	CYD0015	CC52823
Benzo(b)fluoranthene	**0.569** (0.022)		8270D		1	04/01/15 16:53	CYD0015	CC52823
Benzo(g,h,i)perylene	**0.212** (0.022)		8270D		1	04/01/15 16:53	CYD0015	CC52823
Benzo(k)fluoranthene	**0.182** (0.022)		8270D		1	04/01/15 16:53	CYD0015	CC52823
Chrysene	**0.362** (0.022)		8270D		1	04/01/15 16:53	CYD0015	CC52823
Dibenzo(a,h)Anthracene	**0.070** (0.022)		8270D		1	04/01/15 16:53	CYD0015	CC52823
Fluoranthene	**0.525** (0.022)		8270D		1	04/01/15 16:53	CYD0015	CC52823
Fluorene	**0.052** (0.022)		8270D		1	04/01/15 16:53	CYD0015	CC52823
Hexachlorobenzene	ND (0.009)		8270D		1	04/01/15 16:53	CYD0015	CC52823
Indeno(1,2,3-cd)Pyrene	**0.266** (0.022)		8270D		1	04/01/15 16:53	CYD0015	CC52823
Naphthalene	**0.073** (0.022)		8270D		1	04/01/15 16:53	CYD0015	CC52823
Phenanthrene	**0.262** (0.022)		8270D		1	04/01/15 16:53	CYD0015	CC52823
Pyrene	**0.751** (0.022)		8270D		1	04/01/15 16:53	CYD0015	CC52823

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*33 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*50 %*		*30-130*
Surrogate: Nitrobenzene-d5	*50 %*		*30-130*
Surrogate: p-Terphenyl-d14	*64 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-213 0ft-0.5ft
Date Sampled: 03/25/15 13:52
Percent Solids: 58
Initial Volume: 30
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1503448
ESS Laboratory Sample ID: 1503448-06
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 3/27/15 17:04

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	ND (21.6)		MADEP-EPH		1	DPS	03/31/15 1:47	CYC0346	CC52711
C19-C36 Aliphatics1	**78.6** (21.6)		MADEP-EPH		1	DPS	03/31/15 1:47	CYC0346	CC52711
C11-C22 Unadjusted Aromatics1	**61.3** (21.6)		EPH8270		1	VSC	03/30/15 23:09	CYC0347	CC52711
C11-C22 Aromatics1,2	**57.6** (21.6)		EPH8270			VSC	03/30/15 23:09		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*56 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*107 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*106 %*		*40-140*
Surrogate: O-Terphenyl	*80 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-213 4ft-6ft
Date Sampled: 03/25/15 13:52
Percent Solids: 76
Initial Volume: 20.6
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503448
ESS Laboratory Sample ID: 1503448-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 3/28/15 12:00

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.016)		8270D		1	04/01/15 6:15	CYC0376	CC52823
Acenaphthene	ND (0.016)		8270D		1	04/01/15 6:15	CYC0376	CC52823
Acenaphthylene	ND (0.016)		8270D		1	04/01/15 6:15	CYC0376	CC52823
Anthracene	ND (0.016)		8270D		1	04/01/15 6:15	CYC0376	CC52823
Benzo(a)anthracene	ND (0.016)		8270D		1	04/01/15 6:15	CYC0376	CC52823
Benzo(a)pyrene	ND (0.016)		8270D		1	04/01/15 6:15	CYC0376	CC52823
Benzo(b)fluoranthene	ND (0.016)		8270D		1	04/01/15 6:15	CYC0376	CC52823
Benzo(g,h,i)perylene	ND (0.016)		8270D		1	04/01/15 6:15	CYC0376	CC52823
Benzo(k)fluoranthene	ND (0.016)		8270D		1	04/01/15 6:15	CYC0376	CC52823
Chrysene	ND (0.016)		8270D		1	04/01/15 6:15	CYC0376	CC52823
Dibenzo(a,h)Anthracene	ND (0.016)		8270D		1	04/01/15 6:15	CYC0376	CC52823
Fluoranthene	ND (0.016)		8270D		1	04/01/15 6:15	CYC0376	CC52823
Fluorene	ND (0.016)		8270D		1	04/01/15 6:15	CYC0376	CC52823
Hexachlorobenzene	ND (0.006)		8270D		1	04/01/15 6:15	CYC0376	CC52823
Indeno(1,2,3-cd)Pyrene	ND (0.016)		8270D		1	04/01/15 6:15	CYC0376	CC52823
Naphthalene	ND (0.016)		8270D		1	04/01/15 6:15	CYC0376	CC52823
Phenanthrene	ND (0.016)		8270D		1	04/01/15 6:15	CYC0376	CC52823
Pyrene	ND (0.016)		8270D		1	04/01/15 6:15	CYC0376	CC52823

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*57 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*72 %*		*30-130*
Surrogate: Nitrobenzene-d5	*71 %*		*30-130*
Surrogate: p-Terphenyl-d14	*80 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-213 0ft-3ft
Date Sampled: 03/25/15 13:52
Percent Solids: 65
Initial Volume: 18.6
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1503448
ESS Laboratory Sample ID: 1503448-08
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.0021)		8260B Low		1	03/26/15 16:37	CYC0308	CC52627
1,1,1-Trichloroethane	ND (0.0021)		8260B Low		1	03/26/15 16:37	CYC0308	CC52627
1,1,2,2-Tetrachloroethane	ND (0.0008)		8260B Low		1	03/26/15 16:37	CYC0308	CC52627
1,1,2-Trichloroethane	ND (0.0021)		8260B Low		1	03/26/15 16:37	CYC0308	CC52627
1,1-Dichloroethane	ND (0.0021)		8260B Low		1	03/26/15 16:37	CYC0308	CC52627
1,1-Dichloroethene	ND (0.0021)		8260B Low		1	03/26/15 16:37	CYC0308	CC52627
1,1-Dichloropropene	ND (0.0021)		8260B Low		1	03/26/15 16:37	CYC0308	CC52627
1,2,3-Trichlorobenzene	ND (0.0021)		8260B Low		1	03/26/15 16:37	CYC0308	CC52627
1,2,3-Trichloropropane	ND (0.0021)		8260B Low		1	03/26/15 16:37	CYC0308	CC52627
1,2,4-Trichlorobenzene	ND (0.0021)		8260B Low		1	03/26/15 16:37	CYC0308	CC52627
1,2,4-Trimethylbenzene	ND (0.0021)		8260B Low		1	03/26/15 16:37	CYC0308	CC52627
1,2-Dibromo-3-Chloropropane	ND (0.0021)		8260B Low		1	03/26/15 16:37	CYC0308	CC52627
1,2-Dibromoethane	ND (0.0021)		8260B Low		1	03/26/15 16:37	CYC0308	CC52627
1,2-Dichlorobenzene	ND (0.0021)		8260B Low		1	03/26/15 16:37	CYC0308	CC52627
1,2-Dichloroethane	ND (0.0021)		8260B Low		1	03/26/15 16:37	CYC0308	CC52627
1,2-Dichloropropane	ND (0.0021)		8260B Low		1	03/26/15 16:37	CYC0308	CC52627
1,3,5-Trimethylbenzene	ND (0.0021)		8260B Low		1	03/26/15 16:37	CYC0308	CC52627
1,3-Dichlorobenzene	ND (0.0021)		8260B Low		1	03/26/15 16:37	CYC0308	CC52627
1,3-Dichloropropane	ND (0.0021)		8260B Low		1	03/26/15 16:37	CYC0308	CC52627
1,4-Dichlorobenzene	ND (0.0021)		8260B Low		1	03/26/15 16:37	CYC0308	CC52627
1,4-Dioxane	ND (0.0412)		8260B Low		1	03/26/15 16:37	CYC0308	CC52627
2,2-Dichloropropane	ND (0.0021)		8260B Low		1	03/26/15 16:37	CYC0308	CC52627
2-Butanone	**0.0068** (0.0041)		8260B Low		1	03/26/15 16:37	CYC0308	CC52627
2-Chlorotoluene	ND (0.0021)		8260B Low		1	03/26/15 16:37	CYC0308	CC52627
2-Hexanone	ND (0.0041)		8260B Low		1	03/26/15 16:37	CYC0308	CC52627
4-Chlorotoluene	ND (0.0021)		8260B Low		1	03/26/15 16:37	CYC0308	CC52627
4-Isopropyltoluene	ND (0.0021)		8260B Low		1	03/26/15 16:37	CYC0308	CC52627
4-Methyl-2-Pentanone	ND (0.0041)		8260B Low		1	03/26/15 16:37	CYC0308	CC52627
Acetone	**0.0504** (0.0041)		8260B Low		1	03/26/15 16:37	CYC0308	CC52627
Benzene	ND (0.0021)		8260B Low		1	03/26/15 16:37	CYC0308	CC52627
Bromobenzene	ND (0.0021)		8260B Low		1	03/26/15 16:37	CYC0308	CC52627
Bromochloromethane	ND (0.0021)		8260B Low		1	03/26/15 16:37	CYC0308	CC52627

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-213 0ft-3ft
Date Sampled: 03/25/15 13:52
Percent Solids: 65
Initial Volume: 18.6
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1503448
ESS Laboratory Sample ID: 1503448-08
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromodichloromethane	ND (0.0021)		8260B Low		1	03/26/15 16:37	CYC0308	CC52627
Bromoform	ND (0.0021)		8260B Low		1	03/26/15 16:37	CYC0308	CC52627
Bromomethane	ND (0.0041)		8260B Low		1	03/26/15 16:37	CYC0308	CC52627
Carbon Disulfide	**0.0045** (0.0021)		8260B Low		1	03/26/15 16:37	CYC0308	CC52627
Carbon Tetrachloride	ND (0.0021)		8260B Low		1	03/26/15 16:37	CYC0308	CC52627
Chlorobenzene	ND (0.0021)		8260B Low		1	03/26/15 16:37	CYC0308	CC52627
Chloroethane	ND (0.0041)		8260B Low		1	03/26/15 16:37	CYC0308	CC52627
Chloroform	ND (0.0021)		8260B Low		1	03/26/15 16:37	CYC0308	CC52627
Chloromethane	ND (0.0041)		8260B Low		1	03/26/15 16:37	CYC0308	CC52627
cis-1,2-Dichloroethene	ND (0.0021)		8260B Low		1	03/26/15 16:37	CYC0308	CC52627
cis-1,3-Dichloropropene	ND (0.0021)		8260B Low		1	03/26/15 16:37	CYC0308	CC52627
Dibromochloromethane	ND (0.0008)		8260B Low		1	03/26/15 16:37	CYC0308	CC52627
Dibromomethane	ND (0.0021)		8260B Low		1	03/26/15 16:37	CYC0308	CC52627
Dichlorodifluoromethane	ND (0.0041)		8260B Low		1	03/26/15 16:37	CYC0308	CC52627
Diethyl Ether	ND (0.0021)		8260B Low		1	03/26/15 16:37	CYC0308	CC52627
Di-isopropyl ether	ND (0.0021)		8260B Low		1	03/26/15 16:37	CYC0308	CC52627
Ethyl tertiary-butyl ether	ND (0.0021)		8260B Low		1	03/26/15 16:37	CYC0308	CC52627
Ethylbenzene	ND (0.0021)		8260B Low		1	03/26/15 16:37	CYC0308	CC52627
Hexachlorobutadiene	ND (0.0021)		8260B Low		1	03/26/15 16:37	CYC0308	CC52627
Isopropylbenzene	ND (0.0021)		8260B Low		1	03/26/15 16:37	CYC0308	CC52627
Methyl tert-Butyl Ether	ND (0.0021)		8260B Low		1	03/26/15 16:37	CYC0308	CC52627
Methylene Chloride	ND (0.0041)		8260B Low		1	03/26/15 16:37	CYC0308	CC52627
Naphthalene	ND (0.0021)		8260B Low		1	03/26/15 16:37	CYC0308	CC52627
n-Butylbenzene	ND (0.0021)		8260B Low		1	03/26/15 16:37	CYC0308	CC52627
n-Propylbenzene	ND (0.0021)		8260B Low		1	03/26/15 16:37	CYC0308	CC52627
sec-Butylbenzene	ND (0.0021)		8260B Low		1	03/26/15 16:37	CYC0308	CC52627
Styrene	ND (0.0021)		8260B Low		1	03/26/15 16:37	CYC0308	CC52627
tert-Butylbenzene	ND (0.0021)		8260B Low		1	03/26/15 16:37	CYC0308	CC52627
Tertiary-amyl methyl ether	ND (0.0021)		8260B Low		1	03/26/15 16:37	CYC0308	CC52627
Tetrachloroethene	ND (0.0021)		8260B Low		1	03/26/15 16:37	CYC0308	CC52627
Tetrahydrofuran	ND (0.0021)		8260B Low		1	03/26/15 16:37	CYC0308	CC52627
Toluene	ND (0.0021)		8260B Low		1	03/26/15 16:37	CYC0308	CC52627

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-213 0ft-3ft
Date Sampled: 03/25/15 13:52
Percent Solids: 65
Initial Volume: 18.6
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1503448
ESS Laboratory Sample ID: 1503448-08
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
trans-1,2-Dichloroethene	ND (0.0021)		8260B Low		1	03/26/15 16:37	CYC0308	CC52627
trans-1,3-Dichloropropene	ND (0.0021)		8260B Low		1	03/26/15 16:37	CYC0308	CC52627
Trichloroethene	ND (0.0021)		8260B Low		1	03/26/15 16:37	CYC0308	CC52627
Trichlorofluoromethane	ND (0.0021)		8260B Low		1	03/26/15 16:37	CYC0308	CC52627
Vinyl Chloride	ND (0.0041)		8260B Low		1	03/26/15 16:37	CYC0308	CC52627
Xylene O	ND (0.0021)		8260B Low		1	03/26/15 16:37	CYC0308	CC52627
Xylene P,M	ND (0.0041)		8260B Low		1	03/26/15 16:37	CYC0308	CC52627
Xylenes (Total)	ND (0.0041)		8260B Low		1	03/26/15 16:37		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*105 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*89 %*		*70-130*
Surrogate: Dibromofluoromethane	*93 %*		*70-130*
Surrogate: Toluene-d8	*98 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-213 0ft-3ft
Date Sampled: 03/25/15 13:52
Percent Solids: 65
Initial Volume: 30.1
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503448
ESS Laboratory Sample ID: 1503448-08
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JXS
Prepared: 3/30/15 12:52

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.254)		8270D		1	03/31/15 3:55	CYC0357	CD50205
1,2-Dichlorobenzene	ND (0.254)		8270D		1	03/31/15 3:55	CYC0357	CD50205
1,3-Dichlorobenzene	ND (0.254)		8270D		1	03/31/15 3:55	CYC0357	CD50205
1,4-Dichlorobenzene	ND (0.254)		8270D		1	03/31/15 3:55	CYC0357	CD50205
2,4,5-Trichlorophenol	ND (0.254)		8270D		1	03/31/15 3:55	CYC0357	CD50205
2,4,6-Trichlorophenol	ND (0.254)		8270D		1	03/31/15 3:55	CYC0357	CD50205
2,4-Dichlorophenol	ND (0.254)		8270D		1	03/31/15 3:55	CYC0357	CD50205
2,4-Dimethylphenol	ND (0.254)		8270D		1	03/31/15 3:55	CYC0357	CD50205
2,4-Dinitrophenol	ND (1.27)		8270D		1	03/31/15 3:55	CYC0357	CD50205
2,4-Dinitrotoluene	ND (0.254)		8270D		1	03/31/15 3:55	CYC0357	CD50205
2,6-Dinitrotoluene	ND (0.254)		8270D		1	03/31/15 3:55	CYC0357	CD50205
2-Chloronaphthalene	ND (0.254)		8270D		1	03/31/15 3:55	CYC0357	CD50205
2-Chlorophenol	ND (0.254)		8270D		1	03/31/15 3:55	CYC0357	CD50205
2-Methylphenol	ND (0.254)		8270D		1	03/31/15 3:55	CYC0357	CD50205
2-Nitrophenol	ND (0.254)		8270D		1	03/31/15 3:55	CYC0357	CD50205
3,3´-Dichlorobenzidine	ND (0.509)		8270D		1	03/31/15 3:55	CYC0357	CD50205
3+4-Methylphenol	ND (0.509)		8270D		1	03/31/15 3:55	CYC0357	CD50205
4-Bromophenyl-phenylether	ND (0.254)		8270D		1	03/31/15 3:55	CYC0357	CD50205
4-Chloroaniline	ND (0.509)		8270D		1	03/31/15 3:55	CYC0357	CD50205
4-Nitrophenol	ND (1.27)		8270D		1	03/31/15 3:55	CYC0357	CD50205
Acetophenone	ND (0.509)		8270D		1	03/31/15 3:55	CYC0357	CD50205
Aniline	ND (1.27)		8270D		1	03/31/15 3:55	CYC0357	CD50205
Azobenzene	ND (0.254)		8270D		1	03/31/15 3:55	CYC0357	CD50205
bis(2-Chloroethoxy)methane	ND (0.254)		8270D		1	03/31/15 3:55	CYC0357	CD50205
bis(2-Chloroethyl)ether	ND (0.254)		8270D		1	03/31/15 3:55	CYC0357	CD50205
bis(2-chloroisopropyl)Ether	ND (0.254)		8270D		1	03/31/15 3:55	CYC0357	CD50205
bis(2-Ethylhexyl)phthalate	ND (0.254)		8270D		1	03/31/15 3:55	CYC0357	CD50205
Butylbenzylphthalate	ND (0.254)		8270D		1	03/31/15 3:55	CYC0357	CD50205
Dibenzofuran	ND (0.254)		8270D		1	03/31/15 3:55	CYC0357	CD50205
Diethylphthalate	ND (0.254)		8270D		1	03/31/15 3:55	CYC0357	CD50205
Dimethylphthalate	ND (0.254)		8270D		1	03/31/15 3:55	CYC0357	CD50205
Di-n-butylphthalate	ND (0.254)		8270D		1	03/31/15 3:55	CYC0357	CD50205

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-213 0ft-3ft
Date Sampled: 03/25/15 13:52
Percent Solids: 65
Initial Volume: 30.1
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503448
ESS Laboratory Sample ID: 1503448-08
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JXS
Prepared: 3/30/15 12:52

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Di-n-octylphthalate	ND (0.254)		8270D		1	03/31/15 3:55	CYC0357	CD50205
Hexachlorobenzene	ND (0.254)		8270D		1	03/31/15 3:55	CYC0357	CD50205
Hexachlorobutadiene	ND (0.254)		8270D		1	03/31/15 3:55	CYC0357	CD50205
Hexachloroethane	ND (0.254)		8270D		1	03/31/15 3:55	CYC0357	CD50205
Isophorone	ND (0.254)		8270D		1	03/31/15 3:55	CYC0357	CD50205
Nitrobenzene	ND (0.254)		8270D		1	03/31/15 3:55	CYC0357	CD50205
N-Nitrosodimethylamine	ND (0.254)		8270D		1	03/31/15 3:55	CYC0357	CD50205
Pentachlorophenol	ND (1.27)		8270D		1	03/31/15 3:55	CYC0357	CD50205
Phenol	ND (0.254)		8270D		1	03/31/15 3:55	CYC0357	CD50205

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*49 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*67 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*50 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*55 %*		*30-130*
Surrogate: 2-Fluorophenol	*45 %*		*30-130*
Surrogate: Nitrobenzene-d5	*45 %*		*30-130*
Surrogate: Phenol-d6	*48 %*		*30-130*
Surrogate: p-Terphenyl-d14	*81 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-213 0ft-3ft
Date Sampled: 03/25/15 13:52
Percent Solids: 65

ESS Laboratory Work Order: 1503448
ESS Laboratory Sample ID: 1503448-08
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Corrosivity (pH)	**H 7.80** (N/A)		9045		1	JLK	03/27/15 10:44	S.U.	CC52721
Corrosivity (pH) Sample Temp	**Soil pH measured in water at 14.8 °C.**								
Eh (ORP)	**H, WL 121** (N/A)		2580		1	JLK	03/27/15 10:44	mv	CC52722
Grain Size	**See Attached** (N/A)								
Hexavalent Chromium	ND (0.6)		7196A		1	JLK	03/28/15 11:00	mg/kg dry	CC52807
Percent Water	**See Attached** (N/A)								
Reactive Cyanide	ND (2.0)		7.3.3.2		1	JLK	03/30/15 11:05	mg/kg	CC53003
Reactive Sulfide	**8.6** (2.0)		7.3.4.1		1	JLK	03/30/15 11:05	mg/kg	CC53003

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-213 0ft-3ft
Date Sampled: 03/25/15 13:52
Percent Solids: 65
Initial Volume: 30
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1503448
ESS Laboratory Sample ID: 1503448-08
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 3/27/15 17:04

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	ND (19.1)		MADEP-EPH		1	DPS	03/31/15 2:38	CYC0346	CC52711
C19-C36 Aliphatics1	**20.9** (19.1)		MADEP-EPH		1	DPS	03/31/15 2:38	CYC0346	CC52711
C11-C22 Unadjusted Aromatics1	**22.7** (19.1)		EPH8270		1	VSC	03/30/15 23:43	CYC0347	CC52711
C11-C22 Aromatics1,2	**21.6** (19.1)		EPH8270			VSC	03/30/15 23:43		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*62 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*109 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*111 %*		*40-140*
Surrogate: O-Terphenyl	*73 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-218 0ft-0.5ft
Date Sampled: 03/25/15 14:23
Percent Solids: 49
Initial Volume: 30.3
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503448
ESS Laboratory Sample ID: 1503448-09
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JXS
Prepared: 3/30/15 12:52

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.335)		8270D		1	03/31/15 5:30	CYC0357	CD50205
1,2-Dichlorobenzene	ND (0.335)		8270D		1	03/31/15 5:30	CYC0357	CD50205
1,3-Dichlorobenzene	ND (0.335)		8270D		1	03/31/15 5:30	CYC0357	CD50205
1,4-Dichlorobenzene	ND (0.335)		8270D		1	03/31/15 5:30	CYC0357	CD50205
2,4,5-Trichlorophenol	ND (0.335)		8270D		1	03/31/15 5:30	CYC0357	CD50205
2,4,6-Trichlorophenol	ND (0.335)		8270D		1	03/31/15 5:30	CYC0357	CD50205
2,4-Dichlorophenol	ND (0.335)		8270D		1	03/31/15 5:30	CYC0357	CD50205
2,4-Dimethylphenol	ND (0.335)		8270D		1	03/31/15 5:30	CYC0357	CD50205
2,4-Dinitrophenol	ND (1.68)		8270D		1	03/31/15 5:30	CYC0357	CD50205
2,4-Dinitrotoluene	ND (0.335)		8270D		1	03/31/15 5:30	CYC0357	CD50205
2,6-Dinitrotoluene	ND (0.335)		8270D		1	03/31/15 5:30	CYC0357	CD50205
2-Chloronaphthalene	ND (0.335)		8270D		1	03/31/15 5:30	CYC0357	CD50205
2-Chlorophenol	ND (0.335)		8270D		1	03/31/15 5:30	CYC0357	CD50205
2-Methylphenol	ND (0.335)		8270D		1	03/31/15 5:30	CYC0357	CD50205
2-Nitrophenol	ND (0.335)		8270D		1	03/31/15 5:30	CYC0357	CD50205
3,3´-Dichlorobenzidine	ND (0.671)		8270D		1	03/31/15 5:30	CYC0357	CD50205
3+4-Methylphenol	ND (0.671)		8270D		1	03/31/15 5:30	CYC0357	CD50205
4-Bromophenyl-phenylether	ND (0.335)		8270D		1	03/31/15 5:30	CYC0357	CD50205
4-Chloroaniline	ND (0.671)		8270D		1	03/31/15 5:30	CYC0357	CD50205
4-Nitrophenol	ND (1.68)		8270D		1	03/31/15 5:30	CYC0357	CD50205
Acetophenone	ND (0.671)		8270D		1	03/31/15 5:30	CYC0357	CD50205
Aniline	ND (1.68)		8270D		1	03/31/15 5:30	CYC0357	CD50205
Azobenzene	ND (0.335)		8270D		1	03/31/15 5:30	CYC0357	CD50205
bis(2-Chloroethoxy)methane	ND (0.335)		8270D		1	03/31/15 5:30	CYC0357	CD50205
bis(2-Chloroethyl)ether	ND (0.335)		8270D		1	03/31/15 5:30	CYC0357	CD50205
bis(2-chloroisopropyl)Ether	ND (0.335)		8270D		1	03/31/15 5:30	CYC0357	CD50205
bis(2-Ethylhexyl)phthalate	**3.37** (0.335)		8270D		1	03/31/15 5:30	CYC0357	CD50205
Butylbenzylphthalate	ND (0.335)		8270D		1	03/31/15 5:30	CYC0357	CD50205
Dibenzofuran	ND (0.335)		8270D		1	03/31/15 5:30	CYC0357	CD50205
Diethylphthalate	ND (0.335)		8270D		1	03/31/15 5:30	CYC0357	CD50205
Dimethylphthalate	ND (0.335)		8270D		1	03/31/15 5:30	CYC0357	CD50205
Di-n-butylphthalate	ND (0.335)		8270D		1	03/31/15 5:30	CYC0357	CD50205

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-218 0ft-0.5ft
Date Sampled: 03/25/15 14:23
Percent Solids: 49
Initial Volume: 30.3
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503448
ESS Laboratory Sample ID: 1503448-09
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JXS
Prepared: 3/30/15 12:52

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Di-n-octylphthalate	ND (0.335)		8270D		1	03/31/15 5:30	CYC0357	CD50205
Hexachlorobenzene	ND (0.335)		8270D		1	03/31/15 5:30	CYC0357	CD50205
Hexachlorobutadiene	ND (0.335)		8270D		1	03/31/15 5:30	CYC0357	CD50205
Hexachloroethane	ND (0.335)		8270D		1	03/31/15 5:30	CYC0357	CD50205
Isophorone	ND (0.335)		8270D		1	03/31/15 5:30	CYC0357	CD50205
Nitrobenzene	ND (0.335)		8270D		1	03/31/15 5:30	CYC0357	CD50205
N-Nitrosodimethylamine	ND (0.335)		8270D		1	03/31/15 5:30	CYC0357	CD50205
Pentachlorophenol	ND (1.68)		8270D		1	03/31/15 5:30	CYC0357	CD50205
Phenol	ND (0.335)		8270D		1	03/31/15 5:30	CYC0357	CD50205

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*38 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*67 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*40 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*57 %*		*30-130*
Surrogate: 2-Fluorophenol	*36 %*		*30-130*
Surrogate: Nitrobenzene-d5	*38 %*		*30-130*
Surrogate: Phenol-d6	*41 %*		*30-130*
Surrogate: p-Terphenyl-d14	*74 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-218 0ft-0.5ft
Date Sampled: 03/25/15 14:23
Percent Solids: 49
Initial Volume: 20.9
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503448
ESS Laboratory Sample ID: 1503448-09
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 3/28/15 12:00

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	**0.033** (0.024)		8270D		1	04/02/15 0:17	CYD0015	CC52823
Acenaphthene	**0.032** (0.024)		8270D		1	04/02/15 0:17	CYD0015	CC52823
Acenaphthylene	**0.212** (0.024)		8270D		1	04/02/15 0:17	CYD0015	CC52823
Anthracene	**0.234** (0.024)		8270D		1	04/02/15 0:17	CYD0015	CC52823
Benzo(a)anthracene	**0.527** (0.024)		8270D		1	04/02/15 0:17	CYD0015	CC52823
Benzo(a)pyrene	**0.735** (0.024)		8270D		1	04/02/15 0:17	CYD0015	CC52823
Benzo(b)fluoranthene	**1.20** (0.024)		8270D		1	04/02/15 0:17	CYD0015	CC52823
Benzo(g,h,i)perylene	**0.404** (0.024)		8270D		1	04/02/15 0:17	CYD0015	CC52823
Benzo(k)fluoranthene	**0.293** (0.024)		8270D		1	04/02/15 0:17	CYD0015	CC52823
Chrysene	**0.713** (0.024)		8270D		1	04/02/15 0:17	CYD0015	CC52823
Dibenzo(a,h)Anthracene	**0.127** (0.024)		8270D		1	04/02/15 0:17	CYD0015	CC52823
Fluoranthene	**0.991** (0.024)		8270D		1	04/02/15 0:17	CYD0015	CC52823
Fluorene	**0.054** (0.024)		8270D		1	04/02/15 0:17	CYD0015	CC52823
Hexachlorobenzene	ND (0.010)		8270D		1	04/02/15 0:17	CYD0015	CC52823
Indeno(1,2,3-cd)Pyrene	**0.493** (0.024)		8270D		1	04/02/15 0:17	CYD0015	CC52823
Naphthalene	**0.100** (0.024)		8270D		1	04/02/15 0:17	CYD0015	CC52823
Phenanthrene	**0.345** (0.024)		8270D		1	04/02/15 0:17	CYD0015	CC52823
Pyrene	**1.12** (0.024)		8270D		1	04/02/15 0:17	CYD0015	CC52823

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*36 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*50 %*		*30-130*
Surrogate: Nitrobenzene-d5	*45 %*		*30-130*
Surrogate: p-Terphenyl-d14	*62 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-218 0ft-0.5ft
Date Sampled: 03/25/15 14:23
Percent Solids: 49
Initial Volume: 30.3
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1503448
ESS Laboratory Sample ID: 1503448-09
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 3/27/15 17:04

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	ND (25.2)		MADEP-EPH		1	DPS	03/31/15 3:28	CYC0346	CC52711
C19-C36 Aliphatics1	**97.5** (25.2)		MADEP-EPH		1	DPS	03/31/15 3:28	CYC0346	CC52711
C11-C22 Unadjusted Aromatics1	**62.0** (25.2)		EPH8270		1	VSC	03/31/15 0:17	CYC0347	CC52711
C11-C22 Aromatics1,2	**57.2** (25.2)		EPH8270			VSC	03/31/15 0:17		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*55 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*112 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*109 %*		*40-140*
Surrogate: O-Terphenyl	*71 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-218 0.5ft-2ft
Date Sampled: 03/25/15 14:23
Percent Solids: 57
Initial Volume: 30.5
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503448
ESS Laboratory Sample ID: 1503448-10
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 3/30/15 12:52

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.289)		8270D		1	04/01/15 11:16	CYD0001	CD50205
1,2-Dichlorobenzene	ND (0.289)		8270D		1	04/01/15 11:16	CYD0001	CD50205
1,3-Dichlorobenzene	ND (0.289)		8270D		1	04/01/15 11:16	CYD0001	CD50205
1,4-Dichlorobenzene	ND (0.289)		8270D		1	04/01/15 11:16	CYD0001	CD50205
2,4,5-Trichlorophenol	ND (0.289)		8270D		1	04/01/15 11:16	CYD0001	CD50205
2,4,6-Trichlorophenol	ND (0.289)		8270D		1	04/01/15 11:16	CYD0001	CD50205
2,4-Dichlorophenol	ND (0.289)		8270D		1	04/01/15 11:16	CYD0001	CD50205
2,4-Dimethylphenol	ND (0.289)		8270D		1	04/01/15 11:16	CYD0001	CD50205
2,4-Dinitrophenol	ND (1.45)		8270D		1	04/01/15 11:16	CYD0001	CD50205
2,4-Dinitrotoluene	ND (0.289)		8270D		1	04/01/15 11:16	CYD0001	CD50205
2,6-Dinitrotoluene	ND (0.289)		8270D		1	04/01/15 11:16	CYD0001	CD50205
2-Chloronaphthalene	ND (0.289)		8270D		1	04/01/15 11:16	CYD0001	CD50205
2-Chlorophenol	ND (0.289)		8270D		1	04/01/15 11:16	CYD0001	CD50205
2-Methylphenol	ND (0.289)		8270D		1	04/01/15 11:16	CYD0001	CD50205
2-Nitrophenol	ND (0.289)		8270D		1	04/01/15 11:16	CYD0001	CD50205
3,3´-Dichlorobenzidine	ND (0.578)		8270D		1	04/01/15 11:16	CYD0001	CD50205
3+4-Methylphenol	ND (0.578)		8270D		1	04/01/15 11:16	CYD0001	CD50205
4-Bromophenyl-phenylether	ND (0.289)		8270D		1	04/01/15 11:16	CYD0001	CD50205
4-Chloroaniline	ND (0.578)		8270D		1	04/01/15 11:16	CYD0001	CD50205
4-Nitrophenol	ND (1.45)		8270D		1	04/01/15 11:16	CYD0001	CD50205
Acetophenone	ND (0.578)		8270D		1	04/01/15 11:16	CYD0001	CD50205
Aniline	ND (1.45)		8270D		1	04/01/15 11:16	CYD0001	CD50205
Azobenzene	ND (0.289)		8270D		1	04/01/15 11:16	CYD0001	CD50205
bis(2-Chloroethoxy)methane	ND (0.289)		8270D		1	04/01/15 11:16	CYD0001	CD50205
bis(2-Chloroethyl)ether	ND (0.289)		8270D		1	04/01/15 11:16	CYD0001	CD50205
bis(2-chloroisopropyl)Ether	ND (0.289)		8270D		1	04/01/15 11:16	CYD0001	CD50205
bis(2-Ethylhexyl)phthalate	**0.307** (0.289)		8270D		1	04/01/15 11:16	CYD0001	CD50205
Butylbenzylphthalate	ND (0.289)		8270D		1	04/01/15 11:16	CYD0001	CD50205
Dibenzofuran	ND (0.289)		8270D		1	04/01/15 11:16	CYD0001	CD50205
Diethylphthalate	ND (0.289)		8270D		1	04/01/15 11:16	CYD0001	CD50205
Dimethylphthalate	ND (0.289)		8270D		1	04/01/15 11:16	CYD0001	CD50205
Di-n-butylphthalate	ND (0.289)		8270D		1	04/01/15 11:16	CYD0001	CD50205

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-218 0.5ft-2ft
Date Sampled: 03/25/15 14:23
Percent Solids: 57
Initial Volume: 30.5
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503448
ESS Laboratory Sample ID: 1503448-10
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 3/30/15 12:52

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Di-n-octylphthalate	ND (0.289)		8270D		1	04/01/15 11:16	CYD0001	CD50205
Hexachlorobenzene	ND (0.289)		8270D		1	04/01/15 11:16	CYD0001	CD50205
Hexachlorobutadiene	ND (0.289)		8270D		1	04/01/15 11:16	CYD0001	CD50205
Hexachloroethane	ND (0.289)		8270D		1	04/01/15 11:16	CYD0001	CD50205
Isophorone	ND (0.289)		8270D		1	04/01/15 11:16	CYD0001	CD50205
Nitrobenzene	ND (0.289)		8270D		1	04/01/15 11:16	CYD0001	CD50205
N-Nitrosodimethylamine	ND (0.289)		8270D		1	04/01/15 11:16	CYD0001	CD50205
Pentachlorophenol	ND (1.45)		8270D		1	04/01/15 11:16	CYD0001	CD50205
Phenol	ND (0.289)		8270D		1	04/01/15 11:16	CYD0001	CD50205

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*37 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*27 %*	*S-*	*30-130*
Surrogate: 2-Chlorophenol-d4	*39 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*45 %*		*30-130*
Surrogate: 2-Fluorophenol	*37 %*		*30-130*
Surrogate: Nitrobenzene-d5	*39 %*		*30-130*
Surrogate: Phenol-d6	*42 %*		*30-130*
Surrogate: p-Terphenyl-d14	*61 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-218 0.5ft-2ft
Date Sampled: 03/25/15 14:23
Percent Solids: 57
Initial Volume: 20.2
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503448
ESS Laboratory Sample ID: 1503448-10
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 3/28/15 12:00

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.109)		8270D		5	04/02/15 14:10	CYD0016	CC52823
Acenaphthene	**0.030** (0.022)		8270D		5	04/02/15 14:10	CYD0016	CC52823
Acenaphthylene	**0.328** (0.109)		8270D		5	04/02/15 14:10	CYD0016	CC52823
Anthracene	**0.336** (0.109)		8270D		5	04/02/15 14:10	CYD0016	CC52823
Benzo(a)anthracene	**0.718** (0.109)		8270D		5	04/02/15 14:10	CYD0016	CC52823
Benzo(a)pyrene	**0.674** (0.109)		8270D		5	04/02/15 14:10	CYD0016	CC52823
Benzo(b)fluoranthene	**0.804** (0.109)		8270D		5	04/02/15 14:10	CYD0016	CC52823
Benzo(g,h,i)perylene	**0.282** (0.109)		8270D		5	04/02/15 14:10	CYD0016	CC52823
Benzo(k)fluoranthene	**0.216** (0.109)		8270D		5	04/02/15 14:10	CYD0016	CC52823
Chrysene	**0.882** (0.109)		8270D		5	04/02/15 14:10	CYD0016	CC52823
Dibenzo(a,h)Anthracene	ND (0.109)		8270D		5	04/02/15 14:10	CYD0016	CC52823
Fluoranthene	**1.24** (0.109)		8270D		5	04/02/15 14:10	CYD0016	CC52823
Fluorene	**0.081** (0.044)		8270D		5	04/02/15 14:10	CYD0016	CC52823
Hexachlorobenzene	ND (0.022)		8270D		5	04/02/15 14:10	CYD0016	CC52823
Indeno(1,2,3-cd)Pyrene	**0.330** (0.109)		8270D		5	04/02/15 14:10	CYD0016	CC52823
Naphthalene	ND (0.109)		8270D		5	04/02/15 14:10	CYD0016	CC52823
Phenanthrene	**0.248** (0.109)		8270D		5	04/02/15 14:10	CYD0016	CC52823
Pyrene	**1.49** (0.109)		8270D		5	04/02/15 14:10	CYD0016	CC52823

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*34 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*52 %*		*30-130*
Surrogate: Nitrobenzene-d5	*49 %*		*30-130*
Surrogate: p-Terphenyl-d14	*65 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-218 0.5ft-2ft
Date Sampled: 03/25/15 14:23
Percent Solids: 57
Initial Volume: 30.6
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1503448
ESS Laboratory Sample ID: 1503448-10
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 3/27/15 17:04

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	ND (21.6)		MADEP-EPH		1	DPS	03/31/15 4:19	CYC0346	CC52711
C19-C36 Aliphatics1	**43.3** (21.6)		MADEP-EPH		1	DPS	03/31/15 4:19	CYC0346	CC52711
C11-C22 Unadjusted Aromatics1	**42.7** (21.6)		EPH8270		1	JXS	04/02/15 15:00	CYD0009	CC52711
C11-C22 Aromatics1,2	**38.8** (21.6)		EPH8270			JXS	04/02/15 15:00		[CALC]

	%Recovery	*Qualifier*	*Limits*
Surrogate: 1-Chlorooctadecane	*50 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*109 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*108 %*		*40-140*
Surrogate: O-Terphenyl	*71 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-218 4ft-6ft
Date Sampled: 03/25/15 14:23
Percent Solids: 72
Initial Volume: 20.3
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503448
ESS Laboratory Sample ID: 1503448-11
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 3/28/15 12:00

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.017)		8270D		1	04/02/15 1:56	CYD0015	CC52823
Acenaphthene	ND (0.017)		8270D		1	04/02/15 1:56	CYD0015	CC52823
Acenaphthylene	ND (0.017)		8270D		1	04/02/15 1:56	CYD0015	CC52823
Anthracene	ND (0.017)		8270D		1	04/02/15 1:56	CYD0015	CC52823
Benzo(a)anthracene	ND (0.017)		8270D		1	04/02/15 1:56	CYD0015	CC52823
Benzo(a)pyrene	ND (0.017)		8270D		1	04/02/15 1:56	CYD0015	CC52823
Benzo(b)fluoranthene	ND (0.017)		8270D		1	04/02/15 1:56	CYD0015	CC52823
Benzo(g,h,i)perylene	ND (0.017)		8270D		1	04/02/15 1:56	CYD0015	CC52823
Benzo(k)fluoranthene	ND (0.017)		8270D		1	04/02/15 1:56	CYD0015	CC52823
Chrysene	ND (0.017)		8270D		1	04/02/15 1:56	CYD0015	CC52823
Dibenzo(a,h)Anthracene	ND (0.017)		8270D		1	04/02/15 1:56	CYD0015	CC52823
Fluoranthene	ND (0.017)		8270D		1	04/02/15 1:56	CYD0015	CC52823
Fluorene	ND (0.017)		8270D		1	04/02/15 1:56	CYD0015	CC52823
Hexachlorobenzene	ND (0.007)		8270D		1	04/02/15 1:56	CYD0015	CC52823
Indeno(1,2,3-cd)Pyrene	ND (0.017)		8270D		1	04/02/15 1:56	CYD0015	CC52823
Naphthalene	ND (0.017)		8270D		1	04/02/15 1:56	CYD0015	CC52823
Phenanthrene	ND (0.017)		8270D		1	04/02/15 1:56	CYD0015	CC52823
Pyrene	**0.018** (0.017)		8270D		1	04/02/15 1:56	CYD0015	CC52823

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*56 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*66 %*		*30-130*
Surrogate: Nitrobenzene-d5	*69 %*		*30-130*
Surrogate: p-Terphenyl-d14	*77 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-219 0ft-0.5ft
Date Sampled: 03/25/15 15:06
Percent Solids: 54
Initial Volume: 30.4
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503448
ESS Laboratory Sample ID: 1503448-12
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JXS
Prepared: 3/30/15 12:52

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.306)		8270D		1	03/31/15 6:33	CYC0357	CD50205
1,2-Dichlorobenzene	ND (0.306)		8270D		1	03/31/15 6:33	CYC0357	CD50205
1,3-Dichlorobenzene	ND (0.306)		8270D		1	03/31/15 6:33	CYC0357	CD50205
1,4-Dichlorobenzene	ND (0.306)		8270D		1	03/31/15 6:33	CYC0357	CD50205
2,4,5-Trichlorophenol	ND (0.306)		8270D		1	03/31/15 6:33	CYC0357	CD50205
2,4,6-Trichlorophenol	ND (0.306)		8270D		1	03/31/15 6:33	CYC0357	CD50205
2,4-Dichlorophenol	ND (0.306)		8270D		1	03/31/15 6:33	CYC0357	CD50205
2,4-Dimethylphenol	ND (0.306)		8270D		1	03/31/15 6:33	CYC0357	CD50205
2,4-Dinitrophenol	ND (1.53)		8270D		1	03/31/15 6:33	CYC0357	CD50205
2,4-Dinitrotoluene	ND (0.306)		8270D		1	03/31/15 6:33	CYC0357	CD50205
2,6-Dinitrotoluene	ND (0.306)		8270D		1	03/31/15 6:33	CYC0357	CD50205
2-Chloronaphthalene	ND (0.306)		8270D		1	03/31/15 6:33	CYC0357	CD50205
2-Chlorophenol	ND (0.306)		8270D		1	03/31/15 6:33	CYC0357	CD50205
2-Methylphenol	ND (0.306)		8270D		1	03/31/15 6:33	CYC0357	CD50205
2-Nitrophenol	ND (0.306)		8270D		1	03/31/15 6:33	CYC0357	CD50205
3,3´-Dichlorobenzidine	ND (0.612)		8270D		1	03/31/15 6:33	CYC0357	CD50205
3+4-Methylphenol	ND (0.612)		8270D		1	03/31/15 6:33	CYC0357	CD50205
4-Bromophenyl-phenylether	ND (0.306)		8270D		1	03/31/15 6:33	CYC0357	CD50205
4-Chloroaniline	ND (0.612)		8270D		1	03/31/15 6:33	CYC0357	CD50205
4-Nitrophenol	ND (1.53)		8270D		1	03/31/15 6:33	CYC0357	CD50205
Acetophenone	ND (0.612)		8270D		1	03/31/15 6:33	CYC0357	CD50205
Aniline	ND (1.53)		8270D		1	03/31/15 6:33	CYC0357	CD50205
Azobenzene	ND (0.306)		8270D		1	03/31/15 6:33	CYC0357	CD50205
bis(2-Chloroethoxy)methane	ND (0.306)		8270D		1	03/31/15 6:33	CYC0357	CD50205
bis(2-Chloroethyl)ether	ND (0.306)		8270D		1	03/31/15 6:33	CYC0357	CD50205
bis(2-chloroisopropyl)Ether	ND (0.306)		8270D		1	03/31/15 6:33	CYC0357	CD50205
bis(2-Ethylhexyl)phthalate	**0.631** (0.306)		8270D		1	03/31/15 6:33	CYC0357	CD50205
Butylbenzylphthalate	ND (0.306)		8270D		1	03/31/15 6:33	CYC0357	CD50205
Dibenzofuran	ND (0.306)		8270D		1	03/31/15 6:33	CYC0357	CD50205
Diethylphthalate	ND (0.306)		8270D		1	03/31/15 6:33	CYC0357	CD50205
Dimethylphthalate	ND (0.306)		8270D		1	03/31/15 6:33	CYC0357	CD50205
Di-n-butylphthalate	ND (0.306)		8270D		1	03/31/15 6:33	CYC0357	CD50205

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-219 0ft-0.5ft
Date Sampled: 03/25/15 15:06
Percent Solids: 54
Initial Volume: 30.4
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503448
ESS Laboratory Sample ID: 1503448-12
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JXS
Prepared: 3/30/15 12:52

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Di-n-octylphthalate	ND (0.306)		8270D		1	03/31/15 6:33	CYC0357	CD50205
Hexachlorobenzene	ND (0.306)		8270D		1	03/31/15 6:33	CYC0357	CD50205
Hexachlorobutadiene	ND (0.306)		8270D		1	03/31/15 6:33	CYC0357	CD50205
Hexachloroethane	ND (0.306)		8270D		1	03/31/15 6:33	CYC0357	CD50205
Isophorone	ND (0.306)		8270D		1	03/31/15 6:33	CYC0357	CD50205
Nitrobenzene	ND (0.306)		8270D		1	03/31/15 6:33	CYC0357	CD50205
N-Nitrosodimethylamine	ND (0.306)		8270D		1	03/31/15 6:33	CYC0357	CD50205
Pentachlorophenol	ND (1.53)		8270D		1	03/31/15 6:33	CYC0357	CD50205
Phenol	ND (0.306)		8270D		1	03/31/15 6:33	CYC0357	CD50205

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*44 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*93 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*46 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*57 %*		*30-130*
Surrogate: 2-Fluorophenol	*43 %*		*30-130*
Surrogate: Nitrobenzene-d5	*44 %*		*30-130*
Surrogate: Phenol-d6	*49 %*		*30-130*
Surrogate: p-Terphenyl-d14	*81 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-219 0ft-0.5ft
Date Sampled: 03/25/15 15:06
Percent Solids: 54
Initial Volume: 20.9
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503448
ESS Laboratory Sample ID: 1503448-12
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 3/28/15 12:00

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	**0.031** (0.022)		8270D		1	04/02/15 8:23	CYD0016	CC52823
Acenaphthene	**0.027** (0.022)		8270D		1	04/02/15 8:23	CYD0016	CC52823
Acenaphthylene	**0.127** (0.022)		8270D		1	04/02/15 8:23	CYD0016	CC52823
Anthracene	**0.175** (0.022)		8270D		1	04/02/15 8:23	CYD0016	CC52823
Benzo(a)anthracene	**0.355** (0.022)		8270D		1	04/02/15 8:23	CYD0016	CC52823
Benzo(a)pyrene	**0.459** (0.022)		8270D		1	04/02/15 8:23	CYD0016	CC52823
Benzo(b)fluoranthene	**0.719** (0.022)		8270D		1	04/02/15 8:23	CYD0016	CC52823
Benzo(g,h,i)perylene	**0.249** (0.022)		8270D		1	04/02/15 8:23	CYD0016	CC52823
Benzo(k)fluoranthene	**0.167** (0.022)		8270D		1	04/02/15 8:23	CYD0016	CC52823
Chrysene	**0.491** (0.022)		8270D		1	04/02/15 8:23	CYD0016	CC52823
Dibenzo(a,h)Anthracene	**0.072** (0.022)		8270D		1	04/02/15 8:23	CYD0016	CC52823
Fluoranthene	**0.624** (0.022)		8270D		1	04/02/15 8:23	CYD0016	CC52823
Fluorene	**0.046** (0.022)		8270D		1	04/02/15 8:23	CYD0016	CC52823
Hexachlorobenzene	ND (0.009)		8270D		1	04/02/15 8:23	CYD0016	CC52823
Indeno(1,2,3-cd)Pyrene	**0.295** (0.022)		8270D		1	04/02/15 8:23	CYD0016	CC52823
Naphthalene	**0.082** (0.022)		8270D		1	04/02/15 8:23	CYD0016	CC52823
Phenanthrene	**0.227** (0.022)		8270D		1	04/02/15 8:23	CYD0016	CC52823
Pyrene	**0.849** (0.022)		8270D		1	04/02/15 8:23	CYD0016	CC52823

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*32 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*52 %*		*30-130*
Surrogate: Nitrobenzene-d5	*41 %*		*30-130*
Surrogate: p-Terphenyl-d14	*59 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-219 0ft-0.5ft
Date Sampled: 03/25/15 15:06
Percent Solids: 54
Initial Volume: 30.2
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1503448
ESS Laboratory Sample ID: 1503448-12
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 3/27/15 17:04

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	ND (23.1)		MADEP-EPH		1	DPS	03/31/15 6:52	CYC0346	CC52711
C19-C36 Aliphatics1	**108** (23.1)		MADEP-EPH		1	DPS	03/31/15 6:52	CYC0346	CC52711
C11-C22 Unadjusted Aromatics1	**68.7** (23.1)		EPH8270		1	VSC	03/31/15 1:25	CYC0347	CC52711
C11-C22 Aromatics1,2	**63.0** (23.1)		EPH8270			VSC	03/31/15 1:25		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*65 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*110 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*105 %*		*40-140*
Surrogate: O-Terphenyl	*73 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-219 4ft-6ft
Date Sampled: 03/25/15 15:06
Percent Solids: 78
Initial Volume: 20.4
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503448
ESS Laboratory Sample ID: 1503448-13
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 3/28/15 12:00

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.016)		8270D		1	04/02/15 2:45	CYD0015	CC52823
Acenaphthene	ND (0.016)		8270D		1	04/02/15 2:45	CYD0015	CC52823
Acenaphthylene	ND (0.016)		8270D		1	04/02/15 2:45	CYD0015	CC52823
Anthracene	ND (0.016)		8270D		1	04/02/15 2:45	CYD0015	CC52823
Benzo(a)anthracene	ND (0.016)		8270D		1	04/02/15 2:45	CYD0015	CC52823
Benzo(a)pyrene	ND (0.016)		8270D		1	04/02/15 2:45	CYD0015	CC52823
Benzo(b)fluoranthene	ND (0.016)		8270D		1	04/02/15 2:45	CYD0015	CC52823
Benzo(g,h,i)perylene	ND (0.016)		8270D		1	04/02/15 2:45	CYD0015	CC52823
Benzo(k)fluoranthene	ND (0.016)		8270D		1	04/02/15 2:45	CYD0015	CC52823
Chrysene	ND (0.016)		8270D		1	04/02/15 2:45	CYD0015	CC52823
Dibenzo(a,h)Anthracene	ND (0.016)		8270D		1	04/02/15 2:45	CYD0015	CC52823
Fluoranthene	ND (0.016)		8270D		1	04/02/15 2:45	CYD0015	CC52823
Fluorene	ND (0.016)		8270D		1	04/02/15 2:45	CYD0015	CC52823
Hexachlorobenzene	ND (0.006)		8270D		1	04/02/15 2:45	CYD0015	CC52823
Indeno(1,2,3-cd)Pyrene	ND (0.016)		8270D		1	04/02/15 2:45	CYD0015	CC52823
Naphthalene	ND (0.016)		8270D		1	04/02/15 2:45	CYD0015	CC52823
Phenanthrene	ND (0.016)		8270D		1	04/02/15 2:45	CYD0015	CC52823
Pyrene	ND (0.016)		8270D		1	04/02/15 2:45	CYD0015	CC52823

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*42 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*53 %*		*30-130*
Surrogate: Nitrobenzene-d5	*52 %*		*30-130*
Surrogate: p-Terphenyl-d14	*61 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-219 0ft-3ft
Date Sampled: 03/25/15 15:06
Percent Solids: 64
Initial Volume: 6.7
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1503448
ESS Laboratory Sample ID: 1503448-14
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.0059)		8260B Low		1	03/26/15 17:05	CYC0308	CC52627
1,1,1-Trichloroethane	ND (0.0059)		8260B Low		1	03/26/15 17:05	CYC0308	CC52627
1,1,2,2-Tetrachloroethane	ND (0.0023)		8260B Low		1	03/26/15 17:05	CYC0308	CC52627
1,1,2-Trichloroethane	ND (0.0059)		8260B Low		1	03/26/15 17:05	CYC0308	CC52627
1,1-Dichloroethane	ND (0.0059)		8260B Low		1	03/26/15 17:05	CYC0308	CC52627
1,1-Dichloroethene	ND (0.0059)		8260B Low		1	03/26/15 17:05	CYC0308	CC52627
1,1-Dichloropropene	ND (0.0059)		8260B Low		1	03/26/15 17:05	CYC0308	CC52627
1,2,3-Trichlorobenzene	ND (0.0059)		8260B Low		1	03/26/15 17:05	CYC0308	CC52627
1,2,3-Trichloropropane	ND (0.0059)		8260B Low		1	03/26/15 17:05	CYC0308	CC52627
1,2,4-Trichlorobenzene	ND (0.0059)		8260B Low		1	03/26/15 17:05	CYC0308	CC52627
1,2,4-Trimethylbenzene	ND (0.0059)		8260B Low		1	03/26/15 17:05	CYC0308	CC52627
1,2-Dibromo-3-Chloropropane	ND (0.0059)		8260B Low		1	03/26/15 17:05	CYC0308	CC52627
1,2-Dibromoethane	ND (0.0059)		8260B Low		1	03/26/15 17:05	CYC0308	CC52627
1,2-Dichlorobenzene	ND (0.0059)		8260B Low		1	03/26/15 17:05	CYC0308	CC52627
1,2-Dichloroethane	ND (0.0059)		8260B Low		1	03/26/15 17:05	CYC0308	CC52627
1,2-Dichloropropane	ND (0.0059)		8260B Low		1	03/26/15 17:05	CYC0308	CC52627
1,3,5-Trimethylbenzene	ND (0.0059)		8260B Low		1	03/26/15 17:05	CYC0308	CC52627
1,3-Dichlorobenzene	ND (0.0059)		8260B Low		1	03/26/15 17:05	CYC0308	CC52627
1,3-Dichloropropane	ND (0.0059)		8260B Low		1	03/26/15 17:05	CYC0308	CC52627
1,4-Dichlorobenzene	ND (0.0059)		8260B Low		1	03/26/15 17:05	CYC0308	CC52627
1,4-Dioxane	ND (0.117)		8260B Low		1	03/26/15 17:05	CYC0308	CC52627
2,2-Dichloropropane	ND (0.0059)		8260B Low		1	03/26/15 17:05	CYC0308	CC52627
2-Butanone	ND (0.0117)		8260B Low		1	03/26/15 17:05	CYC0308	CC52627
2-Chlorotoluene	ND (0.0059)		8260B Low		1	03/26/15 17:05	CYC0308	CC52627
2-Hexanone	ND (0.0117)		8260B Low		1	03/26/15 17:05	CYC0308	CC52627
4-Chlorotoluene	ND (0.0059)		8260B Low		1	03/26/15 17:05	CYC0308	CC52627
4-Isopropyltoluene	ND (0.0059)		8260B Low		1	03/26/15 17:05	CYC0308	CC52627
4-Methyl-2-Pentanone	ND (0.0117)		8260B Low		1	03/26/15 17:05	CYC0308	CC52627
Acetone	ND (0.0117)		8260B Low		1	03/26/15 17:05	CYC0308	CC52627
Benzene	ND (0.0059)		8260B Low		1	03/26/15 17:05	CYC0308	CC52627
Bromobenzene	ND (0.0059)		8260B Low		1	03/26/15 17:05	CYC0308	CC52627
Bromochloromethane	ND (0.0059)		8260B Low		1	03/26/15 17:05	CYC0308	CC52627

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-219 0ft-3ft
Date Sampled: 03/25/15 15:06
Percent Solids: 64
Initial Volume: 6.7
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1503448
ESS Laboratory Sample ID: 1503448-14
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromodichloromethane	ND (0.0059)		8260B Low		1	03/26/15 17:05	CYC0308	CC52627
Bromoform	ND (0.0059)		8260B Low		1	03/26/15 17:05	CYC0308	CC52627
Bromomethane	ND (0.0117)		8260B Low		1	03/26/15 17:05	CYC0308	CC52627
Carbon Disulfide	**0.0078** (0.0059)		8260B Low		1	03/26/15 17:05	CYC0308	CC52627
Carbon Tetrachloride	ND (0.0059)		8260B Low		1	03/26/15 17:05	CYC0308	CC52627
Chlorobenzene	ND (0.0059)		8260B Low		1	03/26/15 17:05	CYC0308	CC52627
Chloroethane	ND (0.0117)		8260B Low		1	03/26/15 17:05	CYC0308	CC52627
Chloroform	ND (0.0059)		8260B Low		1	03/26/15 17:05	CYC0308	CC52627
Chloromethane	ND (0.0117)		8260B Low		1	03/26/15 17:05	CYC0308	CC52627
cis-1,2-Dichloroethene	ND (0.0059)		8260B Low		1	03/26/15 17:05	CYC0308	CC52627
cis-1,3-Dichloropropene	ND (0.0059)		8260B Low		1	03/26/15 17:05	CYC0308	CC52627
Dibromochloromethane	ND (0.0023)		8260B Low		1	03/26/15 17:05	CYC0308	CC52627
Dibromomethane	ND (0.0059)		8260B Low		1	03/26/15 17:05	CYC0308	CC52627
Dichlorodifluoromethane	ND (0.0117)		8260B Low		1	03/26/15 17:05	CYC0308	CC52627
Diethyl Ether	ND (0.0059)		8260B Low		1	03/26/15 17:05	CYC0308	CC52627
Di-isopropyl ether	ND (0.0059)		8260B Low		1	03/26/15 17:05	CYC0308	CC52627
Ethyl tertiary-butyl ether	ND (0.0059)		8260B Low		1	03/26/15 17:05	CYC0308	CC52627
Ethylbenzene	ND (0.0059)		8260B Low		1	03/26/15 17:05	CYC0308	CC52627
Hexachlorobutadiene	ND (0.0059)		8260B Low		1	03/26/15 17:05	CYC0308	CC52627
Isopropylbenzene	ND (0.0059)		8260B Low		1	03/26/15 17:05	CYC0308	CC52627
Methyl tert-Butyl Ether	ND (0.0059)		8260B Low		1	03/26/15 17:05	CYC0308	CC52627
Methylene Chloride	ND (0.0117)		8260B Low		1	03/26/15 17:05	CYC0308	CC52627
Naphthalene	ND (0.0059)		8260B Low		1	03/26/15 17:05	CYC0308	CC52627
n-Butylbenzene	ND (0.0059)		8260B Low		1	03/26/15 17:05	CYC0308	CC52627
n-Propylbenzene	ND (0.0059)		8260B Low		1	03/26/15 17:05	CYC0308	CC52627
sec-Butylbenzene	ND (0.0059)		8260B Low		1	03/26/15 17:05	CYC0308	CC52627
Styrene	ND (0.0059)		8260B Low		1	03/26/15 17:05	CYC0308	CC52627
tert-Butylbenzene	ND (0.0059)		8260B Low		1	03/26/15 17:05	CYC0308	CC52627
Tertiary-amyl methyl ether	ND (0.0059)		8260B Low		1	03/26/15 17:05	CYC0308	CC52627
Tetrachloroethene	ND (0.0059)		8260B Low		1	03/26/15 17:05	CYC0308	CC52627
Tetrahydrofuran	ND (0.0059)		8260B Low		1	03/26/15 17:05	CYC0308	CC52627
Toluene	ND (0.0059)		8260B Low		1	03/26/15 17:05	CYC0308	CC52627

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-219 0ft-3ft
Date Sampled: 03/25/15 15:06
Percent Solids: 64
Initial Volume: 6.7
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1503448
ESS Laboratory Sample ID: 1503448-14
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
trans-1,2-Dichloroethene	ND (0.0059)		8260B Low		1	03/26/15 17:05	CYC0308	CC52627
trans-1,3-Dichloropropene	ND (0.0059)		8260B Low		1	03/26/15 17:05	CYC0308	CC52627
Trichloroethene	ND (0.0059)		8260B Low		1	03/26/15 17:05	CYC0308	CC52627
Trichlorofluoromethane	ND (0.0059)		8260B Low		1	03/26/15 17:05	CYC0308	CC52627
Vinyl Chloride	ND (0.0117)		8260B Low		1	03/26/15 17:05	CYC0308	CC52627
Xylene O	ND (0.0059)		8260B Low		1	03/26/15 17:05	CYC0308	CC52627
Xylene P,M	ND (0.0117)		8260B Low		1	03/26/15 17:05	CYC0308	CC52627
Xylenes (Total)	ND (0.0117)		8260B Low		1	03/26/15 17:05		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*93 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*95 %*		*70-130*
Surrogate: Dibromofluoromethane	*88 %*		*70-130*
Surrogate: Toluene-d8	*96 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-219 0ft-3ft
Date Sampled: 03/25/15 15:06
Percent Solids: 64
Initial Volume: 30.1
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503448
ESS Laboratory Sample ID: 1503448-14
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JXS
Prepared: 3/30/15 12:52

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.261)		8270D		1	03/31/15 7:05	CYC0357	CD50205
1,2-Dichlorobenzene	ND (0.261)		8270D		1	03/31/15 7:05	CYC0357	CD50205
1,3-Dichlorobenzene	ND (0.261)		8270D		1	03/31/15 7:05	CYC0357	CD50205
1,4-Dichlorobenzene	ND (0.261)		8270D		1	03/31/15 7:05	CYC0357	CD50205
2,4,5-Trichlorophenol	ND (0.261)		8270D		1	03/31/15 7:05	CYC0357	CD50205
2,4,6-Trichlorophenol	ND (0.261)		8270D		1	03/31/15 7:05	CYC0357	CD50205
2,4-Dichlorophenol	ND (0.261)		8270D		1	03/31/15 7:05	CYC0357	CD50205
2,4-Dimethylphenol	ND (0.261)		8270D		1	03/31/15 7:05	CYC0357	CD50205
2,4-Dinitrophenol	ND (1.31)		8270D		1	03/31/15 7:05	CYC0357	CD50205
2,4-Dinitrotoluene	ND (0.261)		8270D		1	03/31/15 7:05	CYC0357	CD50205
2,6-Dinitrotoluene	ND (0.261)		8270D		1	03/31/15 7:05	CYC0357	CD50205
2-Chloronaphthalene	ND (0.261)		8270D		1	03/31/15 7:05	CYC0357	CD50205
2-Chlorophenol	ND (0.261)		8270D		1	03/31/15 7:05	CYC0357	CD50205
2-Methylphenol	ND (0.261)		8270D		1	03/31/15 7:05	CYC0357	CD50205
2-Nitrophenol	ND (0.261)		8270D		1	03/31/15 7:05	CYC0357	CD50205
3,3´-Dichlorobenzidine	ND (0.522)		8270D		1	03/31/15 7:05	CYC0357	CD50205
3+4-Methylphenol	ND (0.522)		8270D		1	03/31/15 7:05	CYC0357	CD50205
4-Bromophenyl-phenylether	ND (0.261)		8270D		1	03/31/15 7:05	CYC0357	CD50205
4-Chloroaniline	ND (0.522)		8270D		1	03/31/15 7:05	CYC0357	CD50205
4-Nitrophenol	ND (1.31)		8270D		1	03/31/15 7:05	CYC0357	CD50205
Acetophenone	ND (0.522)		8270D		1	03/31/15 7:05	CYC0357	CD50205
Aniline	ND (1.31)		8270D		1	03/31/15 7:05	CYC0357	CD50205
Azobenzene	ND (0.261)		8270D		1	03/31/15 7:05	CYC0357	CD50205
bis(2-Chloroethoxy)methane	ND (0.261)		8270D		1	03/31/15 7:05	CYC0357	CD50205
bis(2-Chloroethyl)ether	ND (0.261)		8270D		1	03/31/15 7:05	CYC0357	CD50205
bis(2-chloroisopropyl)Ether	ND (0.261)		8270D		1	03/31/15 7:05	CYC0357	CD50205
bis(2-Ethylhexyl)phthalate	ND (0.261)		8270D		1	03/31/15 7:05	CYC0357	CD50205
Butylbenzylphthalate	ND (0.261)		8270D		1	03/31/15 7:05	CYC0357	CD50205
Dibenzofuran	ND (0.261)		8270D		1	03/31/15 7:05	CYC0357	CD50205
Diethylphthalate	ND (0.261)		8270D		1	03/31/15 7:05	CYC0357	CD50205
Dimethylphthalate	ND (0.261)		8270D		1	03/31/15 7:05	CYC0357	CD50205
Di-n-butylphthalate	ND (0.261)		8270D		1	03/31/15 7:05	CYC0357	CD50205

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-219 0ft-3ft
Date Sampled: 03/25/15 15:06
Percent Solids: 64
Initial Volume: 30.1
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503448
ESS Laboratory Sample ID: 1503448-14
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JXS
Prepared: 3/30/15 12:52

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Di-n-octylphthalate	ND (0.261)		8270D		1	03/31/15 7:05	CYC0357	CD50205
Hexachlorobenzene	ND (0.261)		8270D		1	03/31/15 7:05	CYC0357	CD50205
Hexachlorobutadiene	ND (0.261)		8270D		1	03/31/15 7:05	CYC0357	CD50205
Hexachloroethane	ND (0.261)		8270D		1	03/31/15 7:05	CYC0357	CD50205
Isophorone	ND (0.261)		8270D		1	03/31/15 7:05	CYC0357	CD50205
Nitrobenzene	ND (0.261)		8270D		1	03/31/15 7:05	CYC0357	CD50205
N-Nitrosodimethylamine	ND (0.261)		8270D		1	03/31/15 7:05	CYC0357	CD50205
Pentachlorophenol	ND (1.31)		8270D		1	03/31/15 7:05	CYC0357	CD50205
Phenol	ND (0.261)		8270D		1	03/31/15 7:05	CYC0357	CD50205

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*47 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*75 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*48 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*60 %*		*30-130*
Surrogate: 2-Fluorophenol	*42 %*		*30-130*
Surrogate: Nitrobenzene-d5	*44 %*		*30-130*
Surrogate: Phenol-d6	*49 %*		*30-130*
Surrogate: p-Terphenyl-d14	*85 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-219 0ft-3ft
Date Sampled: 03/25/15 15:06
Percent Solids: 64

ESS Laboratory Work Order: 1503448
ESS Laboratory Sample ID: 1503448-14
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Corrosivity (pH)	**H 8.04** (N/A)		9045		1	JLK	03/27/15 10:44	S.U.	CC52721
Corrosivity (pH) Sample Temp	**Soil pH measured in water at 15.0 °C.**								
Eh (ORP)	**H, WL 165** (N/A)		2580		1	JLK	03/27/15 10:44	mv	CC52722
Grain Size	**See Attached** (N/A)								
Hexavalent Chromium	ND (0.7)		7196A		1	JLK	03/28/15 11:00	mg/kg dry	CC52807
Percent Water	**See Attached** (N/A)								
Reactive Cyanide	ND (2.0)		7.3.3.2		1	JLK	03/30/15 11:05	mg/kg	CC53003
Reactive Sulfide	ND (2.0)		7.3.4.1		1	JLK	03/30/15 11:05	mg/kg	CC53003

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-219 0ft-3ft
Date Sampled: 03/25/15 15:06
Percent Solids: 64
Initial Volume: 30
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1503448
ESS Laboratory Sample ID: 1503448-14
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 3/27/15 17:04

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	ND (19.6)		MADEP-EPH		1	DPS	03/31/15 7:42	CYC0346	CC52711
C19-C36 Aliphatics1	**29.4** (19.6)		MADEP-EPH		1	DPS	03/31/15 7:42	CYC0346	CC52711
C11-C22 Unadjusted Aromatics1	**25.9** (19.6)		EPH8270		1	VSC	03/31/15 1:59	CYC0347	CC52711
C11-C22 Aromatics1,2	**24.6** (19.6)		EPH8270			VSC	03/31/15 1:59		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*64 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*114 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*113 %*		*40-140*
Surrogate: O-Terphenyl	*72 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-206 0ft-3ft
Date Sampled: 03/25/15 11:10
Percent Solids: 100

ESS Laboratory Work Order: 1503448
ESS Laboratory Sample ID: 1503448-15
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.24)		7010		5	KJK	04/02/15 2:10	2.01	100	CC52816
Arsenic	**45.8** (2.49)		6010C		1	KJK	03/30/15 22:14	2.01	100	CC52816
Barium	**60.4** (2.49)		6010C		1	KJK	03/30/15 22:14	2.01	100	CC52816
Beryllium	**0.64** (0.11)		6010C		1	KJK	03/30/15 22:14	2.01	100	CC52816
Cadmium	**1.28** (0.50)		6010C		1	KJK	03/30/15 22:14	2.01	100	CC52816
Chromium	**90.9** (1.00)		6010C		1	KJK	03/30/15 22:14	2.01	100	CC52816
Lead	**251** (4.98)		6010C		1	KJK	03/30/15 22:14	2.01	100	CC52816
Mercury	**1.04** (0.305)		7471B		10	JP	03/30/15 21:22	0.65	40	CC52817
Nickel	**26.9** (2.49)		6010C		1	KJK	03/30/15 22:14	2.01	100	CC52816
Selenium	ND (4.98)		6010C		1	KJK	03/30/15 22:14	2.01	100	CC52816
Silver	**1.58** (0.50)		6010C		1	KJK	03/30/15 22:14	2.01	100	CC52816
Thallium	ND (0.40)		7010		4	JP	04/07/15 0:12	2.01	100	CC52816
Vanadium	**108** (1.00)		6010C		1	KJK	03/30/15 22:14	2.01	100	CC52816
Zinc	**365** (2.49)		6010C		1	KJK	03/30/15 22:14	2.01	100	CC52816

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-205 0ft-0.5ft
Date Sampled: 03/25/15 11:45
Percent Solids: 100

ESS Laboratory Work Order: 1503448
ESS Laboratory Sample ID: 1503448-16
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.17)		7010		5	KJK	04/02/15 2:58	2.13	100	CC52816
Arsenic	**25.8** (2.35)		6010C		1	KJK	03/30/15 22:41	2.13	100	CC52816
Barium	**49.5** (2.35)		6010C		1	KJK	03/30/15 22:41	2.13	100	CC52816
Beryllium	**0.47** (0.10)		6010C		1	KJK	03/30/15 22:41	2.13	100	CC52816
Cadmium	**0.64** (0.47)		6010C		1	KJK	03/30/15 22:41	2.13	100	CC52816
Chromium	**59.4** (0.94)		6010C		1	KJK	03/30/15 22:41	2.13	100	CC52816
Lead	**186** (4.69)		6010C		1	KJK	03/30/15 22:41	2.13	100	CC52816
Mercury	**0.259** (0.025)		7471B		1	JP	03/30/15 19:16	0.8	40	CC52817
Nickel	**17.8** (2.35)		6010C		1	KJK	03/30/15 22:41	2.13	100	CC52816
Selenium	ND (4.69)		6010C		1	KJK	03/30/15 22:41	2.13	100	CC52816
Silver	**0.91** (0.47)		6010C		1	KJK	03/30/15 22:41	2.13	100	CC52816
Thallium	ND (0.47)		7010		5	KJK	03/30/15 23:54	2.13	100	CC52816
Vanadium	**58.0** (0.94)		6010C		1	KJK	03/30/15 22:41	2.13	100	CC52816
Zinc	**277** (2.35)		6010C		1	KJK	03/30/15 22:41	2.13	100	CC52816

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-205 4ft-6ft
Date Sampled: 03/25/15 11:45
Percent Solids: 100

ESS Laboratory Work Order: 1503448
ESS Laboratory Sample ID: 1503448-17
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.16)		7010		5	KJK	04/02/15 3:04	2.15	100	CC52816
Arsenic	**31.2** (2.33)		6010C		1	KJK	03/30/15 22:46	2.15	100	CC52816
Barium	**75.0** (2.33)		6010C		1	KJK	03/30/15 22:46	2.15	100	CC52816
Beryllium	**0.57** (0.10)		6010C		1	KJK	03/30/15 22:46	2.15	100	CC52816
Cadmium	**1.43** (0.47)		6010C		1	KJK	03/30/15 22:46	2.15	100	CC52816
Chromium	**76.4** (0.93)		6010C		1	KJK	03/30/15 22:46	2.15	100	CC52816
Lead	**192** (4.65)		6010C		1	KJK	03/30/15 22:46	2.15	100	CC52816
Mercury	**0.307** (0.030)		7471B		1	JP	03/30/15 19:17	0.65	40	CC52817
Nickel	**17.4** (2.33)		6010C		1	KJK	03/30/15 22:46	2.15	100	CC52816
Selenium	ND (4.65)		6010C		1	KJK	03/30/15 22:46	2.15	100	CC52816
Silver	**0.76** (0.47)		6010C		1	KJK	03/30/15 22:46	2.15	100	CC52816
Thallium	ND (0.47)		7010		5	KJK	03/31/15 0:00	2.15	100	CC52816
Vanadium	**76.3** (0.93)		6010C		1	KJK	03/30/15 22:46	2.15	100	CC52816
Zinc	**263** (2.33)		6010C		1	KJK	03/30/15 22:46	2.15	100	CC52816

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-205 6ft-8ft
Date Sampled: 03/25/15 11:45
Percent Solids: 100

ESS Laboratory Work Order: 1503448
ESS Laboratory Sample ID: 1503448-18
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (4.02)		6010C		1	KJK	03/30/15 22:52	2.49	100	CC52816
Arsenic	**5.22** (2.01)		6010C		1	KJK	03/30/15 22:52	2.49	100	CC52816
Barium	**17.5** (2.01)		6010C		1	KJK	03/30/15 22:52	2.49	100	CC52816
Beryllium	**0.30** (0.09)		6010C		1	KJK	03/30/15 22:52	2.49	100	CC52816
Cadmium	ND (0.40)		6010C		1	KJK	03/30/15 22:52	2.49	100	CC52816
Chromium	**15.5** (0.80)		6010C		1	KJK	03/30/15 22:52	2.49	100	CC52816
Lead	**6.50** (4.02)		6010C		1	KJK	03/30/15 22:52	2.49	100	CC52816
Mercury	ND (0.027)		7471B		1	JP	03/30/15 19:19	0.73	40	CC52817
Nickel	**9.16** (2.01)		6010C		1	KJK	03/30/15 22:52	2.49	100	CC52816
Selenium	ND (4.02)		6010C		1	KJK	03/30/15 22:52	2.49	100	CC52816
Silver	ND (0.40)		6010C		1	KJK	03/30/15 22:52	2.49	100	CC52816
Thallium	ND (0.40)		7010		5	KJK	03/31/15 0:05	2.49	100	CC52816
Vanadium	**21.8** (0.80)		6010C		1	KJK	03/30/15 22:52	2.49	100	CC52816
Zinc	**27.4** (2.01)		6010C		1	KJK	03/30/15 22:52	2.49	100	CC52816

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-205 0ft-3ft
Date Sampled: 03/25/15 11:45
Percent Solids: 100

ESS Laboratory Work Order: 1503448
ESS Laboratory Sample ID: 1503448-19
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.20)		7010		5	KJK	04/02/15 3:21	2.08	100	CC52816
Arsenic	**35.7** (2.40)		6010C		1	KJK	03/30/15 22:56	2.08	100	CC52816
Barium	**44.5** (2.40)		6010C		1	KJK	03/30/15 22:56	2.08	100	CC52816
Beryllium	**0.60** (0.11)		6010C		1	KJK	03/30/15 22:56	2.08	100	CC52816
Cadmium	**1.06** (0.48)		6010C		1	KJK	03/30/15 22:56	2.08	100	CC52816
Chromium	**62.2** (0.96)		6010C		1	KJK	03/30/15 22:56	2.08	100	CC52816
Lead	**142** (4.81)		6010C		1	KJK	03/30/15 22:56	2.08	100	CC52816
Mercury	**0.672** (0.143)		7471B		5	JP	03/30/15 21:34	0.69	40	CC52817
Nickel	**17.9** (2.40)		6010C		1	KJK	03/30/15 22:56	2.08	100	CC52816
Selenium	ND (4.81)		6010C		1	KJK	03/30/15 22:56	2.08	100	CC52816
Silver	ND (0.48)		6010C		1	KJK	03/30/15 22:56	2.08	100	CC52816
Thallium	ND (0.38)		7010		4	JP	04/07/15 0:40	2.08	100	CC52816
Vanadium	**76.3** (0.96)		6010C		1	KJK	03/30/15 22:56	2.08	100	CC52816
Zinc	**240** (2.40)		6010C		1	KJK	03/30/15 22:56	2.08	100	CC52816

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-213 0ft-0.5ft
Date Sampled: 03/25/15 13:52
Percent Solids: 100

ESS Laboratory Work Order: 1503448
ESS Laboratory Sample ID: 1503448-20
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.23)		7010		5	KJK	04/02/15 3:27	2.03	100	CC52816
Arsenic	**54.1** (2.46)		6010C		1	KJK	03/30/15 23:14	2.03	100	CC52816
Barium	**33.4** (2.46)		6010C		1	KJK	03/30/15 23:14	2.03	100	CC52816
Beryllium	**0.33** (0.11)		6010C		1	KJK	03/30/15 23:14	2.03	100	CC52816
Cadmium	**0.72** (0.49)		6010C		1	KJK	03/30/15 23:14	2.03	100	CC52816
Chromium	**36.1** (0.99)		6010C		1	KJK	03/30/15 23:14	2.03	100	CC52816
Lead	**190** (4.93)		6010C		1	KJK	03/30/15 23:14	2.03	100	CC52816
Mercury	**0.551** (0.032)		7471B		1	JP	03/30/15 19:22	0.61	40	CC52817
Nickel	**13.0** (2.46)		6010C		1	KJK	03/30/15 23:14	2.03	100	CC52816
Selenium	ND (4.93)		6010C		1	KJK	03/30/15 23:14	2.03	100	CC52816
Silver	**0.71** (0.49)		6010C		1	KJK	03/30/15 23:14	2.03	100	CC52816
Thallium	ND (0.39)		7010		4	JP	04/07/15 0:46	2.03	100	CC52816
Vanadium	**55.1** (0.99)		6010C		1	KJK	03/30/15 23:14	2.03	100	CC52816
Zinc	**325** (2.46)		6010C		1	KJK	03/30/15 23:14	2.03	100	CC52816

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-213 4ft-6ft
Date Sampled: 03/25/15 13:52
Percent Solids: 100

ESS Laboratory Work Order: 1503448
ESS Laboratory Sample ID: 1503448-21
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (4.74)		6010C		1	KJK	03/30/15 23:20	2.11	100	CC52816
Arsenic	**5.95** (2.37)		6010C		1	KJK	03/30/15 23:20	2.11	100	CC52816
Barium	**18.5** (2.37)		6010C		1	KJK	03/30/15 23:20	2.11	100	CC52816
Beryllium	**0.32** (0.10)		6010C		1	KJK	03/30/15 23:20	2.11	100	CC52816
Cadmium	ND (0.47)		6010C		1	KJK	03/30/15 23:20	2.11	100	CC52816
Chromium	**17.1** (0.95)		6010C		1	KJK	03/30/15 23:20	2.11	100	CC52816
Lead	**5.40** (4.74)		6010C		1	KJK	03/30/15 23:20	2.11	100	CC52816
Mercury	ND (0.030)		7471B		1	JP	03/30/15 19:24	0.65	40	CC52817
Nickel	**10.3** (2.37)		6010C		1	KJK	03/30/15 23:20	2.11	100	CC52816
Selenium	ND (4.74)		6010C		1	KJK	03/30/15 23:20	2.11	100	CC52816
Silver	ND (0.47)		6010C		1	KJK	03/30/15 23:20	2.11	100	CC52816
Thallium	ND (0.47)		7010		5	KJK	03/31/15 0:22	2.11	100	CC52816
Vanadium	**24.8** (0.95)		6010C		1	KJK	03/30/15 23:20	2.11	100	CC52816
Zinc	**35.6** (2.37)		6010C		1	KJK	03/30/15 23:20	2.11	100	CC52816

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-213 0ft-3ft
Date Sampled: 03/25/15 13:52
Percent Solids: 100

ESS Laboratory Work Order: 1503448
ESS Laboratory Sample ID: 1503448-22
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (4.41)		6010C		1	KJK	03/30/15 23:24	2.27	100	CC52816
Arsenic	**57.9** (2.20)		6010C		1	KJK	03/30/15 23:24	2.27	100	CC52816
Barium	**25.2** (2.20)		6010C		1	KJK	03/30/15 23:24	2.27	100	CC52816
Beryllium	**0.28** (0.10)		6010C		1	KJK	03/30/15 23:24	2.27	100	CC52816
Cadmium	**2.39** (0.44)		6010C		1	KJK	03/30/15 23:24	2.27	100	CC52816
Chromium	**23.2** (0.88)		6010C		1	KJK	03/30/15 23:24	2.27	100	CC52816
Lead	**282** (4.41)		6010C		1	KJK	03/30/15 23:24	2.27	100	CC52816
Mercury	**0.467** (0.031)		7471B		1	JP	03/30/15 19:29	0.64	40	CC52817
Nickel	**8.91** (2.20)		6010C		1	KJK	03/30/15 23:24	2.27	100	CC52816
Selenium	**6.85** (2.20)		7010		5	JP	03/31/15 13:39	2.27	100	CC52816
Silver	ND (0.44)		6010C		1	KJK	03/30/15 23:24	2.27	100	CC52816
Thallium	ND (0.44)		7010		5	KJK	03/31/15 0:28	2.27	100	CC52816
Vanadium	**22.4** (0.88)		6010C		1	KJK	03/30/15 23:24	2.27	100	CC52816
Zinc	**913** (2.20)		6010C		1	KJK	03/30/15 23:24	2.27	100	CC52816

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-218 0ft-0.5ft
Date Sampled: 03/25/15 14:23
Percent Solids: 100

ESS Laboratory Work Order: 1503448
ESS Laboratory Sample ID: 1503448-23
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.13)		7010		5	KJK	04/02/15 3:32	2.22	100	CC52816
Arsenic	**58.2** (2.25)		6010C		1	KJK	03/30/15 23:30	2.22	100	CC52816
Barium	**44.2** (2.25)		6010C		1	KJK	03/30/15 23:30	2.22	100	CC52816
Beryllium	**0.38** (0.10)		6010C		1	KJK	03/30/15 23:30	2.22	100	CC52816
Cadmium	ND (0.45)		6010C		1	KJK	03/30/15 23:30	2.22	100	CC52816
Chromium	**48.2** (0.90)		6010C		1	KJK	03/30/15 23:30	2.22	100	CC52816
Lead	**279** (4.50)		6010C		1	KJK	03/30/15 23:30	2.22	100	CC52816
Mercury	**0.393** (0.028)		7471B		1	JP	03/30/15 19:31	0.71	40	CC52817
Nickel	**16.5** (2.25)		6010C		1	KJK	03/30/15 23:30	2.22	100	CC52816
Selenium	ND (4.50)		6010C		1	KJK	03/30/15 23:30	2.22	100	CC52816
Silver	**0.73** (0.45)		6010C		1	KJK	03/30/15 23:30	2.22	100	CC52816
Thallium	ND (0.45)		7010		5	KJK	03/31/15 0:33	2.22	100	CC52816
Vanadium	**61.0** (0.90)		6010C		1	KJK	03/30/15 23:30	2.22	100	CC52816
Zinc	**270** (2.25)		6010C		1	KJK	03/30/15 23:30	2.22	100	CC52816

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-218 0.5ft-2ft
Date Sampled: 03/25/15 14:23
Percent Solids: 100

ESS Laboratory Work Order: 1503448
ESS Laboratory Sample ID: 1503448-24
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (4.55)		6010C		1	KJK	03/30/15 23:35	2.2	100	CC52816
Arsenic	**183** (2.27)		6010C		1	KJK	03/30/15 23:35	2.2	100	CC52816
Barium	**68.2** (2.27)		6010C		1	KJK	03/30/15 23:35	2.2	100	CC52816
Beryllium	**0.67** (0.10)		6010C		1	KJK	03/30/15 23:35	2.2	100	CC52816
Cadmium	**0.79** (0.45)		6010C		1	KJK	03/30/15 23:35	2.2	100	CC52816
Chromium	**49.6** (0.91)		6010C		1	KJK	03/30/15 23:35	2.2	100	CC52816
Lead	**738** (4.55)		6010C		1	KJK	03/30/15 23:35	2.2	100	CC52816
Mercury	**7.07** (1.62)		7471B		50	JP	03/30/15 21:35	0.61	40	CC52817
Nickel	**18.0** (2.27)		6010C		1	KJK	03/30/15 23:35	2.2	100	CC52816
Selenium	**28.6** (4.55)		6010C		1	KJK	03/30/15 23:35	2.2	100	CC52816
Silver	ND (0.45)		6010C		1	KJK	03/30/15 23:35	2.2	100	CC52816
Thallium	ND (0.45)		7010		5	KJK	03/31/15 0:39	2.2	100	CC52816
Vanadium	**45.0** (0.91)		6010C		1	KJK	03/30/15 23:35	2.2	100	CC52816
Zinc	**410** (2.27)		6010C		1	KJK	03/30/15 23:35	2.2	100	CC52816

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-218 4ft-6ft
Date Sampled: 03/25/15 14:23
Percent Solids: 100

ESS Laboratory Work Order: 1503448
ESS Laboratory Sample ID: 1503448-25
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (4.37)		6010C		1	KJK	03/30/15 23:40	2.29	100	CC52816
Arsenic	**8.14** (2.18)		6010C		1	KJK	03/30/15 23:40	2.29	100	CC52816
Barium	**20.2** (2.18)		6010C		1	KJK	03/30/15 23:40	2.29	100	CC52816
Beryllium	**0.35** (0.10)		6010C		1	KJK	03/30/15 23:40	2.29	100	CC52816
Cadmium	ND (0.44)		6010C		1	KJK	03/30/15 23:40	2.29	100	CC52816
Chromium	**17.2** (0.87)		6010C		1	KJK	03/30/15 23:40	2.29	100	CC52816
Lead	**25.8** (4.37)		6010C		1	KJK	03/30/15 23:40	2.29	100	CC52816
Mercury	**0.074** (0.032)		7471B		1	JP	03/30/15 19:34	0.61	40	CC52817
Nickel	**10.1** (2.18)		6010C		1	KJK	03/30/15 23:40	2.29	100	CC52816
Selenium	ND (4.37)		6010C		1	KJK	03/30/15 23:40	2.29	100	CC52816
Silver	ND (0.44)		6010C		1	KJK	03/30/15 23:40	2.29	100	CC52816
Thallium	ND (0.44)		7010		5	KJK	03/31/15 0:55	2.29	100	CC52816
Vanadium	**23.2** (0.87)		6010C		1	KJK	03/30/15 23:40	2.29	100	CC52816
Zinc	**55.4** (2.18)		6010C		1	KJK	03/30/15 23:40	2.29	100	CC52816

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-219 0ft-0.5ft
Date Sampled: 03/25/15 15:06
Percent Solids: 100

ESS Laboratory Work Order: 1503448
ESS Laboratory Sample ID: 1503448-26
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.08)		7010		5	KJK	04/02/15 3:37	2.31	100	CC52816
Arsenic	**71.7** (2.16)		6010C		1	KJK	03/30/15 23:44	2.31	100	CC52816
Barium	**36.8** (2.16)		6010C		1	KJK	03/30/15 23:44	2.31	100	CC52816
Beryllium	**0.33** (0.10)		6010C		1	KJK	03/30/15 23:44	2.31	100	CC52816
Cadmium	ND (0.43)		6010C		1	KJK	03/30/15 23:44	2.31	100	CC52816
Chromium	**38.2** (0.87)		6010C		1	KJK	03/30/15 23:44	2.31	100	CC52816
Lead	**271** (4.33)		6010C		1	KJK	03/30/15 23:44	2.31	100	CC52816
Mercury	**0.572** (0.031)		7471B		1	JP	03/30/15 19:36	0.64	40	CC52817
Nickel	**17.5** (2.16)		6010C		1	KJK	03/30/15 23:44	2.31	100	CC52816
Selenium	ND (4.33)		6010C		1	KJK	03/30/15 23:44	2.31	100	CC52816
Silver	**0.58** (0.43)		6010C		1	KJK	03/30/15 23:44	2.31	100	CC52816
Thallium	ND (0.43)		7010		5	KJK	03/31/15 1:01	2.31	100	CC52816
Vanadium	**50.2** (0.87)		6010C		1	KJK	03/30/15 23:44	2.31	100	CC52816
Zinc	**266** (2.16)		6010C		1	KJK	03/30/15 23:44	2.31	100	CC52816

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-219 4ft-6ft
Date Sampled: 03/25/15 15:06
Percent Solids: 100

ESS Laboratory Work Order: 1503448
ESS Laboratory Sample ID: 1503448-27
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (4.67)		6010C		1	KJK	03/30/15 23:50	2.14	100	CC52816
Arsenic	**3.96** (2.34)		6010C		1	KJK	03/30/15 23:50	2.14	100	CC52816
Barium	**12.2** (2.34)		6010C		1	KJK	03/30/15 23:50	2.14	100	CC52816
Beryllium	**0.22** (0.10)		6010C		1	KJK	03/30/15 23:50	2.14	100	CC52816
Cadmium	ND (0.47)		6010C		1	KJK	03/30/15 23:50	2.14	100	CC52816
Chromium	**11.8** (0.93)		6010C		1	KJK	03/30/15 23:50	2.14	100	CC52816
Lead	ND (4.67)		6010C		1	KJK	03/30/15 23:50	2.14	100	CC52816
Mercury	ND (0.024)		7471B		1	JP	03/30/15 19:37	0.81	40	CC52817
Nickel	**7.45** (2.34)		6010C		1	KJK	03/30/15 23:50	2.14	100	CC52816
Selenium	ND (4.67)		6010C		1	KJK	03/30/15 23:50	2.14	100	CC52816
Silver	ND (0.47)		6010C		1	KJK	03/30/15 23:50	2.14	100	CC52816
Thallium	ND (0.47)		7010		5	KJK	03/31/15 1:06	2.14	100	CC52816
Vanadium	**18.1** (0.93)		6010C		1	KJK	03/30/15 23:50	2.14	100	CC52816
Zinc	**21.3** (2.34)		6010C		1	KJK	03/30/15 23:50	2.14	100	CC52816

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-219 0ft-3ft
Date Sampled: 03/25/15 15:06
Percent Solids: 100

ESS Laboratory Work Order: 1503448
ESS Laboratory Sample ID: 1503448-28
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	**1.32** (1.25)		7010		5	KJK	04/02/15 3:43	2	100	CC52816
Arsenic	**66.3** (2.50)		6010C		1	KJK	03/30/15 23:54	2	100	CC52816
Barium	**52.0** (2.50)		6010C		1	KJK	03/30/15 23:54	2	100	CC52816
Beryllium	**0.47** (0.11)		6010C		1	KJK	03/30/15 23:54	2	100	CC52816
Cadmium	**1.00** (0.50)		6010C		1	KJK	03/30/15 23:54	2	100	CC52816
Chromium	**40.4** (1.00)		6010C		1	KJK	03/30/15 23:54	2	100	CC52816
Lead	**506** (5.00)		6010C		1	KJK	03/30/15 23:54	2	100	CC52816
Mercury	**1.20** (0.330)		7471B		10	JP	03/30/15 21:37	0.6	40	CC52817
Nickel	**13.4** (2.50)		6010C		1	KJK	03/30/15 23:54	2	100	CC52816
Selenium	**15.2** (2.50)		7010		5	KJK	04/02/15 11:53	2	100	CC52816
Silver	ND (0.50)		6010C		1	KJK	03/30/15 23:54	2	100	CC52816
Thallium	ND (0.40)		7010		4	JP	04/07/15 0:51	2	100	CC52816
Vanadium	**33.2** (1.00)		6010C		1	KJK	03/30/15 23:54	2	100	CC52816
Zinc	**481** (2.50)		6010C		1	KJK	03/30/15 23:54	2	100	CC52816

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-206 0ft-3ft
Date Sampled: 03/25/15 11:10
Percent Solids: 87
Initial Volume: 26.1
Final Volume: 2
Extraction Method: 3540C

ESS Laboratory Work Order: 1503448
ESS Laboratory Sample ID: 1503448-29
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 3/30/15 18:30
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.440)		8082A		50	04/01/15 20:35		CC53006
Aroclor 1221	ND (0.440)		8082A		50	04/01/15 20:35		CC53006
Aroclor 1232	ND (0.440)		8082A		50	04/01/15 20:35		CC53006
Aroclor 1242	ND (0.440)		8082A		50	04/01/15 20:35		CC53006
Aroclor 1248	**5.43** (0.440)		8082A		50	04/01/15 20:35		CC53006
Aroclor 1254	**3.09** (0.440)		8082A		50	04/01/15 20:35		CC53006
Aroclor 1260	**0.667** (0.440)		8082A		50	04/01/15 20:35		CC53006
Aroclor 1262	ND (0.440)		8082A		50	04/01/15 20:35		CC53006
Aroclor 1268	ND (0.440)		8082A		50	04/01/15 20:35		CC53006

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-205 0ft-0.5ft
Date Sampled: 03/25/15 11:45
Percent Solids: 84
Initial Volume: 25.8
Final Volume: 2
Extraction Method: 3540C

ESS Laboratory Work Order: 1503448
ESS Laboratory Sample ID: 1503448-30
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 3/30/15 18:30
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0092)		8082A		1	03/31/15 22:53		CC53006
Aroclor 1221	ND (0.0092)		8082A		1	03/31/15 22:53		CC53006
Aroclor 1232	ND (0.0092)		8082A		1	03/31/15 22:53		CC53006
Aroclor 1242	ND (0.0092)		8082A		1	03/31/15 22:53		CC53006
Aroclor 1248	**P 0.482** (0.0922)		8082A		10	04/01/15 20:55		CC53006
Aroclor 1254	**0.662** (0.0922)		8082A		10	04/01/15 20:55		CC53006
Aroclor 1260	**P 0.249** (0.0922)		8082A		10	04/01/15 20:55		CC53006
Aroclor 1262	ND (0.0092)		8082A		1	03/31/15 22:53		CC53006
Aroclor 1268	ND (0.0092)		8082A		1	03/31/15 22:53		CC53006

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*126 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*65 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*81 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*75 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-205 0ft-3ft
Date Sampled: 03/25/15 11:45
Percent Solids: 94
Initial Volume: 26
Final Volume: 2
Extraction Method: 3540C

ESS Laboratory Work Order: 1503448
ESS Laboratory Sample ID: 1503448-31
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 3/30/15 18:30
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (2.05)		8082A		250	04/01/15 23:09		CC53006
Aroclor 1221	ND (2.05)		8082A		250	04/01/15 23:09		CC53006
Aroclor 1232	ND (2.05)		8082A		250	04/01/15 23:09		CC53006
Aroclor 1242	ND (2.05)		8082A		250	04/01/15 23:09		CC53006
Aroclor 1248	**21.5** (2.05)		8082A		250	04/01/15 23:09		CC53006
Aroclor 1254	ND (2.05)		8082A		250	04/01/15 23:09		CC53006
Aroclor 1260	ND (2.05)		8082A		250	04/01/15 23:09		CC53006
Aroclor 1262	ND (2.05)		8082A		250	04/01/15 23:09		CC53006
Aroclor 1268	ND (2.05)		8082A		250	04/01/15 23:09		CC53006

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-213 0ft-0.5ft
Date Sampled: 03/25/15 13:52
Percent Solids: 98
Initial Volume: 27.4
Final Volume: 2
Extraction Method: 3540C

ESS Laboratory Work Order: 1503448
ESS Laboratory Sample ID: 1503448-32
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 3/30/15 18:30
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0075)		8082A		1	03/31/15 17:55		CC53007
Aroclor 1221	ND (0.0075)		8082A		1	03/31/15 17:55		CC53007
Aroclor 1232	ND (0.0075)		8082A		1	03/31/15 17:55		CC53007
Aroclor 1242	ND (0.0075)		8082A		1	03/31/15 17:55		CC53007
Aroclor 1248	**P 0.479** (0.0374)		8082A		5	04/01/15 23:28		CC53007
Aroclor 1254	**0.594** (0.0374)		8082A		5	04/01/15 23:28		CC53007
Aroclor 1260	**0.138** (0.0075)		8082A		1	03/31/15 17:55		CC53007
Aroclor 1262	ND (0.0075)		8082A		1	03/31/15 17:55		CC53007
Aroclor 1268	ND (0.0075)		8082A		1	03/31/15 17:55		CC53007

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*81 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*132 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*70 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*49 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-213 0ft-3ft
Date Sampled: 03/25/15 13:52
Percent Solids: 98
Initial Volume: 26.9
Final Volume: 2
Extraction Method: 3540C

ESS Laboratory Work Order: 1503448
ESS Laboratory Sample ID: 1503448-33
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 3/30/15 18:30
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0076)		8082A		1	03/31/15 18:15		CC53007
Aroclor 1221	ND (0.0076)		8082A		1	03/31/15 18:15		CC53007
Aroclor 1232	ND (0.0076)		8082A		1	03/31/15 18:15		CC53007
Aroclor 1242	ND (0.0076)		8082A		1	03/31/15 18:15		CC53007
Aroclor 1248	**0.0307** (0.0076)		8082A		1	03/31/15 18:15		CC53007
Aroclor 1254	**0.0247** (0.0076)		8082A		1	03/31/15 18:15		CC53007
Aroclor 1260	ND (0.0076)		8082A		1	03/31/15 18:15		CC53007
Aroclor 1262	ND (0.0076)		8082A		1	03/31/15 18:15		CC53007
Aroclor 1268	ND (0.0076)		8082A		1	03/31/15 18:15		CC53007

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*72 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*62 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*68 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*54 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-218 0ft-0.5ft
Date Sampled: 03/25/15 14:23
Percent Solids: 93
Initial Volume: 26.7
Final Volume: 2
Extraction Method: 3540C

ESS Laboratory Work Order: 1503448
ESS Laboratory Sample ID: 1503448-34
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 3/30/15 18:30
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0080)		8082A		1	03/31/15 18:34		CC53007
Aroclor 1221	ND (0.0080)		8082A		1	03/31/15 18:34		CC53007
Aroclor 1232	ND (0.0080)		8082A		1	03/31/15 18:34		CC53007
Aroclor 1242	ND (0.0080)		8082A		1	03/31/15 18:34		CC53007
Aroclor 1248	**LC, P 0.136** (0.0402)		8082A		5	04/01/15 23:47		CC53007
Aroclor 1254	**0.424** (0.0402)		8082A		5	04/01/15 23:47		CC53007
Aroclor 1260	**0.140** (0.0080)		8082A		1	03/31/15 18:34		CC53007
Aroclor 1262	ND (0.0080)		8082A		1	03/31/15 18:34		CC53007
Aroclor 1268	ND (0.0080)		8082A		1	03/31/15 18:34		CC53007

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*71 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*86 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*57 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*39 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-218 0.5ft-2ft
Date Sampled: 03/25/15 14:23
Percent Solids: 97
Initial Volume: 26.6
Final Volume: 2
Extraction Method: 3540C

ESS Laboratory Work Order: 1503448
ESS Laboratory Sample ID: 1503448-35
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 3/30/15 18:30
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0078)		8082A		1	03/31/15 20:47		CC53007
Aroclor 1221	ND (0.0078)		8082A		1	03/31/15 20:47		CC53007
Aroclor 1232	ND (0.0078)		8082A		1	03/31/15 20:47		CC53007
Aroclor 1242	ND (0.0078)		8082A		1	03/31/15 20:47		CC53007
Aroclor 1248	ND (0.0078)		8082A		1	03/31/15 20:47		CC53007
Aroclor 1254	ND (0.0078)		8082A		1	03/31/15 20:47		CC53007
Aroclor 1260	ND (0.0078)		8082A		1	03/31/15 20:47		CC53007
Aroclor 1262	ND (0.0078)		8082A		1	03/31/15 20:47		CC53007
Aroclor 1268	ND (0.0078)		8082A		1	03/31/15 20:47		CC53007

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*46 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*42 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*42 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*31 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-219 0ft-0.5ft
Date Sampled: 03/25/15 15:06
Percent Solids: 98
Initial Volume: 26.9
Final Volume: 2
Extraction Method: 3540C

ESS Laboratory Work Order: 1503448
ESS Laboratory Sample ID: 1503448-36
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 3/30/15 18:30
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0076)		8082A		1	03/31/15 21:07		CC53007
Aroclor 1221	ND (0.0076)		8082A		1	03/31/15 21:07		CC53007
Aroclor 1232	ND (0.0076)		8082A		1	03/31/15 21:07		CC53007
Aroclor 1242	ND (0.0076)		8082A		1	03/31/15 21:07		CC53007
Aroclor 1248	**P 0.112** (0.0076)		8082A		1	03/31/15 21:07		CC53007
Aroclor 1254	**0.287** (0.0380)		8082A		5	04/02/15 0:06		CC53007
Aroclor 1260	**0.0935** (0.0076)		8082A		1	03/31/15 21:07		CC53007
Aroclor 1262	ND (0.0076)		8082A		1	03/31/15 21:07		CC53007
Aroclor 1268	ND (0.0076)		8082A		1	03/31/15 21:07		CC53007

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*76 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*85 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*61 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*43 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-219 0ft-3ft
Date Sampled: 03/25/15 15:06
Percent Solids: 97
Initial Volume: 25.2
Final Volume: 2
Extraction Method: 3540C

ESS Laboratory Work Order: 1503448
ESS Laboratory Sample ID: 1503448-37
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 3/30/15 18:30
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0081)		8082A		1	03/31/15 21:26		CC53007
Aroclor 1221	ND (0.0081)		8082A		1	03/31/15 21:26		CC53007
Aroclor 1232	ND (0.0081)		8082A		1	03/31/15 21:26		CC53007
Aroclor 1242	ND (0.0081)		8082A		1	03/31/15 21:26		CC53007
Aroclor 1248	ND (0.0081)		8082A		1	03/31/15 21:26		CC53007
Aroclor 1254	ND (0.0081)		8082A		1	03/31/15 21:26		CC53007
Aroclor 1260	ND (0.0081)		8082A		1	03/31/15 21:26		CC53007
Aroclor 1262	ND (0.0081)		8082A		1	03/31/15 21:26		CC53007
Aroclor 1268	ND (0.0081)		8082A		1	03/31/15 21:26		CC53007

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*53 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*53 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*49 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*38 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503448

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Total Metals										
Batch CC52816 - 3050B										
Blank										
Antimony	ND	5.00	mg/kg wet							
Antimony	ND	0.25	mg/kg wet							
Arsenic	ND	2.50	mg/kg wet							
Barium	ND	2.50	mg/kg wet							
Beryllium	ND	0.11	mg/kg wet							
Cadmium	ND	0.50	mg/kg wet							
Chromium	ND	1.00	mg/kg wet							
Lead	ND	5.00	mg/kg wet							
Nickel	ND	2.50	mg/kg wet							
Selenium	ND	5.00	mg/kg wet							
Selenium	ND	0.50	mg/kg wet							
Silver	ND	0.50	mg/kg wet							
Thallium	ND	0.10	mg/kg wet							
Vanadium	ND	1.00	mg/kg wet							
Zinc	ND	2.50	mg/kg wet							
LCS										
Antimony	70.3	8.62	mg/kg wet	49.70		141	24-282			
Antimony	66.5	17.2	mg/kg wet	49.70		134	80-120			B+
Arsenic	131	8.62	mg/kg wet	133.0		98	80-120			
Barium	218	8.62	mg/kg wet	229.0		95	80-120			
Beryllium	94.9	0.38	mg/kg wet	95.80		99	80-120			
Cadmium	111	1.72	mg/kg wet	123.0		91	80-120			
Chromium	58.4	3.45	mg/kg wet	63.20		92	80-120			
Lead	104	17.2	mg/kg wet	108.0		96	80-120			
Nickel	276	8.62	mg/kg wet	285.0		97	80-120			
Selenium	71.2	17.2	mg/kg wet	81.40		87	80-120			
Selenium	74.7	17.2	mg/kg wet	81.40		92	80-120			
Silver	75.5	1.72	mg/kg wet	74.80		101	80-120			
Thallium	38.3	3.45	mg/kg wet	50.10		77	63-137			
Vanadium	145	3.45	mg/kg wet	148.0		98	80-120			
Zinc	249	8.62	mg/kg wet	203.0		123	80-120			
LCS Dup										
Antimony	59.4	19.2	mg/kg wet	49.70		120	80-120	11	20	
Antimony	68.5	9.62	mg/kg wet	49.70		138	24-282	3	20	
Arsenic	122	9.62	mg/kg wet	133.0		92	80-120	7	20	
Barium	199	9.62	mg/kg wet	229.0		87	80-120	9	20	
Beryllium	88.6	0.42	mg/kg wet	95.80		92	80-120	7	20	
Cadmium	105	1.92	mg/kg wet	123.0		85	80-120	6	20	
Chromium	54.1	3.85	mg/kg wet	63.20		86	80-120	8	20	
Lead	98.2	19.2	mg/kg wet	108.0		91	80-120	6	20	
Nickel	255	9.62	mg/kg wet	285.0		90	80-120	8	20	
Selenium	82.9	19.2	mg/kg wet	81.40		102	80-120	15	20	
Selenium	69.9	19.2	mg/kg wet	81.40		86	80-120	7	20	
Silver	73.2	1.92	mg/kg wet	74.80		98	80-120	3	20	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503448

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Total Metals										
Batch CC52816 - 3050B										
Thallium	43.1	3.85	mg/kg wet	50.10		86	63-137	12	20	
Vanadium	141	3.85	mg/kg wet	148.0		95	80-120	3	20	
Zinc	180	9.62	mg/kg wet	203.0		89	80-120	32	20	D+
Batch CC52817 - 7471A										
Blank										
Mercury	ND	0.033	mg/kg wet							
LCS										
Mercury	30.6	3.30	mg/kg wet	24.90		123	51-149			
LCS Dup										
Mercury	29.0	3.74	mg/kg wet	24.90		116	51-149	5	20	
5035/8260B Volatile Organic Compounds / Low Level										
Batch CC52627 - 5035										
Blank										
1,1,1,2-Tetrachloroethane	ND	0.0050	mg/kg wet							
1,1,1-Trichloroethane	ND	0.0050	mg/kg wet							
1,1,2,2-Tetrachloroethane	ND	0.0020	mg/kg wet							
1,1,2-Trichloroethane	ND	0.0050	mg/kg wet							
1,1-Dichloroethane	ND	0.0050	mg/kg wet							
1,1-Dichloroethene	ND	0.0050	mg/kg wet							
1,1-Dichloropropene	ND	0.0050	mg/kg wet							
1,2,3-Trichlorobenzene	ND	0.0050	mg/kg wet							
1,2,3-Trichloropropane	ND	0.0050	mg/kg wet							
1,2,4-Trichlorobenzene	ND	0.0050	mg/kg wet							
1,2,4-Trimethylbenzene	ND	0.0050	mg/kg wet							
1,2-Dibromo-3-Chloropropane	ND	0.0050	mg/kg wet							
1,2-Dibromoethane	ND	0.0050	mg/kg wet							
1,2-Dichlorobenzene	ND	0.0050	mg/kg wet							
1,2-Dichloroethane	ND	0.0050	mg/kg wet							
1,2-Dichloropropane	ND	0.0050	mg/kg wet							
1,3,5-Trimethylbenzene	ND	0.0050	mg/kg wet							
1,3-Dichlorobenzene	ND	0.0050	mg/kg wet							
1,3-Dichloropropane	ND	0.0050	mg/kg wet							
1,4-Dichlorobenzene	ND	0.0050	mg/kg wet							
1,4-Dioxane	ND	0.100	mg/kg wet							
2,2-Dichloropropane	ND	0.0050	mg/kg wet							
2-Butanone	ND	0.0100	mg/kg wet							
2-Chlorotoluene	ND	0.0050	mg/kg wet							
2-Hexanone	ND	0.0100	mg/kg wet							
4-Chlorotoluene	ND	0.0050	mg/kg wet							
4-Isopropyltoluene	ND	0.0050	mg/kg wet							
4-Methyl-2-Pentanone	ND	0.0100	mg/kg wet							
Acetone	ND	0.0100	mg/kg wet							
Benzene	ND	0.0050	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503448

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch CC52627 - 5035										
Bromobenzene	ND	0.0050	mg/kg wet							
Bromochloromethane	ND	0.0050	mg/kg wet							
Bromodichloromethane	ND	0.0050	mg/kg wet							
Bromoform	ND	0.0050	mg/kg wet							
Bromomethane	ND	0.0100	mg/kg wet							
Carbon Disulfide	ND	0.0050	mg/kg wet							
Carbon Tetrachloride	ND	0.0050	mg/kg wet							
Chlorobenzene	ND	0.0050	mg/kg wet							
Chloroethane	ND	0.0100	mg/kg wet							
Chloroform	ND	0.0050	mg/kg wet							
Chloromethane	ND	0.0100	mg/kg wet							
cis-1,2-Dichloroethene	ND	0.0050	mg/kg wet							
cis-1,3-Dichloropropene	ND	0.0050	mg/kg wet							
Dibromochloromethane	ND	0.0020	mg/kg wet							
Dibromomethane	ND	0.0050	mg/kg wet							
Dichlorodifluoromethane	ND	0.0100	mg/kg wet							
Diethyl Ether	ND	0.0050	mg/kg wet							
Di-isopropyl ether	ND	0.0050	mg/kg wet							
Ethyl tertiary-butyl ether	ND	0.0050	mg/kg wet							
Ethylbenzene	ND	0.0050	mg/kg wet							
Hexachlorobutadiene	ND	0.0050	mg/kg wet							
Isopropylbenzene	ND	0.0050	mg/kg wet							
Methyl tert-Butyl Ether	ND	0.0050	mg/kg wet							
Methylene Chloride	ND	0.0100	mg/kg wet							
Naphthalene	ND	0.0050	mg/kg wet							
n-Butylbenzene	ND	0.0050	mg/kg wet							
n-Propylbenzene	ND	0.0050	mg/kg wet							
sec-Butylbenzene	ND	0.0050	mg/kg wet							
Styrene	ND	0.0050	mg/kg wet							
tert-Butylbenzene	ND	0.0050	mg/kg wet							
Tertiary-amyl methyl ether	ND	0.0050	mg/kg wet							
Tetrachloroethene	ND	0.0050	mg/kg wet							
Tetrahydrofuran	ND	0.0050	mg/kg wet							
Toluene	ND	0.0050	mg/kg wet							
trans-1,2-Dichloroethene	ND	0.0050	mg/kg wet							
trans-1,3-Dichloropropene	ND	0.0050	mg/kg wet							
Trichloroethene	ND	0.0050	mg/kg wet							
Trichlorofluoromethane	ND	0.0050	mg/kg wet							
Vinyl Chloride	ND	0.0100	mg/kg wet							
Xylene O	ND	0.0050	mg/kg wet							
Xylene P,M	ND	0.0100	mg/kg wet							
Surrogate: 1,2-Dichloroethane-d4	*0.0484*		mg/kg wet	*0.05000*		*97*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0461*		mg/kg wet	*0.05000*		*92*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0447*		mg/kg wet	*0.05000*		*89*	*70-130*			
Surrogate: Toluene-d8	*0.0466*		mg/kg wet	*0.05000*		*93*	*70-130*			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503448

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch CC52627 - 5035										
LCS										
1,1,1,2-Tetrachloroethane	0.0567	0.0050	mg/kg wet	0.05000		113	70-130			
1,1,1-Trichloroethane	0.0535	0.0050	mg/kg wet	0.05000		107	70-130			
1,1,2,2-Tetrachloroethane	0.0496	0.0020	mg/kg wet	0.05000		99	70-130			
1,1,2-Trichloroethane	0.0477	0.0050	mg/kg wet	0.05000		95	70-130			
1,1-Dichloroethane	0.0470	0.0050	mg/kg wet	0.05000		94	70-130			
1,1-Dichloroethene	0.0459	0.0050	mg/kg wet	0.05000		92	70-130			
1,1-Dichloropropene	0.0460	0.0050	mg/kg wet	0.05000		92	70-130			
1,2,3-Trichlorobenzene	0.0533	0.0050	mg/kg wet	0.05000		107	70-130			
1,2,3-Trichloropropane	0.0539	0.0050	mg/kg wet	0.05000		108	70-130			
1,2,4-Trichlorobenzene	0.0518	0.0050	mg/kg wet	0.05000		104	70-130			
1,2,4-Trimethylbenzene	0.0496	0.0050	mg/kg wet	0.05000		99	70-130			
1,2-Dibromo-3-Chloropropane	0.0544	0.0050	mg/kg wet	0.05000		109	70-130			
1,2-Dibromoethane	0.0528	0.0050	mg/kg wet	0.05000		106	70-130			
1,2-Dichlorobenzene	0.0503	0.0050	mg/kg wet	0.05000		101	70-130			
1,2-Dichloroethane	0.0494	0.0050	mg/kg wet	0.05000		99	70-130			
1,2-Dichloropropane	0.0456	0.0050	mg/kg wet	0.05000		91	70-130			
1,3,5-Trimethylbenzene	0.0518	0.0050	mg/kg wet	0.05000		104	70-130			
1,3-Dichlorobenzene	0.0502	0.0050	mg/kg wet	0.05000		100	70-130			
1,3-Dichloropropane	0.0535	0.0050	mg/kg wet	0.05000		107	70-130			
1,4-Dichlorobenzene	0.0512	0.0050	mg/kg wet	0.05000		102	70-130			
1,4-Dioxane	0.890	0.100	mg/kg wet	1.000		89	70-130			
2,2-Dichloropropane	0.0549	0.0050	mg/kg wet	0.05000		110	70-130			
2-Butanone	0.239	0.0100	mg/kg wet	0.2500		95	70-130			
2-Chlorotoluene	0.0501	0.0050	mg/kg wet	0.05000		100	70-130			
2-Hexanone	0.279	0.0100	mg/kg wet	0.2500		112	70-130			
4-Chlorotoluene	0.0505	0.0050	mg/kg wet	0.05000		101	70-130			
4-Isopropyltoluene	0.0502	0.0050	mg/kg wet	0.05000		100	70-130			
4-Methyl-2-Pentanone	0.246	0.0100	mg/kg wet	0.2500		98	70-130			
Acetone	0.277	0.0100	mg/kg wet	0.2500		111	70-130			
Benzene	0.0473	0.0050	mg/kg wet	0.05000		95	70-130			
Bromobenzene	0.0515	0.0050	mg/kg wet	0.05000		103	70-130			
Bromochloromethane	0.0493	0.0050	mg/kg wet	0.05000		99	70-130			
Bromodichloromethane	0.0522	0.0050	mg/kg wet	0.05000		104	70-130			
Bromoform	0.0548	0.0050	mg/kg wet	0.05000		110	70-130			
Bromomethane	0.0927	0.0100	mg/kg wet	0.05000		185	70-130			B+
Carbon Disulfide	0.0510	0.0050	mg/kg wet	0.05000		102	70-130			
Carbon Tetrachloride	0.0572	0.0050	mg/kg wet	0.05000		114	70-130			
Chlorobenzene	0.0505	0.0050	mg/kg wet	0.05000		101	70-130			
Chloroethane	0.0441	0.0100	mg/kg wet	0.05000		88	70-130			
Chloroform	0.0502	0.0050	mg/kg wet	0.05000		100	70-130			
Chloromethane	0.0556	0.0100	mg/kg wet	0.05000		111	70-130			
cis-1,2-Dichloroethene	0.0483	0.0050	mg/kg wet	0.05000		97	70-130			
cis-1,3-Dichloropropene	0.0553	0.0050	mg/kg wet	0.05000		111	70-130			
Dibromochloromethane	0.0535	0.0020	mg/kg wet	0.05000		107	70-130			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503448

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch CC52627 - 5035										
Dibromomethane	0.0492	0.0050	mg/kg wet	0.05000		98	70-130			
Dichlorodifluoromethane	0.0525	0.0100	mg/kg wet	0.05000		105	70-130			
Diethyl Ether	0.0481	0.0050	mg/kg wet	0.05000		96	70-130			
Di-isopropyl ether	0.0461	0.0050	mg/kg wet	0.05000		92	70-130			
Ethyl tertiary-butyl ether	0.0441	0.0050	mg/kg wet	0.05000		88	70-130			
Ethylbenzene	0.0505	0.0050	mg/kg wet	0.05000		101	70-130			
Hexachlorobutadiene	0.0592	0.0050	mg/kg wet	0.05000		118	70-130			
Isopropylbenzene	0.0501	0.0050	mg/kg wet	0.05000		100	70-130			
Methyl tert-Butyl Ether	0.0480	0.0050	mg/kg wet	0.05000		96	70-130			
Methylene Chloride	0.0470	0.0100	mg/kg wet	0.05000		94	70-130			
Naphthalene	0.0460	0.0050	mg/kg wet	0.05000		92	70-130			
n-Butylbenzene	0.0503	0.0050	mg/kg wet	0.05000		101	70-130			
n-Propylbenzene	0.0491	0.0050	mg/kg wet	0.05000		98	70-130			
sec-Butylbenzene	0.0500	0.0050	mg/kg wet	0.05000		100	70-130			
Styrene	0.0520	0.0050	mg/kg wet	0.05000		104	70-130			
tert-Butylbenzene	0.0503	0.0050	mg/kg wet	0.05000		101	70-130			
Tertiary-amyl methyl ether	0.0465	0.0050	mg/kg wet	0.05000		93	70-130			
Tetrachloroethene	0.0524	0.0050	mg/kg wet	0.05000		105	70-130			
Tetrahydrofuran	0.0429	0.0050	mg/kg wet	0.05000		86	70-130			
Toluene	0.0474	0.0050	mg/kg wet	0.05000		95	70-130			
trans-1,2-Dichloroethene	0.0439	0.0050	mg/kg wet	0.05000		88	70-130			
trans-1,3-Dichloropropene	0.0548	0.0050	mg/kg wet	0.05000		110	70-130			
Trichloroethene	0.0486	0.0050	mg/kg wet	0.05000		97	70-130			
Trichlorofluoromethane	0.0468	0.0050	mg/kg wet	0.05000		94	70-130			
Vinyl Chloride	0.0512	0.0100	mg/kg wet	0.05000		102	70-130			
Xylene O	0.0505	0.0050	mg/kg wet	0.05000		101	70-130			
Xylene P,M	0.102	0.0100	mg/kg wet	0.1000		102	70-130			
Surrogate: 1,2-Dichloroethane-d4	*0.0475*		mg/kg wet	*0.05000*		*95*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0472*		mg/kg wet	*0.05000*		*94*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0458*		mg/kg wet	*0.05000*		*92*	*70-130*			
Surrogate: Toluene-d8	*0.0481*		mg/kg wet	*0.05000*		*96*	*70-130*			
LCS Dup										
1,1,1,2-Tetrachloroethane	0.0522	0.0050	mg/kg wet	0.05000		104	70-130	8	25	
1,1,1-Trichloroethane	0.0485	0.0050	mg/kg wet	0.05000		97	70-130	10	25	
1,1,2,2-Tetrachloroethane	0.0449	0.0020	mg/kg wet	0.05000		90	70-130	10	25	
1,1,2-Trichloroethane	0.0436	0.0050	mg/kg wet	0.05000		87	70-130	9	25	
1,1-Dichloroethane	0.0423	0.0050	mg/kg wet	0.05000		85	70-130	11	25	
1,1-Dichloroethene	0.0412	0.0050	mg/kg wet	0.05000		82	70-130	11	25	
1,1-Dichloropropene	0.0414	0.0050	mg/kg wet	0.05000		83	70-130	10	25	
1,2,3-Trichlorobenzene	0.0479	0.0050	mg/kg wet	0.05000		96	70-130	11	25	
1,2,3-Trichloropropane	0.0478	0.0050	mg/kg wet	0.05000		96	70-130	12	25	
1,2,4-Trichlorobenzene	0.0468	0.0050	mg/kg wet	0.05000		94	70-130	10	25	
1,2,4-Trimethylbenzene	0.0443	0.0050	mg/kg wet	0.05000		89	70-130	11	25	
1,2-Dibromo-3-Chloropropane	0.0473	0.0050	mg/kg wet	0.05000		95	70-130	14	25	
1,2-Dibromoethane	0.0485	0.0050	mg/kg wet	0.05000		97	70-130	9	25	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503448

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch CC52627 - 5035										
1,2-Dichlorobenzene	0.0447	0.0050	mg/kg wet	0.05000		89	70-130	12	25	
1,2-Dichloroethane	0.0451	0.0050	mg/kg wet	0.05000		90	70-130	9	25	
1,2-Dichloropropane	0.0411	0.0050	mg/kg wet	0.05000		82	70-130	11	25	
1,3,5-Trimethylbenzene	0.0463	0.0050	mg/kg wet	0.05000		93	70-130	11	25	
1,3-Dichlorobenzene	0.0449	0.0050	mg/kg wet	0.05000		90	70-130	11	25	
1,3-Dichloropropane	0.0495	0.0050	mg/kg wet	0.05000		99	70-130	8	25	
1,4-Dichlorobenzene	0.0452	0.0050	mg/kg wet	0.05000		90	70-130	12	25	
1,4-Dioxane	0.856	0.100	mg/kg wet	1.000		86	70-130	4	20	
2,2-Dichloropropane	0.0489	0.0050	mg/kg wet	0.05000		98	70-130	11	25	
2-Butanone	0.218	0.0100	mg/kg wet	0.2500		87	70-130	9	25	
2-Chlorotoluene	0.0449	0.0050	mg/kg wet	0.05000		90	70-130	11	25	
2-Hexanone	0.254	0.0100	mg/kg wet	0.2500		101	70-130	10	25	
4-Chlorotoluene	0.0452	0.0050	mg/kg wet	0.05000		90	70-130	11	25	
4-Isopropyltoluene	0.0444	0.0050	mg/kg wet	0.05000		89	70-130	12	25	
4-Methyl-2-Pentanone	0.221	0.0100	mg/kg wet	0.2500		88	70-130	11	25	
Acetone	0.250	0.0100	mg/kg wet	0.2500		100	70-130	10	25	
Benzene	0.0426	0.0050	mg/kg wet	0.05000		85	70-130	10	25	
Bromobenzene	0.0456	0.0050	mg/kg wet	0.05000		91	70-130	12	25	
Bromochloromethane	0.0451	0.0050	mg/kg wet	0.05000		90	70-130	9	25	
Bromodichloromethane	0.0472	0.0050	mg/kg wet	0.05000		94	70-130	10	25	
Bromoform	0.0498	0.0050	mg/kg wet	0.05000		100	70-130	10	25	
Bromomethane	0.0760	0.0100	mg/kg wet	0.05000		152	70-130	20	25	B+
Carbon Disulfide	0.0460	0.0050	mg/kg wet	0.05000		92	70-130	10	25	
Carbon Tetrachloride	0.0511	0.0050	mg/kg wet	0.05000		102	70-130	11	25	
Chlorobenzene	0.0468	0.0050	mg/kg wet	0.05000		94	70-130	8	25	
Chloroethane	0.0394	0.0100	mg/kg wet	0.05000		79	70-130	11	25	
Chloroform	0.0450	0.0050	mg/kg wet	0.05000		90	70-130	11	25	
Chloromethane	0.0499	0.0100	mg/kg wet	0.05000		100	70-130	11	25	
cis-1,2-Dichloroethene	0.0444	0.0050	mg/kg wet	0.05000		89	70-130	8	25	
cis-1,3-Dichloropropene	0.0498	0.0050	mg/kg wet	0.05000		100	70-130	11	25	
Dibromochloromethane	0.0484	0.0020	mg/kg wet	0.05000		97	70-130	10	25	
Dibromomethane	0.0452	0.0050	mg/kg wet	0.05000		90	70-130	8	25	
Dichlorodifluoromethane	0.0470	0.0100	mg/kg wet	0.05000		94	70-130	11	25	
Diethyl Ether	0.0435	0.0050	mg/kg wet	0.05000		87	70-130	10	25	
Di-isopropyl ether	0.0417	0.0050	mg/kg wet	0.05000		83	70-130	10	25	
Ethyl tertiary-butyl ether	0.0373	0.0050	mg/kg wet	0.05000		75	70-130	17	25	
Ethylbenzene	0.0468	0.0050	mg/kg wet	0.05000		94	70-130	8	25	
Hexachlorobutadiene	0.0523	0.0050	mg/kg wet	0.05000		105	70-130	12	25	
Isopropylbenzene	0.0449	0.0050	mg/kg wet	0.05000		90	70-130	11	25	
Methyl tert-Butyl Ether	0.0416	0.0050	mg/kg wet	0.05000		83	70-130	14	25	
Methylene Chloride	0.0408	0.0100	mg/kg wet	0.05000		82	70-130	14	25	
Naphthalene	0.0419	0.0050	mg/kg wet	0.05000		84	70-130	9	25	
n-Butylbenzene	0.0453	0.0050	mg/kg wet	0.05000		91	70-130	11	25	
n-Propylbenzene	0.0439	0.0050	mg/kg wet	0.05000		88	70-130	11	25	
sec-Butylbenzene	0.0447	0.0050	mg/kg wet	0.05000		89	70-130	11	25	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch CC52627 - 5035										
Styrene	0.0472	0.0050	mg/kg wet	0.05000		94	70-130	10	25	
tert-Butylbenzene	0.0451	0.0050	mg/kg wet	0.05000		90	70-130	11	25	
Tertiary-amyl methyl ether	0.0396	0.0050	mg/kg wet	0.05000		79	70-130	16	25	
Tetrachloroethene	0.0481	0.0050	mg/kg wet	0.05000		96	70-130	8	25	
Tetrahydrofuran	0.0412	0.0050	mg/kg wet	0.05000		82	70-130	4	25	
Toluene	0.0426	0.0050	mg/kg wet	0.05000		85	70-130	11	25	
trans-1,2-Dichloroethene	0.0398	0.0050	mg/kg wet	0.05000		80	70-130	10	25	
trans-1,3-Dichloropropene	0.0491	0.0050	mg/kg wet	0.05000		98	70-130	11	25	
Trichloroethene	0.0438	0.0050	mg/kg wet	0.05000		88	70-130	10	25	
Trichlorofluoromethane	0.0416	0.0050	mg/kg wet	0.05000		83	70-130	12	25	
Vinyl Chloride	0.0449	0.0100	mg/kg wet	0.05000		90	70-130	13	25	
Xylene O	0.0465	0.0050	mg/kg wet	0.05000		93	70-130	8	25	
Xylene P,M	0.0939	0.0100	mg/kg wet	0.1000		94	70-130	8	25	
Surrogate: 1,2-Dichloroethane-d4	*0.0476*		mg/kg wet	*0.05000*		*95*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0484*		mg/kg wet	*0.05000*		*97*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0455*		mg/kg wet	*0.05000*		*91*	*70-130*			
Surrogate: Toluene-d8	*0.0493*		mg/kg wet	*0.05000*		*99*	*70-130*			
Batch CC52716 - 5035										
Blank										
1,1,1,2-Tetrachloroethane	ND	0.0050	mg/kg wet							
1,1,1-Trichloroethane	ND	0.0050	mg/kg wet							
1,1,2,2-Tetrachloroethane	ND	0.0020	mg/kg wet							
1,1,2-Trichloroethane	ND	0.0050	mg/kg wet							
1,1-Dichloroethane	ND	0.0050	mg/kg wet							
1,1-Dichloroethene	ND	0.0050	mg/kg wet							
1,1-Dichloropropene	ND	0.0050	mg/kg wet							
1,2,3-Trichlorobenzene	ND	0.0050	mg/kg wet							
1,2,3-Trichloropropane	ND	0.0050	mg/kg wet							
1,2,4-Trichlorobenzene	ND	0.0050	mg/kg wet							
1,2,4-Trimethylbenzene	ND	0.0050	mg/kg wet							
1,2-Dibromo-3-Chloropropane	ND	0.0050	mg/kg wet							
1,2-Dibromoethane	ND	0.0050	mg/kg wet							
1,2-Dichlorobenzene	ND	0.0050	mg/kg wet							
1,2-Dichloroethane	ND	0.0050	mg/kg wet							
1,2-Dichloropropane	ND	0.0050	mg/kg wet							
1,3,5-Trimethylbenzene	ND	0.0050	mg/kg wet							
1,3-Dichlorobenzene	ND	0.0050	mg/kg wet							
1,3-Dichloropropane	ND	0.0050	mg/kg wet							
1,4-Dichlorobenzene	ND	0.0050	mg/kg wet							
1,4-Dioxane	ND	0.100	mg/kg wet							
2,2-Dichloropropane	ND	0.0050	mg/kg wet							
2-Butanone	ND	0.0100	mg/kg wet							
2-Chlorotoluene	ND	0.0050	mg/kg wet							
2-Hexanone	ND	0.0100	mg/kg wet							
4-Chlorotoluene	ND	0.0050	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503448

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch CC52716 - 5035										
4-Isopropyltoluene	ND	0.0050	mg/kg wet							
4-Methyl-2-Pentanone	ND	0.0100	mg/kg wet							
Acetone	ND	0.0100	mg/kg wet							
Benzene	ND	0.0050	mg/kg wet							
Bromobenzene	ND	0.0050	mg/kg wet							
Bromochloromethane	ND	0.0050	mg/kg wet							
Bromodichloromethane	ND	0.0050	mg/kg wet							
Bromoform	ND	0.0050	mg/kg wet							
Bromomethane	ND	0.0100	mg/kg wet							
Carbon Disulfide	ND	0.0050	mg/kg wet							
Carbon Tetrachloride	ND	0.0050	mg/kg wet							
Chlorobenzene	ND	0.0050	mg/kg wet							
Chloroethane	ND	0.0100	mg/kg wet							
Chloroform	ND	0.0050	mg/kg wet							
Chloromethane	ND	0.0100	mg/kg wet							
cis-1,2-Dichloroethene	ND	0.0050	mg/kg wet							
cis-1,3-Dichloropropene	ND	0.0050	mg/kg wet							
Dibromochloromethane	ND	0.0020	mg/kg wet							
Dibromomethane	ND	0.0050	mg/kg wet							
Dichlorodifluoromethane	ND	0.0100	mg/kg wet							
Diethyl Ether	ND	0.0050	mg/kg wet							
Di-isopropyl ether	ND	0.0050	mg/kg wet							
Ethyl tertiary-butyl ether	ND	0.0050	mg/kg wet							
Ethylbenzene	ND	0.0050	mg/kg wet							
Hexachlorobutadiene	ND	0.0050	mg/kg wet							
Isopropylbenzene	ND	0.0050	mg/kg wet							
Methyl tert-Butyl Ether	ND	0.0050	mg/kg wet							
Methylene Chloride	ND	0.0100	mg/kg wet							
Naphthalene	ND	0.0050	mg/kg wet							
n-Butylbenzene	ND	0.0050	mg/kg wet							
n-Propylbenzene	ND	0.0050	mg/kg wet							
sec-Butylbenzene	ND	0.0050	mg/kg wet							
Styrene	ND	0.0050	mg/kg wet							
tert-Butylbenzene	ND	0.0050	mg/kg wet							
Tertiary-amyl methyl ether	ND	0.0050	mg/kg wet							
Tetrachloroethene	ND	0.0050	mg/kg wet							
Tetrahydrofuran	ND	0.0050	mg/kg wet							
Toluene	ND	0.0050	mg/kg wet							
trans-1,2-Dichloroethene	ND	0.0050	mg/kg wet							
trans-1,3-Dichloropropene	ND	0.0050	mg/kg wet							
Trichloroethene	ND	0.0050	mg/kg wet							
Trichlorofluoromethane	ND	0.0050	mg/kg wet							
Vinyl Chloride	ND	0.0100	mg/kg wet							
Xylene O	ND	0.0050	mg/kg wet							
Xylene P,M	ND	0.0100	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503448

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch CC52716 - 5035										
Surrogate: 1,2-Dichloroethane-d4	*0.0462*		mg/kg wet	*0.05000*		*92*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0459*		mg/kg wet	*0.05000*		*92*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0441*		mg/kg wet	*0.05000*		*88*	*70-130*			
Surrogate: Toluene-d8	*0.0468*		mg/kg wet	*0.05000*		*94*	*70-130*			
LCS										
1,1,1,2-Tetrachloroethane	0.0543	0.0050	mg/kg wet	0.05000		109	70-130			
1,1,1-Trichloroethane	0.0501	0.0050	mg/kg wet	0.05000		100	70-130			
1,1,2,2-Tetrachloroethane	0.0484	0.0020	mg/kg wet	0.05000		97	70-130			
1,1,2-Trichloroethane	0.0452	0.0050	mg/kg wet	0.05000		90	70-130			
1,1-Dichloroethane	0.0446	0.0050	mg/kg wet	0.05000		89	70-130			
1,1-Dichloroethene	0.0432	0.0050	mg/kg wet	0.05000		86	70-130			
1,1-Dichloropropene	0.0432	0.0050	mg/kg wet	0.05000		86	70-130			
1,2,3-Trichlorobenzene	0.0496	0.0050	mg/kg wet	0.05000		99	70-130			
1,2,3-Trichloropropane	0.0532	0.0050	mg/kg wet	0.05000		106	70-130			
1,2,4-Trichlorobenzene	0.0488	0.0050	mg/kg wet	0.05000		98	70-130			
1,2,4-Trimethylbenzene	0.0471	0.0050	mg/kg wet	0.05000		94	70-130			
1,2-Dibromo-3-Chloropropane	0.0562	0.0050	mg/kg wet	0.05000		112	70-130			
1,2-Dibromoethane	0.0509	0.0050	mg/kg wet	0.05000		102	70-130			
1,2-Dichlorobenzene	0.0464	0.0050	mg/kg wet	0.05000		93	70-130			
1,2-Dichloroethane	0.0470	0.0050	mg/kg wet	0.05000		94	70-130			
1,2-Dichloropropane	0.0438	0.0050	mg/kg wet	0.05000		88	70-130			
1,3,5-Trimethylbenzene	0.0495	0.0050	mg/kg wet	0.05000		99	70-130			
1,3-Dichlorobenzene	0.0467	0.0050	mg/kg wet	0.05000		93	70-130			
1,3-Dichloropropane	0.0520	0.0050	mg/kg wet	0.05000		104	70-130			
1,4-Dichlorobenzene	0.0474	0.0050	mg/kg wet	0.05000		95	70-130			
1,4-Dioxane	0.931	0.100	mg/kg wet	1.000		93	70-130			
2,2-Dichloropropane	0.0520	0.0050	mg/kg wet	0.05000		104	70-130			
2-Butanone	0.263	0.0100	mg/kg wet	0.2500		105	70-130			
2-Chlorotoluene	0.0480	0.0050	mg/kg wet	0.05000		96	70-130			
2-Hexanone	0.316	0.0100	mg/kg wet	0.2500		126	70-130			
4-Chlorotoluene	0.0482	0.0050	mg/kg wet	0.05000		96	70-130			
4-Isopropyltoluene	0.0474	0.0050	mg/kg wet	0.05000		95	70-130			
4-Methyl-2-Pentanone	0.246	0.0100	mg/kg wet	0.2500		98	70-130			
Acetone	0.400	0.0100	mg/kg wet	0.2500		160	70-130			B+
Benzene	0.0448	0.0050	mg/kg wet	0.05000		90	70-130			
Bromobenzene	0.0494	0.0050	mg/kg wet	0.05000		99	70-130			
Bromochloromethane	0.0474	0.0050	mg/kg wet	0.05000		95	70-130			
Bromodichloromethane	0.0490	0.0050	mg/kg wet	0.05000		98	70-130			
Bromoform	0.0526	0.0050	mg/kg wet	0.05000		105	70-130			
Bromomethane	0.0777	0.0100	mg/kg wet	0.05000		155	70-130			B+
Carbon Disulfide	0.0482	0.0050	mg/kg wet	0.05000		96	70-130			
Carbon Tetrachloride	0.0518	0.0050	mg/kg wet	0.05000		104	70-130			
Chlorobenzene	0.0484	0.0050	mg/kg wet	0.05000		97	70-130			
Chloroethane	0.0417	0.0100	mg/kg wet	0.05000		83	70-130			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503448

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch CC52716 - 5035										
Chloroform	0.0471	0.0050	mg/kg wet	0.05000		94	70-130			
Chloromethane	0.0522	0.0100	mg/kg wet	0.05000		104	70-130			
cis-1,2-Dichloroethene	0.0458	0.0050	mg/kg wet	0.05000		92	70-130			
cis-1,3-Dichloropropene	0.0529	0.0050	mg/kg wet	0.05000		106	70-130			
Dibromochloromethane	0.0514	0.0020	mg/kg wet	0.05000		103	70-130			
Dibromomethane	0.0466	0.0050	mg/kg wet	0.05000		93	70-130			
Dichlorodifluoromethane	0.0484	0.0100	mg/kg wet	0.05000		97	70-130			
Diethyl Ether	0.0474	0.0050	mg/kg wet	0.05000		95	70-130			
Di-isopropyl ether	0.0451	0.0050	mg/kg wet	0.05000		90	70-130			
Ethyl tertiary-butyl ether	0.0431	0.0050	mg/kg wet	0.05000		86	70-130			
Ethylbenzene	0.0483	0.0050	mg/kg wet	0.05000		97	70-130			
Hexachlorobutadiene	0.0533	0.0050	mg/kg wet	0.05000		107	70-130			
Isopropylbenzene	0.0472	0.0050	mg/kg wet	0.05000		94	70-130			
Methyl tert-Butyl Ether	0.0463	0.0050	mg/kg wet	0.05000		93	70-130			
Methylene Chloride	0.0444	0.0100	mg/kg wet	0.05000		89	70-130			
Naphthalene	0.0444	0.0050	mg/kg wet	0.05000		89	70-130			
n-Butylbenzene	0.0472	0.0050	mg/kg wet	0.05000		94	70-130			
n-Propylbenzene	0.0473	0.0050	mg/kg wet	0.05000		95	70-130			
sec-Butylbenzene	0.0472	0.0050	mg/kg wet	0.05000		94	70-130			
Styrene	0.0493	0.0050	mg/kg wet	0.05000		99	70-130			
tert-Butylbenzene	0.0476	0.0050	mg/kg wet	0.05000		95	70-130			
Tertiary-amyl methyl ether	0.0453	0.0050	mg/kg wet	0.05000		91	70-130			
Tetrachloroethene	0.0492	0.0050	mg/kg wet	0.05000		98	70-130			
Tetrahydrofuran	0.0446	0.0050	mg/kg wet	0.05000		89	70-130			
Toluene	0.0439	0.0050	mg/kg wet	0.05000		88	70-130			
trans-1,2-Dichloroethene	0.0416	0.0050	mg/kg wet	0.05000		83	70-130			
trans-1,3-Dichloropropene	0.0534	0.0050	mg/kg wet	0.05000		107	70-130			
Trichloroethene	0.0451	0.0050	mg/kg wet	0.05000		90	70-130			
Trichlorofluoromethane	0.0430	0.0050	mg/kg wet	0.05000		86	70-130			
Vinyl Chloride	0.0471	0.0100	mg/kg wet	0.05000		94	70-130			
Xylene O	0.0479	0.0050	mg/kg wet	0.05000		96	70-130			
Xylene P,M	0.0960	0.0100	mg/kg wet	0.1000		96	70-130			
Surrogate: 1,2-Dichloroethane-d4	*0.0468*		mg/kg wet	*0.05000*		*94*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0480*		mg/kg wet	*0.05000*		*96*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0456*		mg/kg wet	*0.05000*		*91*	*70-130*			
Surrogate: Toluene-d8	*0.0504*		mg/kg wet	*0.05000*		*101*	*70-130*			
LCS Dup										
1,1,1,2-Tetrachloroethane	0.0536	0.0050	mg/kg wet	0.05000		107	70-130	1	25	
1,1,1-Trichloroethane	0.0469	0.0050	mg/kg wet	0.05000		94	70-130	7	25	
1,1,2,2-Tetrachloroethane	0.0467	0.0020	mg/kg wet	0.05000		93	70-130	4	25	
1,1,2-Trichloroethane	0.0421	0.0050	mg/kg wet	0.05000		84	70-130	7	25	
1,1-Dichloroethane	0.0422	0.0050	mg/kg wet	0.05000		84	70-130	6	25	
1,1-Dichloroethene	0.0402	0.0050	mg/kg wet	0.05000		80	70-130	7	25	
1,1-Dichloropropene	0.0408	0.0050	mg/kg wet	0.05000		82	70-130	6	25	
1,2,3-Trichlorobenzene	0.0497	0.0050	mg/kg wet	0.05000		99	70-130	0.1	25	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503448

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch CC52716 - 5035										
1,2,3-Trichloropropane	0.0503	0.0050	mg/kg wet	0.05000		101	70-130	6	25	
1,2,4-Trichlorobenzene	0.0491	0.0050	mg/kg wet	0.05000		98	70-130	0.6	25	
1,2,4-Trimethylbenzene	0.0458	0.0050	mg/kg wet	0.05000		92	70-130	3	25	
1,2-Dibromo-3-Chloropropane	0.0490	0.0050	mg/kg wet	0.05000		98	70-130	14	25	
1,2-Dibromoethane	0.0491	0.0050	mg/kg wet	0.05000		98	70-130	4	25	
1,2-Dichlorobenzene	0.0461	0.0050	mg/kg wet	0.05000		92	70-130	0.6	25	
1,2-Dichloroethane	0.0442	0.0050	mg/kg wet	0.05000		88	70-130	6	25	
1,2-Dichloropropane	0.0409	0.0050	mg/kg wet	0.05000		82	70-130	7	25	
1,3,5-Trimethylbenzene	0.0483	0.0050	mg/kg wet	0.05000		97	70-130	2	25	
1,3-Dichlorobenzene	0.0464	0.0050	mg/kg wet	0.05000		93	70-130	0.8	25	
1,3-Dichloropropane	0.0499	0.0050	mg/kg wet	0.05000		100	70-130	4	25	
1,4-Dichlorobenzene	0.0478	0.0050	mg/kg wet	0.05000		96	70-130	0.8	25	
1,4-Dioxane	0.812	0.100	mg/kg wet	1.000		81	70-130	14	20	
2,2-Dichloropropane	0.0489	0.0050	mg/kg wet	0.05000		98	70-130	6	25	
2-Butanone	0.209	0.0100	mg/kg wet	0.2500		84	70-130	23	25	
2-Chlorotoluene	0.0465	0.0050	mg/kg wet	0.05000		93	70-130	3	25	
2-Hexanone	0.252	0.0100	mg/kg wet	0.2500		101	70-130	23	25	
4-Chlorotoluene	0.0471	0.0050	mg/kg wet	0.05000		94	70-130	2	25	
4-Isopropyltoluene	0.0467	0.0050	mg/kg wet	0.05000		93	70-130	1	25	
4-Methyl-2-Pentanone	0.218	0.0100	mg/kg wet	0.2500		87	70-130	12	25	
Acetone	0.229	0.0100	mg/kg wet	0.2500		91	70-130	55	25	D+
Benzene	0.0422	0.0050	mg/kg wet	0.05000		84	70-130	6	25	
Bromobenzene	0.0488	0.0050	mg/kg wet	0.05000		98	70-130	1	25	
Bromochloromethane	0.0450	0.0050	mg/kg wet	0.05000		90	70-130	5	25	
Bromodichloromethane	0.0466	0.0050	mg/kg wet	0.05000		93	70-130	5	25	
Bromoform	0.0521	0.0050	mg/kg wet	0.05000		104	70-130	1	25	
Bromomethane	0.0748	0.0100	mg/kg wet	0.05000		150	70-130	4	25	B+
Carbon Disulfide	0.0460	0.0050	mg/kg wet	0.05000		92	70-130	5	25	
Carbon Tetrachloride	0.0489	0.0050	mg/kg wet	0.05000		98	70-130	6	25	
Chlorobenzene	0.0473	0.0050	mg/kg wet	0.05000		95	70-130	2	25	
Chloroethane	0.0395	0.0100	mg/kg wet	0.05000		79	70-130	5	25	
Chloroform	0.0443	0.0050	mg/kg wet	0.05000		89	70-130	6	25	
Chloromethane	0.0481	0.0100	mg/kg wet	0.05000		96	70-130	8	25	
cis-1,2-Dichloroethene	0.0440	0.0050	mg/kg wet	0.05000		88	70-130	4	25	
cis-1,3-Dichloropropene	0.0502	0.0050	mg/kg wet	0.05000		100	70-130	5	25	
Dibromochloromethane	0.0500	0.0020	mg/kg wet	0.05000		100	70-130	3	25	
Dibromomethane	0.0446	0.0050	mg/kg wet	0.05000		89	70-130	4	25	
Dichlorodifluoromethane	0.0459	0.0100	mg/kg wet	0.05000		92	70-130	5	25	
Diethyl Ether	0.0430	0.0050	mg/kg wet	0.05000		86	70-130	10	25	
Di-isopropyl ether	0.0415	0.0050	mg/kg wet	0.05000		83	70-130	8	25	
Ethyl tertiary-butyl ether	0.0424	0.0050	mg/kg wet	0.05000		85	70-130	2	25	
Ethylbenzene	0.0467	0.0050	mg/kg wet	0.05000		93	70-130	3	25	
Hexachlorobutadiene	0.0548	0.0050	mg/kg wet	0.05000		110	70-130	3	25	
Isopropylbenzene	0.0466	0.0050	mg/kg wet	0.05000		93	70-130	1	25	
Methyl tert-Butyl Ether	0.0455	0.0050	mg/kg wet	0.05000		91	70-130	2	25	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503448

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch CC52716 - 5035										
Methylene Chloride	0.0420	0.0100	mg/kg wet	0.05000		84	70-130	6	25	
Naphthalene	0.0444	0.0050	mg/kg wet	0.05000		89	70-130	0.1	25	
n-Butylbenzene	0.0462	0.0050	mg/kg wet	0.05000		92	70-130	2	25	
n-Propylbenzene	0.0457	0.0050	mg/kg wet	0.05000		91	70-130	3	25	
sec-Butylbenzene	0.0466	0.0050	mg/kg wet	0.05000		93	70-130	1	25	
Styrene	0.0480	0.0050	mg/kg wet	0.05000		96	70-130	3	25	
tert-Butylbenzene	0.0470	0.0050	mg/kg wet	0.05000		94	70-130	1	25	
Tertiary-amyl methyl ether	0.0449	0.0050	mg/kg wet	0.05000		90	70-130	0.9	25	
Tetrachloroethene	0.0479	0.0050	mg/kg wet	0.05000		96	70-130	3	25	
Tetrahydrofuran	0.0421	0.0050	mg/kg wet	0.05000		84	70-130	6	25	
Toluene	0.0420	0.0050	mg/kg wet	0.05000		84	70-130	5	25	
trans-1,2-Dichloroethene	0.0400	0.0050	mg/kg wet	0.05000		80	70-130	4	25	
trans-1,3-Dichloropropene	0.0502	0.0050	mg/kg wet	0.05000		100	70-130	6	25	
Trichloroethene	0.0427	0.0050	mg/kg wet	0.05000		85	70-130	5	25	
Trichlorofluoromethane	0.0412	0.0050	mg/kg wet	0.05000		82	70-130	4	25	
Vinyl Chloride	0.0437	0.0100	mg/kg wet	0.05000		87	70-130	8	25	
Xylene O	0.0468	0.0050	mg/kg wet	0.05000		94	70-130	2	25	
Xylene P,M	0.0954	0.0100	mg/kg wet	0.1000		95	70-130	0.7	25	
Surrogate: 1,2-Dichloroethane-d4	*0.0436*		mg/kg wet	*0.05000*		*87*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0463*		mg/kg wet	*0.05000*		*93*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0439*		mg/kg wet	*0.05000*		*88*	*70-130*			
Surrogate: Toluene-d8	*0.0491*		mg/kg wet	*0.05000*		*98*	*70-130*			
5035/8260B Volatile Organic Compounds / Methanol										
Batch CC52745 - 5035										
Blank										
1,1,1,2-Tetrachloroethane	ND	0.100	mg/kg wet							
1,1,1-Trichloroethane	ND	0.0500	mg/kg wet							
1,1,2,2-Tetrachloroethane	ND	0.0500	mg/kg wet							
1,1,2-Trichloroethane	ND	0.0500	mg/kg wet							
1,1-Dichloroethane	ND	0.0500	mg/kg wet							
1,1-Dichloroethene	ND	0.0500	mg/kg wet							
1,1-Dichloropropene	ND	0.0500	mg/kg wet							
1,2,3-Trichlorobenzene	ND	0.0500	mg/kg wet							
1,2,3-Trichloropropane	ND	0.0500	mg/kg wet							
1,2,4-Trichlorobenzene	ND	0.0500	mg/kg wet							
1,2,4-Trimethylbenzene	ND	0.0500	mg/kg wet							
1,2-Dibromo-3-Chloropropane	ND	0.200	mg/kg wet							
1,2-Dibromoethane	ND	0.0500	mg/kg wet							
1,2-Dichlorobenzene	ND	0.0500	mg/kg wet							
1,2-Dichloroethane	ND	0.0500	mg/kg wet							
1,2-Dichloropropane	ND	0.0500	mg/kg wet							
1,3,5-Trimethylbenzene	ND	0.0500	mg/kg wet							
1,3-Dichlorobenzene	ND	0.0500	mg/kg wet							
1,3-Dichloropropane	ND	0.0500	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503448

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Methanol										
Batch CC52745 - 5035										
1,4-Dichlorobenzene	ND	0.0500	mg/kg wet							
1,4-Dioxane - Screen	ND	5.00	mg/kg wet							
2,2-Dichloropropane	ND	0.100	mg/kg wet							
2-Butanone	ND	0.200	mg/kg wet							
2-Chlorotoluene	ND	0.0500	mg/kg wet							
2-Hexanone	ND	0.200	mg/kg wet							
4-Chlorotoluene	ND	0.0500	mg/kg wet							
4-Isopropyltoluene	ND	0.0500	mg/kg wet							
4-Methyl-2-Pentanone	ND	0.200	mg/kg wet							
Acetone	0.320	0.200	mg/kg wet							
Benzene	ND	0.0500	mg/kg wet							
Bromobenzene	ND	0.0500	mg/kg wet							
Bromochloromethane	ND	0.0500	mg/kg wet							
Bromodichloromethane	ND	0.0500	mg/kg wet							
Bromoform	ND	0.0500	mg/kg wet							
Bromomethane	ND	0.100	mg/kg wet							
Carbon Disulfide	ND	0.0500	mg/kg wet							
Carbon Tetrachloride	ND	0.0500	mg/kg wet							
Chlorobenzene	ND	0.0500	mg/kg wet							
Chloroethane	ND	0.100	mg/kg wet							
Chloroform	ND	0.0500	mg/kg wet							
Chloromethane	ND	0.100	mg/kg wet							
cis-1,2-Dichloroethene	ND	0.0500	mg/kg wet							
cis-1,3-Dichloropropene	ND	0.0500	mg/kg wet							
Dibromochloromethane	ND	0.0500	mg/kg wet							
Dibromomethane	ND	0.0500	mg/kg wet							
Dichlorodifluoromethane	ND	0.0500	mg/kg wet							
Diethyl Ether	ND	0.0500	mg/kg wet							
Di-isopropyl ether	ND	0.0500	mg/kg wet							
Ethyl tertiary-butyl ether	ND	0.0500	mg/kg wet							
Ethylbenzene	ND	0.0500	mg/kg wet							
Hexachlorobutadiene	ND	0.0500	mg/kg wet							
Isopropylbenzene	ND	0.0500	mg/kg wet							
Methyl tert-Butyl Ether	ND	0.0500	mg/kg wet							
Methylene Chloride	ND	0.200	mg/kg wet							
Naphthalene	ND	0.0500	mg/kg wet							
n-Butylbenzene	ND	0.0500	mg/kg wet							
n-Propylbenzene	ND	0.0500	mg/kg wet							
sec-Butylbenzene	ND	0.0500	mg/kg wet							
Styrene	ND	0.0500	mg/kg wet							
tert-Butylbenzene	ND	0.0500	mg/kg wet							
Tertiary-amyl methyl ether	ND	0.0500	mg/kg wet							
Tetrachloroethene	ND	0.0500	mg/kg wet							
Tetrahydrofuran	ND	0.200	mg/kg wet							
Toluene	ND	0.0500	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503448

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Methanol										
Batch CC52745 - 5035										
trans-1,2-Dichloroethene	ND	0.0500	mg/kg wet							
trans-1,3-Dichloropropene	ND	0.0500	mg/kg wet							
Trichloroethene	ND	0.0500	mg/kg wet							
Trichlorofluoromethane	ND	0.0500	mg/kg wet							
Vinyl Chloride	ND	0.0500	mg/kg wet							
Xylene O	ND	0.0500	mg/kg wet							
Xylene P,M	ND	0.100	mg/kg wet							
Surrogate: 1,2-Dichloroethane-d4	*2.47*		mg/kg wet	*2.500*		*99*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*2.40*		mg/kg wet	*2.500*		*96*	*70-130*			
Surrogate: Dibromofluoromethane	*2.66*		mg/kg wet	*2.500*		*106*	*70-130*			
Surrogate: Toluene-d8	*2.43*		mg/kg wet	*2.500*		*97*	*70-130*			
LCS										
1,1,1,2-Tetrachloroethane	2.40	0.100	mg/kg wet	2.500		96	70-130			
1,1,1-Trichloroethane	2.59	0.0500	mg/kg wet	2.500		104	70-130			
1,1,2,2-Tetrachloroethane	2.43	0.0500	mg/kg wet	2.500		97	70-130			
1,1,2-Trichloroethane	2.64	0.0500	mg/kg wet	2.500		105	70-130			
1,1-Dichloroethane	2.44	0.0500	mg/kg wet	2.500		98	70-130			
1,1-Dichloroethene	2.46	0.0500	mg/kg wet	2.500		98	70-130			
1,1-Dichloropropene	2.38	0.0500	mg/kg wet	2.500		95	70-130			
1,2,3-Trichlorobenzene	2.78	0.0500	mg/kg wet	2.500		111	70-130			
1,2,3-Trichloropropane	2.54	0.0500	mg/kg wet	2.500		102	70-130			
1,2,4-Trichlorobenzene	2.62	0.0500	mg/kg wet	2.500		105	70-130			
1,2,4-Trimethylbenzene	2.37	0.0500	mg/kg wet	2.500		95	70-130			
1,2-Dibromo-3-Chloropropane	2.39	0.200	mg/kg wet	2.500		96	70-130			
1,2-Dibromoethane	2.49	0.0500	mg/kg wet	2.500		100	70-130			
1,2-Dichlorobenzene	2.44	0.0500	mg/kg wet	2.500		98	70-130			
1,2-Dichloroethane	2.67	0.0500	mg/kg wet	2.500		107	70-130			
1,2-Dichloropropane	2.52	0.0500	mg/kg wet	2.500		101	70-130			
1,3,5-Trimethylbenzene	2.48	0.0500	mg/kg wet	2.500		99	70-130			
1,3-Dichlorobenzene	2.45	0.0500	mg/kg wet	2.500		98	70-130			
1,3-Dichloropropane	2.52	0.0500	mg/kg wet	2.500		101	70-130			
1,4-Dichlorobenzene	2.43	0.0500	mg/kg wet	2.500		97	70-130			
1,4-Dioxane - Screen	55.4	5.00	mg/kg wet	50.00		111	44-241			
2,2-Dichloropropane	2.83	0.100	mg/kg wet	2.500		113	70-130			
2-Butanone	14.4	0.200	mg/kg wet	12.50		115	70-130			
2-Chlorotoluene	2.31	0.0500	mg/kg wet	2.500		93	70-130			
2-Hexanone	12.1	0.200	mg/kg wet	12.50		97	70-130			
4-Chlorotoluene	2.38	0.0500	mg/kg wet	2.500		95	70-130			
4-Isopropyltoluene	2.40	0.0500	mg/kg wet	2.500		96	70-130			
4-Methyl-2-Pentanone	12.1	0.200	mg/kg wet	12.50		96	70-130			
Acetone	17.6	0.200	mg/kg wet	12.50		141	70-130			B+
Benzene	2.56	0.0500	mg/kg wet	2.500		102	70-130			
Bromobenzene	2.49	0.0500	mg/kg wet	2.500		100	70-130			
Bromochloromethane	2.68	0.0500	mg/kg wet	2.500		107	70-130			
Bromodichloromethane	2.56	0.0500	mg/kg wet	2.500		102	70-130			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503448

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Methanol										
Batch CC52745 - 5035										
Bromoform	2.67	0.0500	mg/kg wet	2.500		107	70-130			
Bromomethane	3.02	0.100	mg/kg wet	2.500		121	70-130			
Carbon Disulfide	2.27	0.0500	mg/kg wet	2.500		91	70-130			
Carbon Tetrachloride	2.64	0.0500	mg/kg wet	2.500		106	70-130			
Chlorobenzene	2.44	0.0500	mg/kg wet	2.500		98	70-130			
Chloroethane	2.48	0.100	mg/kg wet	2.500		99	70-130			
Chloroform	2.62	0.0500	mg/kg wet	2.500		105	70-130			
Chloromethane	2.51	0.100	mg/kg wet	2.500		100	70-130			
cis-1,2-Dichloroethene	2.59	0.0500	mg/kg wet	2.500		104	70-130			
cis-1,3-Dichloropropene	2.88	0.0500	mg/kg wet	2.500		115	70-130			
Dibromochloromethane	2.52	0.0500	mg/kg wet	2.500		101	70-130			
Dibromomethane	2.63	0.0500	mg/kg wet	2.500		105	70-130			
Dichlorodifluoromethane	2.81	0.0500	mg/kg wet	2.500		113	70-130			
Diethyl Ether	2.56	0.0500	mg/kg wet	2.500		103	70-130			
Di-isopropyl ether	2.36	0.0500	mg/kg wet	2.500		94	70-130			
Ethyl tertiary-butyl ether	2.40	0.0500	mg/kg wet	2.500		96	70-130			
Ethylbenzene	2.35	0.0500	mg/kg wet	2.500		94	70-130			
Hexachlorobutadiene	2.72	0.0500	mg/kg wet	2.500		109	70-130			
Isopropylbenzene	2.40	0.0500	mg/kg wet	2.500		96	70-130			
Methyl tert-Butyl Ether	2.50	0.0500	mg/kg wet	2.500		100	70-130			
Methylene Chloride	2.55	0.200	mg/kg wet	2.500		102	70-130			
Naphthalene	2.92	0.0500	mg/kg wet	2.500		117	70-130			
n-Butylbenzene	2.43	0.0500	mg/kg wet	2.500		97	70-130			
n-Propylbenzene	2.35	0.0500	mg/kg wet	2.500		94	70-130			
sec-Butylbenzene	2.41	0.0500	mg/kg wet	2.500		96	70-130			
Styrene	2.46	0.0500	mg/kg wet	2.500		98	70-130			
tert-Butylbenzene	2.41	0.0500	mg/kg wet	2.500		96	70-130			
Tertiary-amyl methyl ether	2.51	0.0500	mg/kg wet	2.500		100	70-130			
Tetrachloroethene	2.60	0.0500	mg/kg wet	2.500		104	70-130			
Tetrahydrofuran	2.47	0.200	mg/kg wet	2.500		99	70-130			
Toluene	2.63	0.0500	mg/kg wet	2.500		105	70-130			
trans-1,2-Dichloroethene	2.35	0.0500	mg/kg wet	2.500		94	70-130			
trans-1,3-Dichloropropene	2.73	0.0500	mg/kg wet	2.500		109	70-130			
Trichloroethene	2.74	0.0500	mg/kg wet	2.500		110	70-130			
Trichlorofluoromethane	2.31	0.0500	mg/kg wet	2.500		92	70-130			
Vinyl Chloride	2.79	0.0500	mg/kg wet	2.500		112	70-130			
Xylene O	2.45	0.0500	mg/kg wet	2.500		98	70-130			
Xylene P,M	4.84	0.100	mg/kg wet	5.000		97	70-130			
Surrogate: 1,2-Dichloroethane-d4	*1.92*		mg/kg wet	*2.500*		*77*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*1.82*		mg/kg wet	*2.500*		*73*	*70-130*			
Surrogate: Dibromofluoromethane	*1.94*		mg/kg wet	*2.500*		*77*	*70-130*			
Surrogate: Toluene-d8	*1.81*		mg/kg wet	*2.500*		*72*	*70-130*			
LCS Dup										
1,1,1,2-Tetrachloroethane	2.39	0.100	mg/kg wet	2.500		95	70-130	0.8	25	
1,1,1-Trichloroethane	2.61	0.0500	mg/kg wet	2.500		104	70-130	0.8	25	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503448

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Methanol										
Batch CC52745 - 5035										
1,1,2,2-Tetrachloroethane	2.41	0.0500	mg/kg wet	2.500		96	70-130	0.9	25	
1,1,2-Trichloroethane	2.77	0.0500	mg/kg wet	2.500		111	70-130	5	25	
1,1-Dichloroethane	2.54	0.0500	mg/kg wet	2.500		102	70-130	4	25	
1,1-Dichloroethene	2.50	0.0500	mg/kg wet	2.500		100	70-130	2	25	
1,1-Dichloropropene	2.31	0.0500	mg/kg wet	2.500		92	70-130	3	25	
1,2,3-Trichlorobenzene	2.84	0.0500	mg/kg wet	2.500		113	70-130	2	25	
1,2,3-Trichloropropane	2.43	0.0500	mg/kg wet	2.500		97	70-130	5	25	
1,2,4-Trichlorobenzene	2.62	0.0500	mg/kg wet	2.500		105	70-130	0.3	25	
1,2,4-Trimethylbenzene	2.35	0.0500	mg/kg wet	2.500		94	70-130	0.9	25	
1,2-Dibromo-3-Chloropropane	2.32	0.200	mg/kg wet	2.500		93	70-130	3	25	
1,2-Dibromoethane	2.52	0.0500	mg/kg wet	2.500		101	70-130	1	25	
1,2-Dichlorobenzene	2.38	0.0500	mg/kg wet	2.500		95	70-130	3	25	
1,2-Dichloroethane	2.58	0.0500	mg/kg wet	2.500		103	70-130	3	25	
1,2-Dichloropropane	2.71	0.0500	mg/kg wet	2.500		108	70-130	7	25	
1,3,5-Trimethylbenzene	2.40	0.0500	mg/kg wet	2.500		96	70-130	3	25	
1,3-Dichlorobenzene	2.38	0.0500	mg/kg wet	2.500		95	70-130	3	25	
1,3-Dichloropropane	2.52	0.0500	mg/kg wet	2.500		101	70-130	0.1	25	
1,4-Dichlorobenzene	2.40	0.0500	mg/kg wet	2.500		96	70-130	1	25	
1,4-Dioxane - Screen	62.1	5.00	mg/kg wet	50.00		124	44-241	11	200	
2,2-Dichloropropane	2.85	0.100	mg/kg wet	2.500		114	70-130	0.9	25	
2-Butanone	14.5	0.200	mg/kg wet	12.50		116	70-130	0.8	25	
2-Chlorotoluene	2.26	0.0500	mg/kg wet	2.500		91	70-130	2	25	
2-Hexanone	12.1	0.200	mg/kg wet	12.50		97	70-130	0.02	25	
4-Chlorotoluene	2.37	0.0500	mg/kg wet	2.500		95	70-130	0.3	25	
4-Isopropyltoluene	2.35	0.0500	mg/kg wet	2.500		94	70-130	2	25	
4-Methyl-2-Pentanone	13.0	0.200	mg/kg wet	12.50		104	70-130	8	25	
Acetone	17.5	0.200	mg/kg wet	12.50		140	70-130	0.7	25	B+
Benzene	2.39	0.0500	mg/kg wet	2.500		96	70-130	7	25	
Bromobenzene	2.42	0.0500	mg/kg wet	2.500		97	70-130	3	25	
Bromochloromethane	2.78	0.0500	mg/kg wet	2.500		111	70-130	4	25	
Bromodichloromethane	2.69	0.0500	mg/kg wet	2.500		107	70-130	5	25	
Bromoform	2.70	0.0500	mg/kg wet	2.500		108	70-130	1	25	
Bromomethane	3.14	0.100	mg/kg wet	2.500		125	70-130	4	25	
Carbon Disulfide	2.32	0.0500	mg/kg wet	2.500		93	70-130	2	25	
Carbon Tetrachloride	2.62	0.0500	mg/kg wet	2.500		105	70-130	0.5	25	
Chlorobenzene	2.44	0.0500	mg/kg wet	2.500		98	70-130	0.2	25	
Chloroethane	2.53	0.100	mg/kg wet	2.500		101	70-130	2	25	
Chloroform	2.71	0.0500	mg/kg wet	2.500		109	70-130	4	25	
Chloromethane	2.54	0.100	mg/kg wet	2.500		101	70-130	1	25	
cis-1,2-Dichloroethene	2.67	0.0500	mg/kg wet	2.500		107	70-130	3	25	
cis-1,3-Dichloropropene	3.00	0.0500	mg/kg wet	2.500		120	70-130	4	25	
Dibromochloromethane	2.52	0.0500	mg/kg wet	2.500		101	70-130	0.1	25	
Dibromomethane	2.79	0.0500	mg/kg wet	2.500		112	70-130	6	25	
Dichlorodifluoromethane	2.77	0.0500	mg/kg wet	2.500		111	70-130	2	25	
Diethyl Ether	2.68	0.0500	mg/kg wet	2.500		107	70-130	5	25	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503448

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Methanol										
Batch CC52745 - 5035										
Di-isopropyl ether	2.48	0.0500	mg/kg wet	2.500		99	70-130	5	25	
Ethyl tertiary-butyl ether	2.52	0.0500	mg/kg wet	2.500		101	70-130	5	25	
Ethylbenzene	2.36	0.0500	mg/kg wet	2.500		94	70-130	0.3	25	
Hexachlorobutadiene	2.78	0.0500	mg/kg wet	2.500		111	70-130	2	25	
Isopropylbenzene	2.36	0.0500	mg/kg wet	2.500		94	70-130	2	25	
Methyl tert-Butyl Ether	2.67	0.0500	mg/kg wet	2.500		107	70-130	7	25	
Methylene Chloride	2.64	0.200	mg/kg wet	2.500		106	70-130	4	25	
Naphthalene	3.12	0.0500	mg/kg wet	2.500		125	70-130	6	25	
n-Butylbenzene	2.38	0.0500	mg/kg wet	2.500		95	70-130	2	25	
n-Propylbenzene	2.30	0.0500	mg/kg wet	2.500		92	70-130	2	25	
sec-Butylbenzene	2.37	0.0500	mg/kg wet	2.500		95	70-130	2	25	
Styrene	2.47	0.0500	mg/kg wet	2.500		99	70-130	0.5	25	
tert-Butylbenzene	2.37	0.0500	mg/kg wet	2.500		95	70-130	2	25	
Tertiary-amyl methyl ether	2.30	0.0500	mg/kg wet	2.500		92	70-130	9	25	
Tetrachloroethene	2.56	0.0500	mg/kg wet	2.500		103	70-130	1	25	
Tetrahydrofuran	2.68	0.200	mg/kg wet	2.500		107	70-130	8	25	
Toluene	2.74	0.0500	mg/kg wet	2.500		110	70-130	4	25	
trans-1,2-Dichloroethene	2.41	0.0500	mg/kg wet	2.500		96	70-130	3	25	
trans-1,3-Dichloropropene	2.87	0.0500	mg/kg wet	2.500		115	70-130	5	25	
Trichloroethene	2.92	0.0500	mg/kg wet	2.500		117	70-130	6	25	
Trichlorofluoromethane	2.18	0.0500	mg/kg wet	2.500		87	70-130	5	25	
Vinyl Chloride	2.86	0.0500	mg/kg wet	2.500		115	70-130	3	25	
Xylene O	2.44	0.0500	mg/kg wet	2.500		98	70-130	0.7	25	
Xylene P,M	4.87	0.100	mg/kg wet	5.000		97	70-130	0.4	25	
Surrogate: 1,2-Dichloroethane-d4	*1.82*		mg/kg wet	*2.500*		*73*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*1.76*		mg/kg wet	*2.500*		*71*	*70-130*			
Surrogate: Dibromofluoromethane	*1.95*		mg/kg wet	*2.500*		*78*	*70-130*			
Surrogate: Toluene-d8	*1.78*		mg/kg wet	*2.500*		*71*	*70-130*			
8082A Polychlorinated Biphenyls (PCB)										
Batch CC53006 - 3540C										
Blank										
Aroclor 1016	ND	0.0080	mg/kg wet							
Aroclor 1221	ND	0.0080	mg/kg wet							
Aroclor 1232	ND	0.0080	mg/kg wet							
Aroclor 1242	ND	0.0080	mg/kg wet							
Aroclor 1248	ND	0.0080	mg/kg wet							
Aroclor 1254	ND	0.0080	mg/kg wet							
Aroclor 1260	ND	0.0080	mg/kg wet							
Aroclor 1262	ND	0.0080	mg/kg wet							
Aroclor 1268	ND	0.0080	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.00260*		mg/kg wet	*0.004000*		*65*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.00229*		mg/kg wet	*0.004000*		*57*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.00316*		mg/kg wet	*0.004000*		*79*	*30-150*			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503448

Quality Control Data

8082A Polychlorinated Biphenyls (PCB)

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch CC53006 - 3540C										
Surrogate: Tetrachloro-m-xylene [2C]	*0.00307*		mg/kg wet	*0.004000*		*77*	*30-150*			
LCS										
Aroclor 1016	0.0844	0.0080	mg/kg wet	0.08000		106	40-140			
Aroclor 1260	0.0702	0.0080	mg/kg wet	0.08000		88	40-140			
Surrogate: Decachlorobiphenyl	*0.00301*		mg/kg wet	*0.004000*		*75*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.00277*		mg/kg wet	*0.004000*		*69*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.00358*		mg/kg wet	*0.004000*		*90*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.00354*		mg/kg wet	*0.004000*		*89*	*30-150*			
LCS Dup										
Aroclor 1016	0.0885	0.0080	mg/kg wet	0.08000		111	40-140	5	30	
Aroclor 1260	0.0761	0.0080	mg/kg wet	0.08000		95	40-140	8	30	
Surrogate: Decachlorobiphenyl	*0.00266*		mg/kg wet	*0.004000*		*67*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.00272*		mg/kg wet	*0.004000*		*68*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.00350*		mg/kg wet	*0.004000*		*88*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.00348*		mg/kg wet	*0.004000*		*87*	*30-150*			
Batch CC53007 - 3540C										
Blank										
Aroclor 1016	ND	0.0080	mg/kg wet							
Aroclor 1221	ND	0.0080	mg/kg wet							
Aroclor 1232	ND	0.0080	mg/kg wet							
Aroclor 1242	ND	0.0080	mg/kg wet							
Aroclor 1248	ND	0.0080	mg/kg wet							
Aroclor 1254	ND	0.0080	mg/kg wet							
Aroclor 1260	ND	0.0080	mg/kg wet							
Aroclor 1262	ND	0.0080	mg/kg wet							
Aroclor 1268	ND	0.0080	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.00391*		mg/kg wet	*0.004000*		*98*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.00418*		mg/kg wet	*0.004000*		*105*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.00284*		mg/kg wet	*0.004000*		*71*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.00312*		mg/kg wet	*0.004000*		*78*	*30-150*			
LCS										
Aroclor 1016	0.0850	0.0080	mg/kg wet	0.08000		106	40-140			
Aroclor 1260	0.0928	0.0080	mg/kg wet	0.08000		116	40-140			
Surrogate: Decachlorobiphenyl	*0.00410*		mg/kg wet	*0.004000*		*103*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.00460*		mg/kg wet	*0.004000*		*115*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.00328*		mg/kg wet	*0.004000*		*82*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.00336*		mg/kg wet	*0.004000*		*84*	*30-150*			
LCS Dup										
Aroclor 1016	0.0784	0.0080	mg/kg wet	0.08000		98	40-140	8	30	
Aroclor 1260	0.0844	0.0080	mg/kg wet	0.08000		106	40-140	9	30	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503448

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch CC53007 - 3540C										
Surrogate: Decachlorobiphenyl	*0.00376*		mg/kg wet	*0.004000*		*94*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.00405*		mg/kg wet	*0.004000*		*101*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.00301*		mg/kg wet	*0.004000*		*75*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.00314*		mg/kg wet	*0.004000*		*79*	*30-150*			
8270D Semi-Volatile Organic Compounds										
Batch CD50205 - 3546										
Blank										
1,2,4-Trichlorobenzene	ND	0.333	mg/kg wet							
1,2-Dichlorobenzene	ND	0.333	mg/kg wet							
1,3-Dichlorobenzene	ND	0.333	mg/kg wet							
1,4-Dichlorobenzene	ND	0.333	mg/kg wet							
2,4,5-Trichlorophenol	ND	0.333	mg/kg wet							
2,4,6-Trichlorophenol	ND	0.333	mg/kg wet							
2,4-Dichlorophenol	ND	0.333	mg/kg wet							
2,4-Dimethylphenol	ND	0.333	mg/kg wet							
2,4-Dinitrophenol	ND	1.67	mg/kg wet							
2,4-Dinitrotoluene	ND	0.333	mg/kg wet							
2,6-Dinitrotoluene	ND	0.333	mg/kg wet							
2-Chloronaphthalene	ND	0.333	mg/kg wet							
2-Chlorophenol	ND	0.333	mg/kg wet							
2-Methylphenol	ND	0.333	mg/kg wet							
2-Nitrophenol	ND	0.333	mg/kg wet							
3,3´-Dichlorobenzidine	ND	0.667	mg/kg wet							
3+4-Methylphenol	ND	0.667	mg/kg wet							
4-Bromophenyl-phenylether	ND	0.333	mg/kg wet							
4-Chloroaniline	ND	0.667	mg/kg wet							
4-Nitrophenol	ND	1.67	mg/kg wet							
Acetophenone	ND	0.667	mg/kg wet							
Aniline	ND	1.67	mg/kg wet							
Azobenzene	ND	0.333	mg/kg wet							
bis(2-Chloroethoxy)methane	ND	0.333	mg/kg wet							
bis(2-Chloroethyl)ether	ND	0.333	mg/kg wet							
bis(2-chloroisopropyl)Ether	ND	0.333	mg/kg wet							
bis(2-Ethylhexyl)phthalate	ND	0.333	mg/kg wet							
Butylbenzylphthalate	ND	0.333	mg/kg wet							
Dibenzofuran	ND	0.333	mg/kg wet							
Diethylphthalate	ND	0.333	mg/kg wet							
Dimethylphthalate	ND	0.333	mg/kg wet							
Di-n-butylphthalate	ND	0.333	mg/kg wet							
Di-n-octylphthalate	ND	0.333	mg/kg wet							
Hexachlorobutadiene	ND	0.333	mg/kg wet							
Hexachloroethane	ND	0.333	mg/kg wet							
Isophorone	ND	0.333	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503448

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch CD50205 - 3546										
Nitrobenzene	ND	0.333	mg/kg wet							
N-Nitrosodimethylamine	ND	0.333	mg/kg wet							
Pentachlorophenol	ND	1.67	mg/kg wet							
Phenol	ND	0.333	mg/kg wet							
Surrogate: 1,2-Dichlorobenzene-d4	*2.01*		mg/kg wet	*3.333*		*60*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*4.41*		mg/kg wet	*5.000*		*88*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*2.99*		mg/kg wet	*5.000*		*60*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*2.18*		mg/kg wet	*3.333*		*66*	*30-130*			
Surrogate: 2-Fluorophenol	*2.84*		mg/kg wet	*5.000*		*57*	*30-130*			
Surrogate: Nitrobenzene-d5	*1.86*		mg/kg wet	*3.333*		*56*	*30-130*			
Surrogate: Phenol-d6	*2.91*		mg/kg wet	*5.000*		*58*	*30-130*			
Surrogate: p-Terphenyl-d14	*3.07*		mg/kg wet	*3.333*		*92*	*30-130*			
LCS										
1,2,4-Trichlorobenzene	1.71	0.333	mg/kg wet	3.333		51	40-140			
1,2-Dichlorobenzene	1.43	0.333	mg/kg wet	3.333		43	40-140			
1,3-Dichlorobenzene	1.43	0.333	mg/kg wet	3.333		43	40-140			
1,4-Dichlorobenzene	1.44	0.333	mg/kg wet	3.333		43	40-140			
2,4,5-Trichlorophenol	2.42	0.333	mg/kg wet	3.333		73	30-130			
2,4,6-Trichlorophenol	2.32	0.333	mg/kg wet	3.333		70	30-130			
2,4-Dichlorophenol	1.98	0.333	mg/kg wet	3.333		59	30-130			
2,4-Dimethylphenol	2.08	0.333	mg/kg wet	3.333		62	30-130			
2,4-Dinitrophenol	2.15	1.67	mg/kg wet	3.333		64	30-130			
2,4-Dinitrotoluene	2.48	0.333	mg/kg wet	3.333		74	40-140			
2,6-Dinitrotoluene	2.27	0.333	mg/kg wet	3.333		68	40-140			
2-Chloronaphthalene	1.73	0.333	mg/kg wet	3.333		52	40-140			
2-Chlorophenol	1.48	0.333	mg/kg wet	3.333		44	30-130			
2-Methylphenol	1.65	0.333	mg/kg wet	3.333		49	30-130			
2-Nitrophenol	1.82	0.333	mg/kg wet	3.333		55	30-130			
3,3´-Dichlorobenzidine	2.00	0.667	mg/kg wet	3.333		60	40-140			
3+4-Methylphenol	4.14	0.667	mg/kg wet	6.667		62	30-130			
4-Bromophenyl-phenylether	2.52	0.333	mg/kg wet	3.333		76	40-140			
4-Chloroaniline	1.46	0.667	mg/kg wet	3.333		44	40-140			
4-Nitrophenol	3.73	1.67	mg/kg wet	3.333		112	30-130			
Acetophenone	1.61	0.667	mg/kg wet	3.333		48	40-140			
Aniline	1.06	1.67	mg/kg wet	3.333		32	40-140			B-
Azobenzene	2.13	0.333	mg/kg wet	3.333		64	40-140			
bis(2-Chloroethoxy)methane	1.74	0.333	mg/kg wet	3.333		52	40-140			
bis(2-Chloroethyl)ether	1.39	0.333	mg/kg wet	3.333		42	40-140			
bis(2-chloroisopropyl)Ether	1.19	0.333	mg/kg wet	3.333		36	40-140			B-
bis(2-Ethylhexyl)phthalate	2.61	0.333	mg/kg wet	3.333		78	40-140			
Butylbenzylphthalate	2.69	0.333	mg/kg wet	3.333		81	40-140			
Dibenzofuran	2.16	0.333	mg/kg wet	3.333		65	40-140			
Diethylphthalate	2.56	0.333	mg/kg wet	3.333		77	40-140			
Dimethylphthalate	2.24	0.333	mg/kg wet	3.333		67	40-140			
Di-n-butylphthalate	2.61	0.333	mg/kg wet	3.333		78	40-140			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503448

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch CD50205 - 3546										
Di-n-octylphthalate	2.71	0.333	mg/kg wet	3.333		81	40-140			
Hexachlorobutadiene	1.83	0.333	mg/kg wet	3.333		55	40-140			
Hexachloroethane	1.50	0.333	mg/kg wet	3.333		45	40-140			
Isophorone	1.72	0.333	mg/kg wet	3.333		52	40-140			
Nitrobenzene	1.65	0.333	mg/kg wet	3.333		49	40-140			
N-Nitrosodimethylamine	1.34	0.333	mg/kg wet	3.333		40	40-140			
Pentachlorophenol	2.98	1.67	mg/kg wet	3.333		89	30-130			
Phenol	1.81	0.333	mg/kg wet	3.333		54	30-130			
Surrogate: 1,2-Dichlorobenzene-d4	*1.67*		mg/kg wet	*3.333*		*50*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*5.01*		mg/kg wet	*5.000*		*100*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*2.44*		mg/kg wet	*5.000*		*49*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*2.18*		mg/kg wet	*3.333*		*65*	*30-130*			
Surrogate: 2-Fluorophenol	*2.39*		mg/kg wet	*5.000*		*48*	*30-130*			
Surrogate: Nitrobenzene-d5	*1.67*		mg/kg wet	*3.333*		*50*	*30-130*			
Surrogate: Phenol-d6	*2.49*		mg/kg wet	*5.000*		*50*	*30-130*			
Surrogate: p-Terphenyl-d14	*3.27*		mg/kg wet	*3.333*		*98*	*30-130*			
LCS Dup										
1,2,4-Trichlorobenzene	1.79	0.333	mg/kg wet	3.333		54	40-140	4	30	
1,2-Dichlorobenzene	1.61	0.333	mg/kg wet	3.333		48	40-140	12	30	
1,3-Dichlorobenzene	1.62	0.333	mg/kg wet	3.333		49	40-140	12	30	
1,4-Dichlorobenzene	1.61	0.333	mg/kg wet	3.333		48	40-140	11	30	
2,4,5-Trichlorophenol	2.48	0.333	mg/kg wet	3.333		74	30-130	3	30	
2,4,6-Trichlorophenol	2.45	0.333	mg/kg wet	3.333		73	30-130	5	30	
2,4-Dichlorophenol	2.07	0.333	mg/kg wet	3.333		62	30-130	4	30	
2,4-Dimethylphenol	2.09	0.333	mg/kg wet	3.333		63	30-130	0.6	30	
2,4-Dinitrophenol	2.14	1.67	mg/kg wet	3.333		64	30-130	0.2	30	
2,4-Dinitrotoluene	2.42	0.333	mg/kg wet	3.333		73	40-140	2	30	
2,6-Dinitrotoluene	2.31	0.333	mg/kg wet	3.333		69	40-140	2	30	
2-Chloronaphthalene	1.76	0.333	mg/kg wet	3.333		53	40-140	2	30	
2-Chlorophenol	1.64	0.333	mg/kg wet	3.333		49	30-130	10	30	
2-Methylphenol	1.76	0.333	mg/kg wet	3.333		53	30-130	7	30	
2-Nitrophenol	1.84	0.333	mg/kg wet	3.333		55	30-130	1	30	
3,3´-Dichlorobenzidine	1.59	0.667	mg/kg wet	3.333		48	40-140	23	30	
3+4-Methylphenol	4.53	0.667	mg/kg wet	6.667		68	30-130	9	30	
4-Bromophenyl-phenylether	2.57	0.333	mg/kg wet	3.333		77	40-140	2	30	
4-Chloroaniline	1.50	0.667	mg/kg wet	3.333		45	40-140	3	30	
4-Nitrophenol	3.50	1.67	mg/kg wet	3.333		105	30-130	6	30	
Acetophenone	1.80	0.667	mg/kg wet	3.333		54	40-140	11	30	
Aniline	1.07	1.67	mg/kg wet	3.333		32	40-140	1	30	B-
Azobenzene	2.16	0.333	mg/kg wet	3.333		65	40-140	2	30	
bis(2-Chloroethoxy)methane	1.78	0.333	mg/kg wet	3.333		54	40-140	2	30	
bis(2-Chloroethyl)ether	1.46	0.333	mg/kg wet	3.333		44	40-140	5	30	
bis(2-chloroisopropyl)Ether	1.33	0.333	mg/kg wet	3.333		40	40-140	11	30	
bis(2-Ethylhexyl)phthalate	2.55	0.333	mg/kg wet	3.333		77	40-140	2	30	
Butylbenzylphthalate	2.63	0.333	mg/kg wet	3.333		79	40-140	2	30	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503448

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch CD50205 - 3546										
Dibenzofuran	2.23	0.333	mg/kg wet	3.333		67	40-140	3	30	
Diethylphthalate	2.53	0.333	mg/kg wet	3.333		76	40-140	1	30	
Dimethylphthalate	2.27	0.333	mg/kg wet	3.333		68	40-140	1	30	
Di-n-butylphthalate	2.50	0.333	mg/kg wet	3.333		75	40-140	4	30	
Di-n-octylphthalate	2.60	0.333	mg/kg wet	3.333		78	40-140	4	30	
Hexachlorobutadiene	1.91	0.333	mg/kg wet	3.333		57	40-140	4	30	
Hexachloroethane	1.74	0.333	mg/kg wet	3.333		52	40-140	15	30	
Isophorone	1.77	0.333	mg/kg wet	3.333		53	40-140	3	30	
Nitrobenzene	1.74	0.333	mg/kg wet	3.333		52	40-140	6	30	
N-Nitrosodimethylamine	1.60	0.333	mg/kg wet	3.333		48	40-140	17	30	
Pentachlorophenol	2.89	1.67	mg/kg wet	3.333		87	30-130	3	30	
Phenol	1.74	0.333	mg/kg wet	3.333		52	30-130	4	30	
Surrogate: 1,2-Dichlorobenzene-d4	*1.75*		mg/kg wet	*3.333*		*53*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*4.63*		mg/kg wet	*5.000*		*93*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*2.65*		mg/kg wet	*5.000*		*53*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*2.10*		mg/kg wet	*3.333*		*63*	*30-130*			
Surrogate: 2-Fluorophenol	*2.52*		mg/kg wet	*5.000*		*50*	*30-130*			
Surrogate: Nitrobenzene-d5	*1.67*		mg/kg wet	*3.333*		*50*	*30-130*			
Surrogate: Phenol-d6	*2.63*		mg/kg wet	*5.000*		*53*	*30-130*			
Surrogate: p-Terphenyl-d14	*3.00*		mg/kg wet	*3.333*		*90*	*30-130*			
8270D(SIM) Polynuclear Aromatic Hydrocarbons										
Batch CC52823 - 3546										
Blank										
2-Methylnaphthalene	ND	0.012	mg/kg wet							
Acenaphthene	ND	0.012	mg/kg wet							
Acenaphthylene	ND	0.012	mg/kg wet							
Anthracene	ND	0.012	mg/kg wet							
Benzo(a)anthracene	ND	0.012	mg/kg wet							
Benzo(a)pyrene	ND	0.012	mg/kg wet							
Benzo(b)fluoranthene	ND	0.012	mg/kg wet							
Benzo(g,h,i)perylene	ND	0.012	mg/kg wet							
Benzo(k)fluoranthene	ND	0.012	mg/kg wet							
Chrysene	ND	0.012	mg/kg wet							
Dibenzo(a,h)Anthracene	ND	0.012	mg/kg wet							
Fluoranthene	ND	0.012	mg/kg wet							
Fluorene	ND	0.012	mg/kg wet							
Hexachlorobenzene	ND	0.012	mg/kg wet							
Indeno(1,2,3-cd)Pyrene	ND	0.012	mg/kg wet							
Naphthalene	ND	0.012	mg/kg wet							
Phenanthrene	ND	0.012	mg/kg wet							
Pyrene	ND	0.012	mg/kg wet							
Surrogate: 1,2-Dichlorobenzene-d4	*0.127*		mg/kg wet	*0.2500*		*51*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*0.158*		mg/kg wet	*0.2500*		*63*	*30-130*			
Surrogate: Nitrobenzene-d5	*0.147*		mg/kg wet	*0.2500*		*59*	*30-130*			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503448

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D(SIM) Polynuclear Aromatic Hydrocarbons										
Batch CC52823 - 3546										
Surrogate: p-Terphenyl-d14	*0.207*		mg/kg wet	*0.2500*		*83*	*30-130*			
LCS										
2-Methylnaphthalene	0.125	0.012	mg/kg wet	0.2000		63	40-140			
Acenaphthene	0.147	0.012	mg/kg wet	0.2000		73	40-140			
Acenaphthylene	0.146	0.012	mg/kg wet	0.2000		73	40-140			
Anthracene	0.144	0.012	mg/kg wet	0.2000		72	40-140			
Benzo(a)anthracene	0.151	0.012	mg/kg wet	0.2000		75	40-140			
Benzo(a)pyrene	0.155	0.012	mg/kg wet	0.2000		77	40-140			
Benzo(b)fluoranthene	0.161	0.012	mg/kg wet	0.2000		80	40-140			
Benzo(g,h,i)perylene	0.130	0.012	mg/kg wet	0.2000		65	40-140			
Benzo(k)fluoranthene	0.162	0.012	mg/kg wet	0.2000		81	40-140			
Chrysene	0.162	0.012	mg/kg wet	0.2000		81	40-140			
Dibenzo(a,h)Anthracene	0.142	0.012	mg/kg wet	0.2000		71	40-140			
Fluoranthene	0.154	0.012	mg/kg wet	0.2000		77	40-140			
Fluorene	0.155	0.012	mg/kg wet	0.2000		78	40-140			
Hexachlorobenzene	0.250	0.012	mg/kg wet	0.2000		125	40-140			
Indeno(1,2,3-cd)Pyrene	0.137	0.012	mg/kg wet	0.2000		69	40-140			
Naphthalene	0.127	0.012	mg/kg wet	0.2000		63	40-140			
Phenanthrene	0.142	0.012	mg/kg wet	0.2000		71	40-140			
Pyrene	0.157	0.012	mg/kg wet	0.2000		79	40-140			
Surrogate: 1,2-Dichlorobenzene-d4	*0.175*		mg/kg wet	*0.2500*		*70*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*0.216*		mg/kg wet	*0.2500*		*86*	*30-130*			
Surrogate: Nitrobenzene-d5	*0.208*		mg/kg wet	*0.2500*		*83*	*30-130*			
Surrogate: p-Terphenyl-d14	*0.234*		mg/kg wet	*0.2500*		*93*	*30-130*			
LCS Dup										
2-Methylnaphthalene	0.120	0.012	mg/kg wet	0.2000		60	40-140	5	30	
Acenaphthene	0.139	0.012	mg/kg wet	0.2000		69	40-140	6	30	
Acenaphthylene	0.138	0.012	mg/kg wet	0.2000		69	40-140	6	30	
Anthracene	0.141	0.012	mg/kg wet	0.2000		71	40-140	2	30	
Benzo(a)anthracene	0.145	0.012	mg/kg wet	0.2000		73	40-140	4	30	
Benzo(a)pyrene	0.152	0.012	mg/kg wet	0.2000		76	40-140	2	30	
Benzo(b)fluoranthene	0.162	0.012	mg/kg wet	0.2000		81	40-140	0.6	30	
Benzo(g,h,i)perylene	0.125	0.012	mg/kg wet	0.2000		62	40-140	4	30	
Benzo(k)fluoranthene	0.158	0.012	mg/kg wet	0.2000		79	40-140	2	30	
Chrysene	0.156	0.012	mg/kg wet	0.2000		78	40-140	4	30	
Dibenzo(a,h)Anthracene	0.136	0.012	mg/kg wet	0.2000		68	40-140	4	30	
Fluoranthene	0.148	0.012	mg/kg wet	0.2000		74	40-140	4	30	
Fluorene	0.149	0.012	mg/kg wet	0.2000		75	40-140	4	30	
Hexachlorobenzene	0.170	0.012	mg/kg wet	0.2000		85	40-140	39	30	D+
Indeno(1,2,3-cd)Pyrene	0.132	0.012	mg/kg wet	0.2000		66	40-140	4	30	
Naphthalene	0.119	0.012	mg/kg wet	0.2000		59	40-140	7	30	
Phenanthrene	0.137	0.012	mg/kg wet	0.2000		69	40-140	3	30	
Pyrene	0.155	0.012	mg/kg wet	0.2000		78	40-140	2	30	
Surrogate: 1,2-Dichlorobenzene-d4	*0.151*		mg/kg wet	*0.2500*		*61*	*30-130*			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503448

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D(SIM) Polynuclear Aromatic Hydrocarbons										
Batch CC52823 - 3546										
Surrogate: 2-Fluorobiphenyl	*0.186*		mg/kg wet	*0.2500*		*74*	*30-130*			
Surrogate: Nitrobenzene-d5	*0.178*		mg/kg wet	*0.2500*		*71*	*30-130*			
Surrogate: p-Terphenyl-d14	*0.218*		mg/kg wet	*0.2500*		*87*	*30-130*			
Classical Chemistry										
Batch CC52807 - General Preparation										
Blank										
Hexavalent Chromium	ND	0.7	mg/kg wet							
LCS										
Hexavalent Chromium	32.4	0.7	mg/kg wet	33.32		97	80-120			
LCS Dup										
Hexavalent Chromium	32.6	0.7	mg/kg wet	33.32		98	80-120	0.5	20	
Reference										
Hexavalent Chromium	99.8	2.0	mg/kg wet	125.0		80	61-139			
Batch CC53003 - General Preparation										
Blank										
Reactive Cyanide	ND	2.0	mg/kg							
Reactive Sulfide	ND	2.0	mg/kg							
LCS										
Reactive Cyanide	3.8	2.0	mg/kg	100.3		4	0.68-5.41			
Reactive Sulfide	0.2	2.0	mg/kg	10.00		2	0-44			
MADEP-EPH Extractable Petroleum Hydrocarbons										
Batch CC52711 - 3546										
Blank										
C19-C36 Aliphatics1	ND	15.0	mg/kg wet							
C9-C18 Aliphatics1	ND	15.0	mg/kg wet							
Decane (C10)	ND	0.5	mg/kg wet							
Docosane (C22)	ND	0.5	mg/kg wet							
Dodecane (C12)	ND	0.5	mg/kg wet							
Eicosane (C20)	ND	0.5	mg/kg wet							
Hexacosane (C26)	ND	0.5	mg/kg wet							
Hexadecane (C16)	ND	0.5	mg/kg wet							
Hexatriacontane (C36)	ND	0.5	mg/kg wet							
Nonadecane (C19)	ND	0.5	mg/kg wet							
Nonane (C9)	ND	0.5	mg/kg wet							
Octacosane (C28)	ND	0.5	mg/kg wet							
Octadecane (C18)	ND	0.5	mg/kg wet							
Tetracosane (C24)	ND	0.5	mg/kg wet							
Tetradecane (C14)	ND	0.5	mg/kg wet							
Triacontane (C30)	ND	0.5	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503448

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
MADEP-EPH Extractable Petroleum Hydrocarbons										
Batch CC52711 - 3546										
Surrogate: 1-Chlorooctadecane	*1.20*		mg/kg wet	*2.000*		*60*	*40-140*			
Blank										
2-Methylnaphthalene	ND	0.20	mg/kg wet							
Acenaphthene	ND	0.40	mg/kg wet							
Acenaphthylene	ND	0.20	mg/kg wet							
Anthracene	ND	0.40	mg/kg wet							
Benzo(a)anthracene	ND	0.40	mg/kg wet							
Benzo(a)pyrene	ND	0.40	mg/kg wet							
Benzo(b)fluoranthene	ND	0.40	mg/kg wet							
Benzo(g,h,i)perylene	ND	0.40	mg/kg wet							
Benzo(k)fluoranthene	ND	0.40	mg/kg wet							
C11-C22 Unadjusted Aromatics1	ND	15.0	mg/kg wet							
Chrysene	ND	0.40	mg/kg wet							
Dibenzo(a,h)Anthracene	ND	0.20	mg/kg wet							
Fluoranthene	ND	0.40	mg/kg wet							
Fluorene	ND	0.40	mg/kg wet							
Indeno(1,2,3-cd)Pyrene	ND	0.40	mg/kg wet							
Naphthalene	ND	0.40	mg/kg wet							
Phenanthrene	ND	0.40	mg/kg wet							
Pyrene	ND	0.40	mg/kg wet							
Surrogate: 2-Bromonaphthalene	*1.20*		mg/kg wet	*2.000*		*60*	*40-140*			
Surrogate: 2-Fluorobiphenyl	*1.16*		mg/kg wet	*2.000*		*58*	*40-140*			
Surrogate: O-Terphenyl	*1.49*		mg/kg wet	*2.000*		*74*	*40-140*			
LCS										
C19-C36 Aliphatics1	14.1	15.0	mg/kg wet	16.00		88	40-140			
C9-C18 Aliphatics1	8.1	15.0	mg/kg wet	12.00		68	40-140			
Decane (C10)	1.0	0.5	mg/kg wet	2.000		50	40-140			
Docosane (C22)	1.5	0.5	mg/kg wet	2.000		75	40-140			
Dodecane (C12)	1.0	0.5	mg/kg wet	2.000		51	40-140			
Eicosane (C20)	1.5	0.5	mg/kg wet	2.000		73	40-140			
Hexacosane (C26)	1.5	0.5	mg/kg wet	2.000		77	40-140			
Hexadecane (C16)	1.4	0.5	mg/kg wet	2.000		68	40-140			
Hexatriacontane (C36)	1.5	0.5	mg/kg wet	2.000		75	40-140			
Nonadecane (C19)	1.5	0.5	mg/kg wet	2.000		74	40-140			
Nonane (C9)	0.8	0.5	mg/kg wet	2.000		41	30-140			
Octacosane (C28)	1.5	0.5	mg/kg wet	2.000		75	40-140			
Octadecane (C18)	1.4	0.5	mg/kg wet	2.000		71	40-140			
Tetracosane (C24)	1.4	0.5	mg/kg wet	2.000		72	40-140			
Tetradecane (C14)	1.2	0.5	mg/kg wet	2.000		61	40-140			
Triacontane (C30)	1.5	0.5	mg/kg wet	2.000		74	40-140			
Surrogate: 1-Chlorooctadecane	*1.15*		mg/kg wet	*2.000*		*58*	*40-140*			
LCS										
2-Methylnaphthalene	1.32	0.20	mg/kg wet	2.000		66	40-140			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503448

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
MADEP-EPH Extractable Petroleum Hydrocarbons										
Batch CC52711 - 3546										
Acenaphthene	1.48	0.40	mg/kg wet	2.000		74	40-140			
Acenaphthylene	1.48	0.20	mg/kg wet	2.000		74	40-140			
Anthracene	1.72	0.40	mg/kg wet	2.000		86	40-140			
Benzo(a)anthracene	1.71	0.40	mg/kg wet	2.000		85	40-140			
Benzo(a)pyrene	1.81	0.40	mg/kg wet	2.000		90	40-140			
Benzo(b)fluoranthene	1.63	0.40	mg/kg wet	2.000		82	40-140			
Benzo(g,h,i)perylene	1.66	0.40	mg/kg wet	2.000		83	40-140			
Benzo(k)fluoranthene	1.66	0.40	mg/kg wet	2.000		83	40-140			
C11-C22 Unadjusted Aromatics1	30.2	15.0	mg/kg wet	34.00		89	40-140			
Chrysene	1.74	0.40	mg/kg wet	2.000		87	40-140			
Dibenzo(a,h)Anthracene	1.58	0.20	mg/kg wet	2.000		79	40-140			
Fluoranthene	1.66	0.40	mg/kg wet	2.000		83	40-140			
Fluorene	1.56	0.40	mg/kg wet	2.000		78	40-140			
Indeno(1,2,3-cd)Pyrene	1.63	0.40	mg/kg wet	2.000		81	40-140			
Naphthalene	1.21	0.40	mg/kg wet	2.000		60	40-140			
Phenanthrene	1.66	0.40	mg/kg wet	2.000		83	40-140			
Pyrene	1.68	0.40	mg/kg wet	2.000		84	40-140			
Surrogate: 2-Bromonaphthalene	*2.16*		mg/kg wet	*2.000*		*108*	*40-140*			
Surrogate: 2-Fluorobiphenyl	*2.08*		mg/kg wet	*2.000*		*104*	*40-140*			
Surrogate: O-Terphenyl	*1.50*		mg/kg wet	*2.000*		*75*	*40-140*			
LCS										
2-Methylnaphthalene Breakthrough	0.0		%				0-5			
Naphthalene Breakthrough	0.0		%				0-5			
LCS Dup										
C19-C36 Aliphatics1	13.5	15.0	mg/kg wet	16.00		84	40-140	4	25	
C9-C18 Aliphatics1	7.9	15.0	mg/kg wet	12.00		66	40-140	2	25	
Decane (C10)	1.0	0.5	mg/kg wet	2.000		50	40-140	1	25	
Docosane (C22)	1.5	0.5	mg/kg wet	2.000		73	40-140	3	25	
Dodecane (C12)	1.0	0.5	mg/kg wet	2.000		50	40-140	2	25	
Eicosane (C20)	1.4	0.5	mg/kg wet	2.000		71	40-140	3	25	
Hexacosane (C26)	1.5	0.5	mg/kg wet	2.000		75	40-140	2	25	
Hexadecane (C16)	1.3	0.5	mg/kg wet	2.000		66	40-140	3	25	
Hexatriacontane (C36)	1.5	0.5	mg/kg wet	2.000		73	40-140	2	25	
Nonadecane (C19)	1.4	0.5	mg/kg wet	2.000		72	40-140	3	25	
Nonane (C9)	0.8	0.5	mg/kg wet	2.000		41	30-140	1	25	
Octacosane (C28)	1.5	0.5	mg/kg wet	2.000		73	40-140	2	25	
Octadecane (C18)	1.4	0.5	mg/kg wet	2.000		69	40-140	3	25	
Tetracosane (C24)	1.4	0.5	mg/kg wet	2.000		71	40-140	2	25	
Tetradecane (C14)	1.2	0.5	mg/kg wet	2.000		59	40-140	4	25	
Triacontane (C30)	1.4	0.5	mg/kg wet	2.000		72	40-140	2	25	
Surrogate: 1-Chlorooctadecane	*1.07*		mg/kg wet	*2.000*		*54*	*40-140*			
LCS Dup										
2-Methylnaphthalene	1.23	0.20	mg/kg wet	2.000		61	40-140	8	20	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503448

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
MADEP-EPH Extractable Petroleum Hydrocarbons										
Batch CC52711 - 3546										
Acenaphthene	1.36	0.40	mg/kg wet	2.000		68	40-140	9	20	
Acenaphthylene	1.34	0.20	mg/kg wet	2.000		67	40-140	10	20	
Anthracene	1.62	0.40	mg/kg wet	2.000		81	40-140	6	20	
Benzo(a)anthracene	1.63	0.40	mg/kg wet	2.000		81	40-140	5	20	
Benzo(a)pyrene	1.73	0.40	mg/kg wet	2.000		86	40-140	4	20	
Benzo(b)fluoranthene	1.57	0.40	mg/kg wet	2.000		78	40-140	4	20	
Benzo(g,h,i)perylene	1.58	0.40	mg/kg wet	2.000		79	40-140	5	20	
Benzo(k)fluoranthene	1.61	0.40	mg/kg wet	2.000		80	40-140	3	20	
C11-C22 Unadjusted Aromatics1	29.0	15.0	mg/kg wet	34.00		85	40-140	4	25	
Chrysene	1.67	0.40	mg/kg wet	2.000		84	40-140	4	20	
Dibenzo(a,h)Anthracene	1.50	0.20	mg/kg wet	2.000		75	40-140	5	20	
Fluoranthene	1.63	0.40	mg/kg wet	2.000		82	40-140	2	20	
Fluorene	1.49	0.40	mg/kg wet	2.000		75	40-140	4	20	
Indeno(1,2,3-cd)Pyrene	1.56	0.40	mg/kg wet	2.000		78	40-140	4	20	
Naphthalene	1.16	0.40	mg/kg wet	2.000		58	40-140	4	20	
Phenanthrene	1.59	0.40	mg/kg wet	2.000		79	40-140	4	20	
Pyrene	1.61	0.40	mg/kg wet	2.000		80	40-140	4	20	
Surrogate: 2-Bromonaphthalene	*1.95*		mg/kg wet	*2.000*		*98*	*40-140*			
Surrogate: 2-Fluorobiphenyl	*1.87*		mg/kg wet	*2.000*		*93*	*40-140*			
Surrogate: O-Terphenyl	*1.43*		mg/kg wet	*2.000*		*71*	*40-140*			
LCS Dup										
2-Methylnaphthalene Breakthrough	0.0		%				0-5		200	
Naphthalene Breakthrough	0.0		%				0-5		200	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase ESS Laboratory Work Order: 1503448

Notes and Definitions

P	Percent difference between primary and confirmation results exceeds 40% (P).
B-	Blank Spike recovery is below lower control limit (B-).
B+	Blank Spike recovery is above upper control limit (B+).
C-	Continuing Calibration recovery is below lower control limit (C-).
C+	Continuing Calibration recovery is above upper control limit (C+).
D	Diluted.
D+	Relative percent difference for duplicate is outside of criteria (D+).
E	Reported above the quantitation limit; Estimated value (E).
EL	Elevated Method Reporting Limits due to sample matrix (EL).
H	Estimated value. Sample hold times were exceeded (H).
B	Present in Method Blank (B).
LC	Lower value is used due to matrix interferences (LC).
Z-10c	Soil pH measured in water at 17.3 ºC.
PT	Pentachlorophenol tailing factor > 2.
S-	Surrogate recovery(ies) below lower control limit (S-).
SD	Surrogate recovery(ies) diluted below the MRL (SD).
U	Analyte included in the analysis, but not detected
WL	Results obtained from a deionized water leach of the sample.
Z-08	See Attached
Z-10	Soil pH measured in water at 13.7 ºC.
Z-10a	Soil pH measured in water at 14.8 ºC.
Z-10b	Soil pH measured in water at 15.0 ºC.
IM	Internal Standard(s) outside of criteria due to matrix (UCM/coelution is present) (IM).
ND	Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
I/V	Initial Volume
F/V	Final Volume
§	Subcontracted analysis; see attached report
1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of target analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.
Avg	Results reported as a mathematical average.
NR	No Recovery
[CALC]	Calculated Analyte
SUB	Subcontracted analysis; see attached report
[2C]	Result was taken from the second column. Dual column analysis.

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503448

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Department of Defense (DoD) Environmental Laboratory Accreditation Program (ELAP)
A2LA Accredited: Testing Cert# 2864.01
http://www.a2la.org/scopepdf/2864-01.pdf

Rhode Island Potable and Non Potable Water: LAI00179
http://www.health.ri.gov/find/labs/analytical/ESS.pdf

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750
http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutofStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI0002
http://www.maine.gov/dhhs/mecdc/environmental-health/water/dwp-services/labcert/documents/AllLabs.xls

Massachusetts Potable and Non Potable Water: M-RI002
http://public.dep.state.ma.us/Labcert/Labcert.aspx

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424
http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313
http://www.wadsworth.org/labcert/elap/comm.html

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006
http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752
http://www.depweb.state.pa.us/portal/server.pt/community/labs/13780/laboratory_accreditation_program/590095

CHEMISTRY

A2LA Accredited: Testing Cert # 2864.01
Lead in Paint, Phthalates, Lead in Children's Metals Products (Including Jewelry)
http://www.A2LA.org/dirsearchnew/newsearch.cfm

CPSC ID# 1141
Lead Paint, Lead in Children's Metals Jewelry
http://www.cpsc.gov/cgi-bin/labapplist.aspx

LABORATORY TESTING DATA SHEET

Project Name Wynn Everett | Project Location Everett, MA | Reviewed By

Project No. 01.0171521.13 **ESS-1503448** | Assigned By D. Scanlon

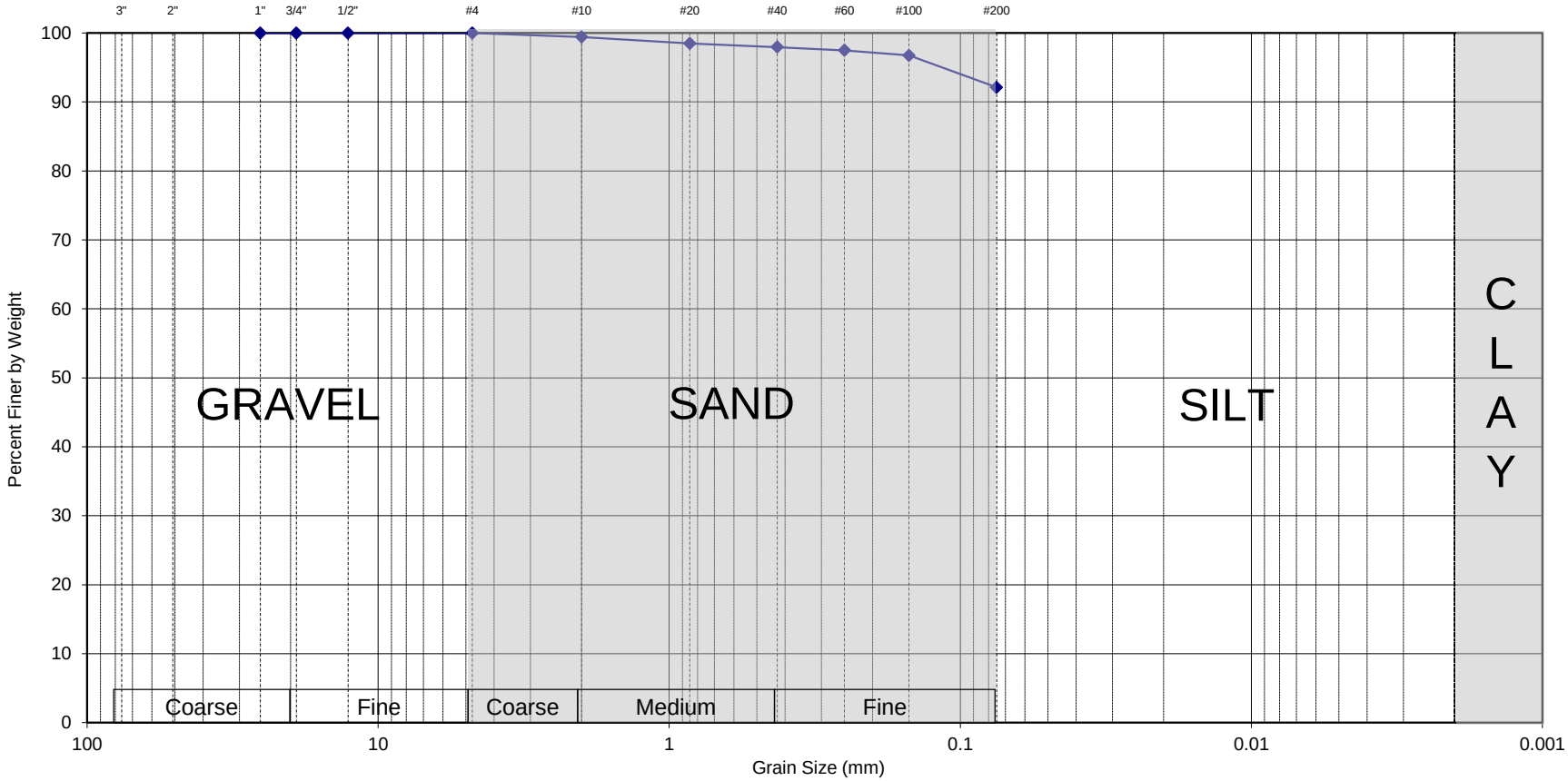
Project Manager D. Leone/C. Taylor | Report Date 3/27/15 | Date Reviewed *3/27/15*

Boring ID	Depth (ft)	ESS Sample ID	Lab No.	Identification Tests								Strength Tests				Laboratory Log and Soil Description
				Water Content %	LL %	PL %	Sieve -200 %	Hyd -2µ %	ORG %	G_s	Dry unit wt. pcf	Torvane or Type Test	Failure Criteria	$\sigma_1 - \sigma_3$ psf	Strain %	
GZ-206	0-3	1503448-01	15-S-243	204.7			92.1									Dark gray Organic SILT, trace Sand
GZ-205	0-3	1503448-05	15-S-244	198.6			87.4									Dark gray Organic SILT, little f-m Sand
GZ-213	0-3	1503448-08	15-S-245	56.1			69.7									Dark gray Organic SILT, some f-c Sand
GZ-219	0-3	1503448-14	15-S-246	61.8			90.5									Dark gray Organic SILT, trace Sand

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U.S. STANDARD SIEVE AND HYDROMETER



Gravel	Sand	Fines
0.0%	7.9%	92.1%

Lab #	Sample ID	ESS Sample ID	Sample Date	Description	WC	LL	PL	PI
15-S-243	B-206	1503448-01	3/25/15	Dark gray Organic SILT, trace Sand	205			

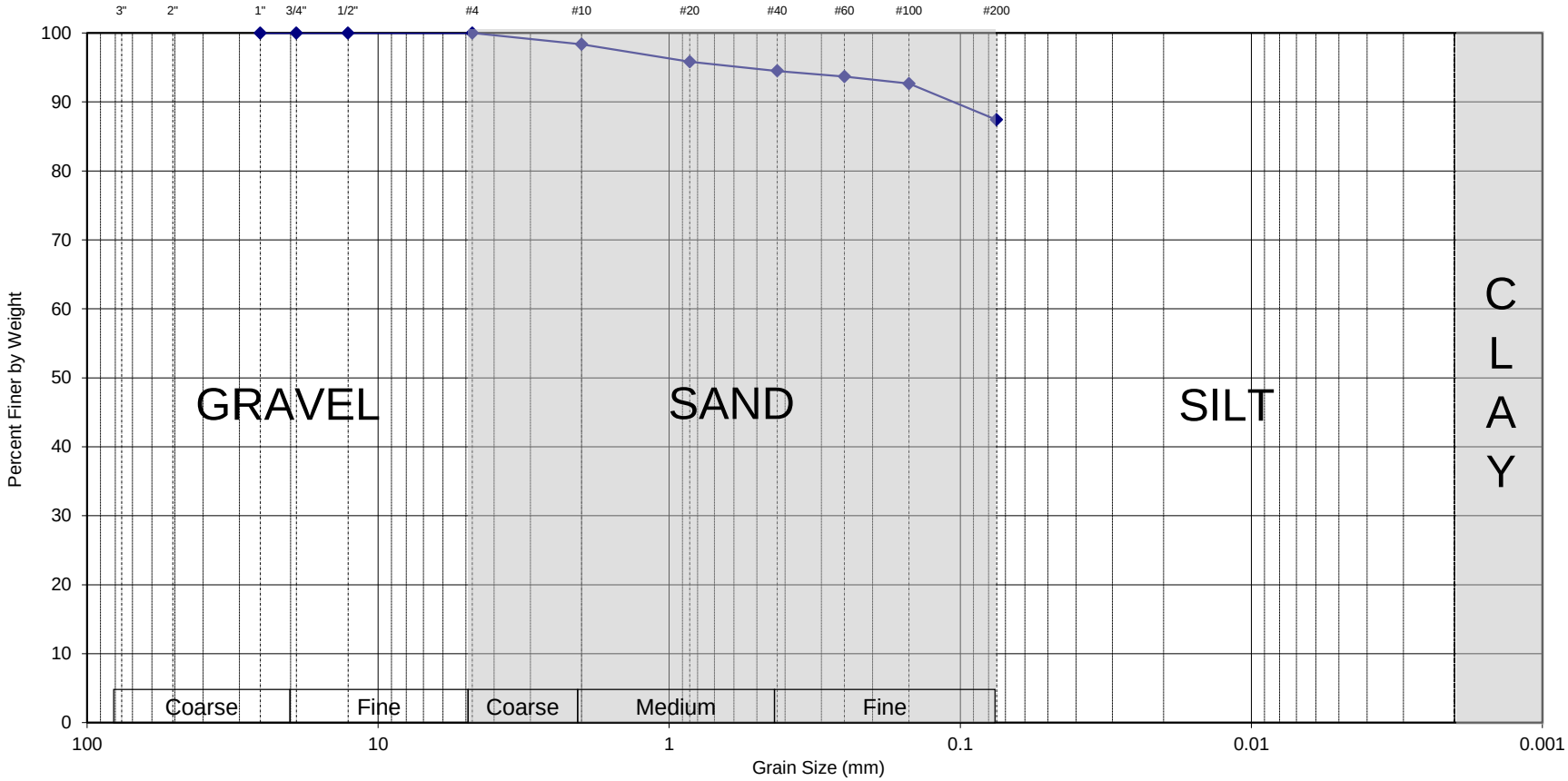
Sieve Size	% Passing
¾"	100.0
½"	100.0
#4	100.0
#10	99.4
#20	98.5
#40	98.0
#60	97.5
#100	96.8
#200	92.1

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Wynn Everett
ESS Project 1503447
GZA File # 01.0171521.13

Tested by: MK/MS Date: 3/27/15
Reviewed by: MBP Date: 3/27/15

U.S. STANDARD SIEVE AND HYDROMETER



Gravel	Sand	Fines
0.0%	12.6%	87.4%

Lab #	Sample ID	ESS Sample ID	Sample Date	Description	WC	LL	PL	PI
15-S-244	B-205	1503448-05	3/25/15	Dark gray Organic SILT, little f-m Sand	199			

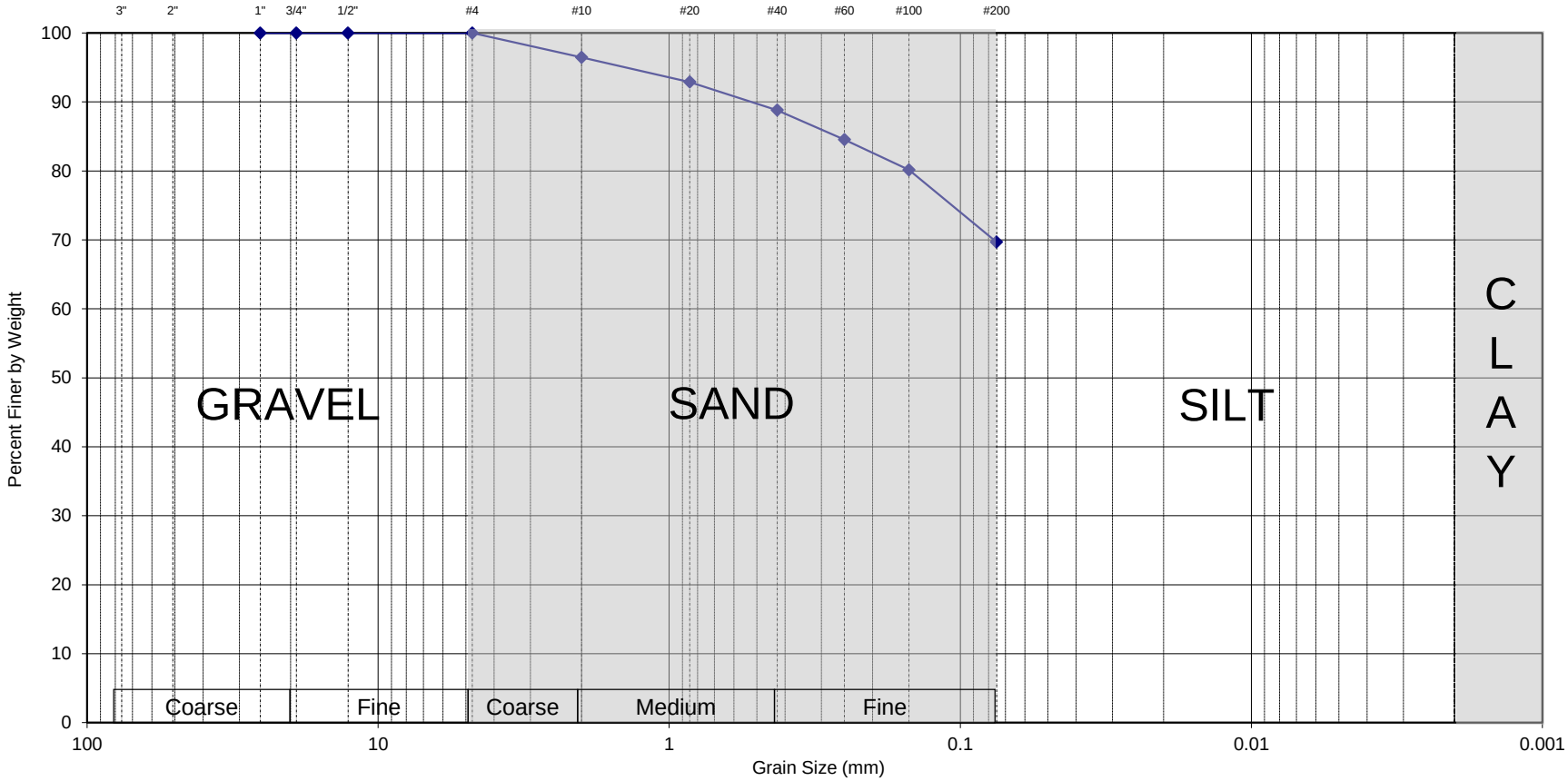
Sieve Size	% Passing
¾"	100.0
½"	100.0
#4	100.0
#10	98.3
#20	95.8
#40	94.5
#60	93.7
#100	92.7
#200	87.4

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Wynn Everett
ESS Project 1503447
GZA File # 01.0171521.13

Tested by: MK/MS Date: 3/27/15
Reviewed by: MBP Date: 3/27/15

U.S. STANDARD SIEVE AND HYDROMETER



Gravel	Sand	Fines
0.0%	30.3%	69.7%

Lab #	Sample ID	ESS Sample ID	Sample Date	Description	WC	LL	PL	PI
15-S-245	B-213	1503448-08	3/25/15	Dark gray Organic SILT, some f-c Sand	56			

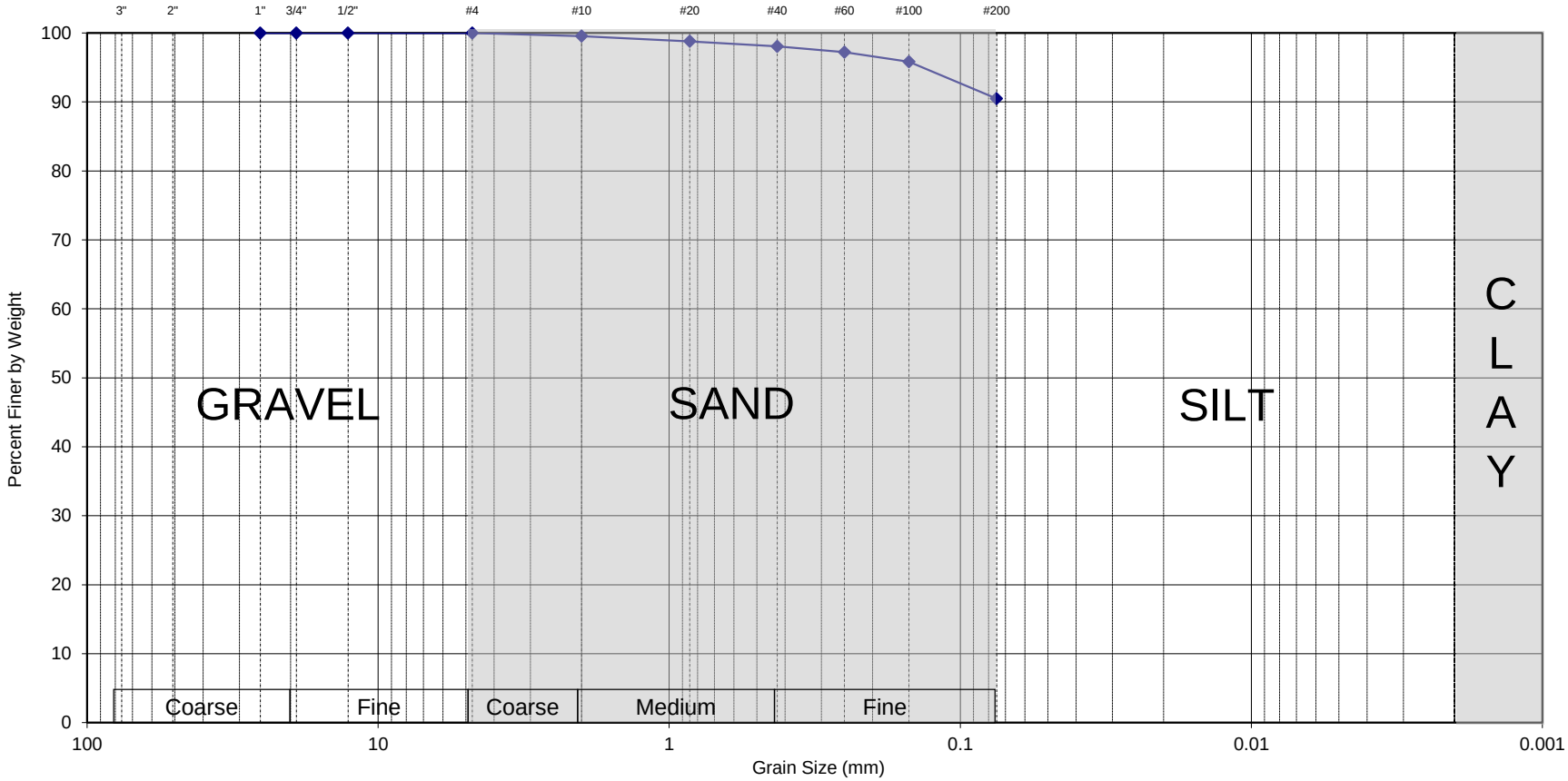
Sieve Size	% Passing
¾"	100.0
½"	100.0
#4	100.0
#10	96.5
#20	92.9
#40	88.8
#60	84.6
#100	80.2
#200	69.7

THIELSCH ENGINEERING
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Wynn Everett
ESS Project 1503447
GZA File # 01.0171521.13

Tested by:	MK/MS	Date:	3/27/15
Reviewed by:	MBP	Date:	3/27/15

U.S. STANDARD SIEVE AND HYDROMETER



Gravel	Sand	Fines
0.0%	9.5%	90.5%

Lab #	Sample ID	ESS Sample ID	Sample Date	Description	WC	LL	PL	PI
15-S-246	B-219	1503448-14	3/25/15	Dark gray Organic SILT, trace Sand	62			

Sieve Size	% Passing
¾"	100.0
½"	100.0
#4	100.0
#10	99.6
#20	98.8
#40	98.1
#60	97.2
#100	95.8
#200	90.5

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Wynn Everett
ESS Project 1503447
GZA File # 01.0171521.13

Tested by: MK/MS Date: 3/27/15
Reviewed by: MBP Date: 3/27/15

SOILS LABORATORY TESTING ASSIGNMENT SHEET

THIELSCH ENGINEERING 401-467-6454 195 Frances Ave., Cranston, RI 02910

Project Name **Wynn Everett** Client _____ Assigned By _____

CTS Project No. **74-14-0002.01** Site Location _____ Collected By _____

ESS Project No. **1503448** Date Assigned _____ Received By _____

Project Manager **Christine Taylor** Date Received _____ Date Required **5 DAY - 4/2/15**

Sample Information					Lab No.	Identification Tests							Permeability		Compaction			Strength		Consol.	Notes
Boring/ Test Pit No.	Sample No.	Depth Ft.	Sample Date	ESS SAMPLE ID		Water Cont. %	LL & PL %	Org. %	Sieve -200 %	Hyd -2μ %	G_s	γ_t pcf	Sand	Clay	Mod.	Std.	CBR	Tor-vane	Type Test $\bar{\sigma}_c$ or σ^c	Cc/ 1+eo	#
						D2216	D4318	D2974	D422		D854		D2434	D5084	D1557	D698	D1883		D2166/ D4767/ D2850	D2435	
GZ-206	0'-3'		3/25/15	1503448-01		X			X												
GZ-205	0'-3'		3/25/15	1503448-05		X			X												
GZ-213	0'-3'		3/25/15	1503448-08		X			X												
GZ-219	0'-3'		3/25/15	1503448-14		X			X												

Notes: _____

Sample and Cooler Receipt Checklist

Client: GZA GeoEnvironmental, Inc.
Client Project ID: _____
Shipped/Delivered Via: ESS Courier

ESS Project ID: 15030448
Date Project Due: 4/2/15
Days For Project: 5 Day

Items to be checked upon receipt:

1. Air Bill Manifest Present?	* No	10. Are the samples properly preserved?	Yes
Air No.:		11. Proper sample containers used?	Yes
2. Were Custody Seals Present?	No	12. Any air bubbles in the VOA vials?	N/A
3. Were Custody Seals Intact?	N/A	13. Holding times exceeded?	No
4. Is Radiation count < 100 CPM?	Yes	14. Sufficient sample volumes?	Yes
5. Is a cooler present?	Yes	15. Any Subcontracting needed?	* Yes
Cooler Temp: **4.2**		16. Are ESS labels on correct containers?	**Yes|No**
Iced With: **Ice**		17. Were samples received intact?	**Yes|No**
6. Was COC included with samples?	Yes	ESS Sample IDs: _____	
7. Was COC signed and dated by client?	Yes	Sub Lab: _____	
8. Does the COC match the sample	Yes	Analysis: _____	
9. Is COC complete and correct?	Yes	TAT: _____	

18. Was there need to call project manager to discuss status? If yes, please explain.
Added -29 to -37 for PCB Drying VF 3/20/15

Who was called?:_____ By whom? _____

Sample Number	Properly Preserved	Container Type	# of Containers	Preservative
1	Yes	4 oz Soil Jar	1	NP
1	Yes	40 ml - VOA	1	MeOH
1	Yes	40 ml - VOA	2	other
1	Yes	8 oz Soil Jar	2	NP
1	Yes	Other Glass	1	NP
2	Yes	8 oz Soil Jar	2	NP
3	Yes	2 oz Soil Jar	1	NP
3	Yes	8 oz Soil Jar	2	NP
4	Yes	2 oz Soil Jar	1	NP
4	Yes	8 oz Soil Jar	2	NP
5	Yes	4 oz Soil Jar	1	NP
5	Yes	40 ml - VOA	1	MeOH
5	Yes	40 ml - VOA	2	other
5	Yes	8 oz Soil Jar	2	NP
5	Yes	Other Glass	1	NP
6	Yes	8 oz Soil Jar	2	NP
7	Yes	2 oz Soil Jar	1	NP
7	Yes	8 oz Soil Jar	2	NP
8	Yes	4 oz Soil Jar	1	NP
8	Yes	40 ml - VOA	1	MeOH
8	Yes	40 ml - VOA	2	other
8	Yes	8 oz Soil Jar	2	NP
8	Yes	Other Glass	1	NP
9	Yes	8 oz Soil Jar	2	NP
10	Yes	8 oz Soil Jar	2	NP

Sample and Cooler Receipt Checklist

Client: GZA GeoEnvironmental, Inc. ESS Project ID: 15030448

11	Yes	2 oz Soil Jar	1	NP
11	Yes	8 oz Soil Jar	2	NP
12	Yes	8 oz Soil Jar	2	NP
13	Yes	2 oz Soil Jar	1	NP
13	Yes	8 oz Soil Jar	2	NP
14	Yes	4 oz Soil Jar	1	NP
14	Yes	40 ml - VOA	1	MeOH
14	Yes	40 ml - VOA	2	other
14	Yes	8 oz Soil Jar	2	NP
14	Yes	Other Glass	1	NP
15	Yes	8 oz Soil Jar	1	NP
16	Yes	8 oz Soil Jar	1	NP
17	Yes	8 oz Soil Jar	1	NP
18	Yes	8 oz Soil Jar	1	NP
19	Yes	8 oz Soil Jar	1	NP
20	Yes	8 oz Soil Jar	1	NP
21	Yes	8 oz Soil Jar	1	NP
22	Yes	8 oz Soil Jar	1	NP
23	Yes	8 oz Soil Jar	1	NP
24	Yes	8 oz Soil Jar	1	NP
25	Yes	8 oz Soil Jar	1	NP
26	Yes	8 oz Soil Jar	1	NP
27	Yes	8 oz Soil Jar	1	NP
28	Yes	8 oz Soil Jar	1	NP
29	Yes	8 oz Soil Jar	1	NP
30	Yes	8 oz Soil Jar	1	NP
31	Yes	8 oz Soil Jar	1	NP
32	Yes	8 oz Soil Jar	1	NP
33	Yes	8 oz Soil Jar	1	NP
34	Yes	8 oz Soil Jar	1	NP
35	Yes	8 oz Soil Jar	1	NP
36	Yes	8 oz Soil Jar	1	NP
37	Yes	8 oz Soil Jar	1	NP

Completed By: _____ Date/Time: 3/30/15 1318

Reviewed By: _____ Date/Time: _____

Sample and Cooler Receipt Checklist

Client: GZA GeoEnvironmental, Inc.
Client Project ID: _____
Shipped/Delivered Via: ESS Courier

ESS Project ID: 15030448
Date Project Due: 4/2/15
Days For Project: 5 Day

Items to be checked upon receipt:

1. Air Bill Manifest Present?	* No	10. Are the samples properly preserved?	Yes
Air No.:		11. Proper sample containers used?	Yes
2. Were Custody Seals Present?	No	12. Any air bubbles in the VOA vials?	N/A
3. Were Custody Seals Intact?	N/A	13. Holding times exceeded?	No
4. Is Radiation count < 100 CPM?	Yes	14. Sufficient sample volumes?	Yes
5. Is a cooler present?	Yes	15. Any Subcontracting needed?	* Yes
Cooler Temp: **4.2**		16. Are ESS labels on correct containers?	Yes No
Iced With: **Ice**		17. Were samples received intact?	Yes No
6. Was COC included with samples?	Yes	ESS Sample IDs:	01, 05, 08, 14
7. Was COC signed and dated by client?	Yes	Sub Lab:	CTS
8. Does the COC match the sample	Yes	Analysis:	Grain Size / % Solids
9. Is COC complete and correct?	Yes	TAT:	5 DAY

18. Was there need to call project manager to discuss status? If yes, please explain.

LL vials frozen @ 1325 on 3/26/15

Who was called?: _____ By whom? _____

Sample Number	Properly Preserved	Container Type	# of Containers	Preservative
1	Yes	4 oz Soil Jar	1	NP
1	Yes	40 ml - VOA	1	MeOH
1	Yes	40 ml - VOA	2	other
1	Yes	8 oz Soil Jar	2	NP
1	Yes	Other Glass	1	NP
2	Yes	8 oz Soil Jar	2	NP
3	Yes	2 oz Soil Jar	1	NP
3	Yes	8 oz Soil Jar	2	NP
4	Yes	2 oz Soil Jar	1	NP
4	Yes	8 oz Soil Jar	2	NP
5	Yes	4 oz Soil Jar	1	NP
5	Yes	40 ml - VOA	1	MeOH
5	Yes	40 ml - VOA	2	other
5	Yes	8 oz Soil Jar	2	NP
5	Yes	Other Glass	1	NP
6	Yes	8 oz Soil Jar	2	NP
7	Yes	2 oz Soil Jar	1	NP
7	Yes	8 oz Soil Jar	2	NP
8	Yes	4 oz Soil Jar	1	NP
8	Yes	40 ml - VOA	1	MeOH
8	Yes	40 ml - VOA	2	other
8	Yes	8 oz Soil Jar	2	NP
8	Yes	Other Glass	1	NP
9	Yes	8 oz Soil Jar	2	NP
10	Yes	8 oz Soil Jar	2	NP

Sample and Cooler Receipt Checklist

Client: GZA GeoEnvironmental, Inc. ESS Project ID: 15030448

11	Yes	2 oz Soil Jar	1	NP
11	Yes	8 oz Soil Jar	2	NP
12	Yes	8 oz Soil Jar	2	NP
13	Yes	2 oz Soil Jar	1	NP
13	Yes	8 oz Soil Jar	2	NP
14	Yes	4 oz Soil Jar	1	NP
14	Yes	40 ml - VOA	1	MeOH
14	Yes	40 ml - VOA	2	other
14	Yes	8 oz Soil Jar	2	NP
14	Yes	Other Glass	1	NP
15	Yes	8 oz Soil Jar	1	NP
16	Yes	8 oz Soil Jar	1	NP
17	Yes	8 oz Soil Jar	1	NP
18	Yes	8 oz Soil Jar	1	NP
19	Yes	8 oz Soil Jar	1	NP
20	Yes	8 oz Soil Jar	1	NP
21	Yes	8 oz Soil Jar	1	NP
22	Yes	8 oz Soil Jar	1	NP
23	Yes	8 oz Soil Jar	1	NP
24	Yes	8 oz Soil Jar	1	NP
25	Yes	8 oz Soil Jar	1	NP
26	Yes	8 oz Soil Jar	1	NP
27	Yes	8 oz Soil Jar	1	NP
28	Yes	8 oz Soil Jar	1	NP

Completed By: _____ Date/Time: 3/26/15 1316

Reviewed By: _____ Date/Time: 3/26/15 1325

ESS Laboratory

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CHAIN OF CUSTODY

ESS LAB PROJECT ID: 1503448

Turn Time ___X___Standard Rush_____ Approved By: _____

Reporting Limits -

State where samples were collected: **MA** RI CT NH NJ NY ME Other_____

Is this project for any of the following: (please circle)
MA-MCP CT-RCP NJ-DKQP RGP DOD Other____

Electonic Deliverable Yes____ No____
Format: Excel___ Access___ PDF___ Other_____

GZA Project Manager: David E. Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Ave
Norwood, MA 02062
(781) 278-3700

Project No.: 01.0171521.13 Task 001
Project Name: Wynn - Everett
Contract Pricing ____
Special Pricing WO#: _____

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	MCP-14 Metals	PAHs by SIM	TOC	SVOCs	PCBs (Aroclors)	EPH	Hexavalent Chromium	Reactivity (Sulfide and Cyanide)	VOCs	% water	Grain Size Analysis	Comment #
	3-25-15	1110	G	S	GZ-206 (6'-8')		HOLD			AND		FREEZE						
29 15		1110			GZ-206 (0'-3')		X		X	X	X	X	X	X	X	X	X	(1)
30 16		1145			GZ-205 (0'-0.5')		X	X	X	X	X	X						
					GZ-205 (0.5'-2')		HOLD			AND		FREEZE						
					GZ-205 (2'-4')		HOLD			AND		FREEZE						
3 17					GZ-205 (4'-6')		X	X										
4 18					GZ-205 (6'-8')		X	X										
31 5 19		↓			GZ-205 (0'-3')		X		X	X	X	X	X	X	X	X	X	(1)
32 6 20		1352			GZ-213 (0'-0.5')		X	X	X	X	X	X						
	↓	1352	↓	↓	GZ-213 (0.5'-2')		HOLD			AND		FREEZE						

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-_____

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present ___X___ Yes _____ No

Seals Intact _____ Yes _____ No NA: X

Cooler Temperature: 3.8°/4.2° on 3/26/15

Sampled by : Daniel Scanlon (Daniel.Scanlon@gza.com)

Comments: (1) TCLP 20X Rule Applies

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Daniel Scanlon	3-25-15 @1800	Bill Bracon 3/26/15 0830	Bill Bracon 3/26/15 0845		3/26/15 1011

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www.esslaboratory.com

CHAIN OF CUSTODY

ESS LAB PROJECT ID 1503448

Turn Time ___X___ Standard Rush_____ Approved By: _____

Reporting Limits -

State where samples were collected: **MA** RI CT NH NJ NY ME Other_____

Is this project for any of the following: (please circle)
MA-MCP CT-RCP NJ-DKQP RGP DOD Other____

Electonic Deliverable Yes____ No____
Format: Excel___ Access___ PDF___ Other_____

GZA Project Manager: David E. Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Ave
Norwood, MA 02062
(781) 278-3700

Project No.: 01.0171521.13 Task 001
Project Name: Wynn - Everett
Contract Pricing _____
Special Pricing WO#: _____

	ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	MCP-14 Metals	PAHs by SIM	TOC	SVOCs	PCBs (Aroclors)	EPH	Hexavalent Chromium	Reactivity (Sulfide and Cyanide)	VOCs	% water	Grain Size Analysis	Comment #
		3-25-15	1352	G	S	GZ-213 (2'-4')		HOLD AND FREEZE											
	7 21					GZ-213 (4'-6')		X	X										
33	8 22		↓			GZ-213 (0'-3')		X		X	X	X	X	X	X	X	X	X	(1)
34	9 23		1423			GZ-218 (0'-0.5')		X	X	X	X	X	X						
35	10 24					GZ-218 (0.5'-2')		X	X	X	X	X	X						
						GZ-218 (2'-4')		HOLD AND FREEZE											
	11 25		↓			GZ-218 (4'-6')		X	X										
36	12 26		1506			GZ-219 (0'-0.5')		X	X	X	X	X	X						
			↓			GZ-219 (0.5'-2')		HOLD AND FREEZE											
		↓	↓	↓	↓	GZ-219 (2'-4')		HOLD AND FREEZE											

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-_____

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present X Yes ____No
Seals Intact ____Yes ____No NA: X
Cooler Temperature: 3.8°/4.2°IR 3/26/15

Sampled by : Daniel Scanlon (Daniel.Scanlon@gza.com)

Comments: (1) TCLP 20X Rule Applies

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
	3/25/15 @1800	3/26/15 0810	0845 3/26/15		3/26/15 1011

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CHAIN OF CUSTODY

ESS LAB PROJECT ID 1503448

Turn Time ___X___ Standard Rush_____ Approved By: _____

Reporting Limits -

State where samples were collected: **MA** RI CT NH NJ NY ME Other_____

Is this project for any of the following: (please circle)
MA-MCP CT-RCP NJ-DKQP RGP DOD Other____

Electonic Deliverable Yes____ No____
Format: Excel___ Access___ PDF___ Other_____

GZA Project Manager: David E. Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Ave
Norwood, MA 02062
(781) 278-3700

Project No.: 01.0171521.13 Task 001

Project Name: Wynn - Everett

Contract Pricing _____
Special Pricing WO#: _____

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	Analysis: MCP-14 Metals	PAHs by SIM	TOC	SVOCs	PCBs (Aroclors)	EPH	Hexavalent Chromium	Reactivity (Sulfide and Cyanide)	VOCs	% water	Grain Size Analysis	Comment #
13 27	3/25/15	1506	G	S	GZ-219 (4'-6')		X	X										
					GZ-219 (6'-8')		HOLD AND FREEZE											
14 28					GZ-219 (0'-3')		X		X	X	X	X	X	X	X	X	X	(1)

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-_____

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present _X_ Yes _____ No

Seals Intact _____ Yes _____ No NA: X

Cooler Temperature: 35°/42°OC W 3/26/15

Sampled by : Daniel Scanlon (Daniel.Scanlon@gza.com)

Comments: (1) TCLP 20X Rule Applies

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
	3/25/15 @1800	Bill Bisson 3/26/15 0830	Bill Bisson 3/26/15 0845		3/26/15 1011

CERTIFICATE OF ANALYSIS

David E Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Avenue
Norwood, MA 02062

RE: Wynn Everett Sediment Phase (01.0171521.13 Task 001)
ESS Laboratory Work Order Number: 1503480

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.



Laurel Stoddard
Laboratory Director

REVIEWED
By ESS Laboratory at 3:16 pm, Apr 06, 2015

Analytical Summary
The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with NELAC Standards, A2LA and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.

Subcontracted Analyses

TestAmerica Laboratories, Inc. - Burlington, VT	Total Organic Carbon

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503480

SAMPLE RECEIPT

The following samples were received on March 27, 2015 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has performed and reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Data Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

For EPH soil samples, the aromatic range results have been corrected for identified cartridge contaminant in accordance with the CAM protocol.

Lab Number	Sample Name	Matrix	Analysis
1503480-01	LC-101 0ft-0.5ft	Soil	TOC-LK
1503480-02	LC-102 0ft-0.5ft	Soil	TOC-LK
1503480-03	LC-102 0.5ft-2ft	Soil	TOC-LK
1503480-04	LC-103 0ft-0.5ft	Soil	TOC-LK
1503480-05	LC-104 0ft-0.5ft	Soil	TOC-LK
1503480-06	LC-105 0ft-0.5ft	Soil	TOC-LK
1503480-07	LC-105 4ft-6ft	Soil	TOC-LK
1503480-08	LC-109 0ft-0.5ft	Soil	TOC-LK
1503480-09	LC-108 0ft-0.5ft	Soil	TOC-LK
1503480-10	LC-108 4ft-6ft	Soil	TOC-LK
1503480-11	LC-107 0ft-0.5ft	Soil	TOC-LK
1503480-12	LC-107 2ft-4ft	Soil	TOC-LK

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503480

PROJECT NARRATIVE

No unusual observations noted.

End of Project Narrative.

DATA USABILITY LINKS

Definitions of Quality Control Parameters

Semivolatile Organics Internal Standard Information

Semivolatile Organics Surrogate Information

Volatile Organics Internal Standard Information

Volatile Organics Surrogate Information

EPH and VPH Alkane Lists

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503480

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

1010A - Flashpoint
6010C - ICP
6020A - ICP MS
7010 - Graphite Furnace
7196A - Hexavalent Chromium
7470A - Aqueous Mercury
7471B - Solid Mercury
8011 - EDB/DBCP/TCP
8015D - GRO/DRO
8081B - Pesticides
8082A - PCB
8100M - TPH
8151A - Herbicides
8260B - VOA
8270D - SVOA
8270D SIM - SVOA Low Level
9014 - Cyanide
9038 - Sulfate
9040C - Aqueous pH
9045D - Solid pH (Corrosivity)
9050A - Specific Conductance
9056A - Anions (IC)
9060A - TOC
9095B - Paint Filter
MADEP 04-1.1 - EPH / VPH

Prep Methods

3005A - Aqueous ICP and Graphite Furnace Digestion
3020A - Aqueous ICP MS Digestion
3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
3060A - Solid Hexavalent Chromium Digestion
3510C - Separatory Funnel Extraction
3520C - Liquid / Liquid Extraction
3540C - Manual Soxhlet Extraction
3541 - Automated Soxhlet Extraction
3546 - Microwave Extraction
3580A - Waste Dilution
5030B - Aqueous Purge and Trap
5030C - Aqueous Purge and Trap
5035 - Solid Purge and Trap

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-101 0ft-0.5ft
Date Sampled: 03/26/15 10:05
Percent Solids: N/A

ESS Laboratory Work Order: 1503480
ESS Laboratory Sample ID: 1503480-01
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**51700** (1000)		TOC-LK		1	SUB	03/31/15 22:32	mg/kg	CD50347

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-102 0ft-0.5ft
Date Sampled: 03/26/15 10:30
Percent Solids: N/A

ESS Laboratory Work Order: 1503480
ESS Laboratory Sample ID: 1503480-02
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**75800** (1000)		TOC-LK		1	SUB	03/30/15 21:28	mg/kg	CD50347

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-102 0.5ft-2ft
Date Sampled: 03/26/15 10:30
Percent Solids: N/A

ESS Laboratory Work Order: 1503480
ESS Laboratory Sample ID: 1503480-03
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**59000** (1000)		TOC-LK		1	SUB	03/30/15 21:35	mg/kg	CD50347

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-103 0ft-0.5ft
Date Sampled: 03/26/15 10:50
Percent Solids: N/A

ESS Laboratory Work Order: 1503480
ESS Laboratory Sample ID: 1503480-04
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**61900** (1000)		TOC-LK		1	SUB	03/30/15 21:42	mg/kg	CD50347

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-104 0ft-0.5ft
Date Sampled: 03/26/15 11:15
Percent Solids: N/A

ESS Laboratory Work Order: 1503480
ESS Laboratory Sample ID: 1503480-05
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**65000** (1000)		TOC-LK		1	SUB	03/30/15 21:48	mg/kg	CD50347

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-105 0ft-0.5ft
Date Sampled: 03/26/15 11:45
Percent Solids: N/A

ESS Laboratory Work Order: 1503480
ESS Laboratory Sample ID: 1503480-06
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**64300** (1000)		TOC-LK		1	SUB	03/30/15 21:55	mg/kg	CD50347

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-105 4ft-6ft
Date Sampled: 03/26/15 11:45
Percent Solids: N/A

ESS Laboratory Work Order: 1503480
ESS Laboratory Sample ID: 1503480-07
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**7310** (1000)		TOC-LK		1	SUB	04/01/15 22:14	mg/kg	CD50347

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-109 0ft-0.5ft
Date Sampled: 03/26/15 11:45
Percent Solids: N/A

ESS Laboratory Work Order: 1503480
ESS Laboratory Sample ID: 1503480-08
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**61800** (1000)		TOC-LK		1	SUB	03/30/15 22:08	mg/kg	CD50347

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-108 0ft-0.5ft
Date Sampled: 03/26/15 14:00
Percent Solids: N/A

ESS Laboratory Work Order: 1503480
ESS Laboratory Sample ID: 1503480-09
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**67100** (1000)		TOC-LK		1	SUB	03/30/15 22:15	mg/kg	CD50347

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-108 4ft-6ft
Date Sampled: 03/26/15 14:00
Percent Solids: N/A

ESS Laboratory Work Order: 1503480
ESS Laboratory Sample ID: 1503480-10
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**33400** (1000)		TOC-LK		1	SUB	03/30/15 22:22	mg/kg	CD50347

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-107 0ft-0.5ft
Date Sampled: 03/26/15 15:15
Percent Solids: N/A

ESS Laboratory Work Order: 1503480
ESS Laboratory Sample ID: 1503480-11
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**89400** (1000)		TOC-LK		1	SUB	03/31/15 22:45	mg/kg	CD50347

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-107 2ft-4ft
Date Sampled: 03/26/15 15:15
Percent Solids: N/A

ESS Laboratory Work Order: 1503480
ESS Laboratory Sample ID: 1503480-12
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**35900** (1000)		TOC-LK		1	SUB	03/30/15 22:35	mg/kg	CD50347

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503480

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase ESS Laboratory Work Order: 1503480

Notes and Definitions

ND	Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
I/V	Initial Volume
F/V	Final Volume
§	Subcontracted analysis; see attached report
1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of target analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.
Avg	Results reported as a mathematical average.
NR	No Recovery
[CALC]	Calculated Analyte
SUB	Subcontracted analysis; see attached report
[2C]	Result was taken from the second column. Dual column analysis.

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503480

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Department of Defense (DoD) Environmental Laboratory Accreditation Program (ELAP)
A2LA Accredited: Testing Cert# 2864.01
http://www.a2la.org/scopepdf/2864-01.pdf

Rhode Island Potable and Non Potable Water: LAI00179
http://www.health.ri.gov/find/labs/analytical/ESS.pdf

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750
http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutofStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI0002
http://www.maine.gov/dhhs/mecdc/environmental-health/water/dwp-services/labcert/documents/AllLabs.xls

Massachusetts Potable and Non Potable Water: M-RI002
http://public.dep.state.ma.us/Labcert/Labcert.aspx

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424
http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313
http://www.wadsworth.org/labcert/elap/comm.html

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006
http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752
http://www.depweb.state.pa.us/portal/server.pt/community/labs/13780/laboratory_accreditation_program/590095

CHEMISTRY

A2LA Accredited: Testing Cert # 2864.01
Lead in Paint, Phthalates, Lead in Children's Metals Products (Including Jewelry)
http://www.A2LA.org/dirsearchnew/newsearch.cfm

CPSC ID# 1141
Lead Paint, Lead in Children's Metals Jewelry
http://www.cpsc.gov/cgi-bin/labapplist.aspx

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING



ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Burlington
30 Community Drive
Suite 11
South Burlington, VT 05403
Tel: (802)660-1990

TestAmerica Job ID: 200-27289-1
TestAmerica Sample Delivery Group: 1503480
Client Project/Site: 1503480

For:
ESS Laboratory
185 Frances Ave.
Cranston, Rhode Island 02910

Attn: Ms. Elizabeth Ouk

Authorized for release by:
4/3/2015 4:49:22 PM

Kathryn Kelly, Project Manager I
(802)660-1990
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LINKS
Review your project results through TotalAccess
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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Qualifiers

General Chemistry

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
^	Instrument related QC exceeds the control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Job ID: 200-27289-1

Laboratory: TestAmerica Burlington

Narrative

CASE NARRATIVE

Client: ESS Laboratory

Project: 1503480

Report Number: 200-27289-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The samples were received on 03/28/2015; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 1.8º C.

TOTAL ORGANIC CARBON

Samples 1503480-01, 1503480-02, 1503480-03, 1503480-04, 1503480-05, 1503480-06, 1503480-07, 1503480-08, 1503480-09, 1503480-10, 1503480-11 and 1503480-12 were analyzed for total organic carbon in accordance with Lloyd Kahn Method. The samples were analyzed on 03/30/2015, 03/31/2015 and 04/01/2015.

Total Organic Carbon was detected in method blank MB 200-86277/5 at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. Total Organic Carbon was detected in method blank MB 200-86321/13 at a level exceeding the reporting limit. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. Total Organic Carbon was detected in method blank MB 200-86386/5 at a level exceeding the reporting limit. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. Refer to the QC report for details.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: ESS Laboratory
Project/Site: 1503480

TestAmerica Job ID: 200-27289-1
SDG: 1503480

Client Sample ID: 1503480-01 — Lab Sample ID: 200-27289-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	51700	B	1000	120	mg/Kg	1		Lloyd Kahn	Total/NA

Client Sample ID: 1503480-02 — Lab Sample ID: 200-27289-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	75800	B ^	1000	120	mg/Kg	1		Lloyd Kahn	Total/NA

Client Sample ID: 1503480-03 — Lab Sample ID: 200-27289-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	59000	B ^	1000	120	mg/Kg	1		Lloyd Kahn	Total/NA

Client Sample ID: 1503480-04 — Lab Sample ID: 200-27289-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	61900	B ^	1000	120	mg/Kg	1		Lloyd Kahn	Total/NA

Client Sample ID: 1503480-05 — Lab Sample ID: 200-27289-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	65000	B ^	1000	120	mg/Kg	1		Lloyd Kahn	Total/NA

Client Sample ID: 1503480-06 — Lab Sample ID: 200-27289-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	64300	B ^	1000	120	mg/Kg	1		Lloyd Kahn	Total/NA

Client Sample ID: 1503480-07 — Lab Sample ID: 200-27289-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	7310	B	1000	120	mg/Kg	1		Lloyd Kahn	Total/NA

Client Sample ID: 1503480-08 — Lab Sample ID: 200-27289-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	61800	B ^	1000	120	mg/Kg	1		Lloyd Kahn	Total/NA

Client Sample ID: 1503480-09 — Lab Sample ID: 200-27289-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	67100	B ^	1000	120	mg/Kg	1		Lloyd Kahn	Total/NA

Client Sample ID: 1503480-10 — Lab Sample ID: 200-27289-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	33400	B ^	1000	120	mg/Kg	1		Lloyd Kahn	Total/NA

Client Sample ID: 1503480-11 — Lab Sample ID: 200-27289-11

This Detection Summary does not include radiochemical test results.

TestAmerica Burlington

Client Sample ID: 1503480-11 (Continued) — Lab Sample ID: 200-27289-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	89400	B	1000	120	mg/Kg	1		Lloyd Kahn	Total/NA

Client Sample ID: 1503480-12 — Lab Sample ID: 200-27289-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	35900	B ^	1000	120	mg/Kg	1		Lloyd Kahn	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: 1503480-01 — **Lab Sample ID: 200-27289-1**
Date Collected: 03/26/15 10:05
Date Received: 03/28/15 10:20
Matrix: Sediment

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	51700	B	1000	120	mg/Kg			03/31/15 22:32	1

Client Sample ID: 1503480-02 — **Lab Sample ID: 200-27289-2**
Date Collected: 03/26/15 10:30
Date Received: 03/28/15 10:20
Matrix: Sediment

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	75800	B ^	1000	120	mg/Kg			03/30/15 21:28	1

Client Sample ID: 1503480-03 — **Lab Sample ID: 200-27289-3**
Date Collected: 03/26/15 10:30
Date Received: 03/28/15 10:20
Matrix: Sediment

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	59000	B ^	1000	120	mg/Kg			03/30/15 21:35	1

Client Sample ID: 1503480-04 — **Lab Sample ID: 200-27289-4**
Date Collected: 03/26/15 10:50
Date Received: 03/28/15 10:20
Matrix: Sediment

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	61900	B ^	1000	120	mg/Kg			03/30/15 21:42	1

Client Sample ID: 1503480-05 — **Lab Sample ID: 200-27289-5**
Date Collected: 03/26/15 11:15
Date Received: 03/28/15 10:20
Matrix: Sediment

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	65000	B ^	1000	120	mg/Kg			03/30/15 21:48	1

Client Sample ID: 1503480-06 — **Lab Sample ID: 200-27289-6**
Date Collected: 03/26/15 11:45
Date Received: 03/28/15 10:20
Matrix: Sediment

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	64300	B ^	1000	120	mg/Kg			03/30/15 21:55	1

Client Sample ID: 1503480-07 — **Lab Sample ID: 200-27289-7**
Date Collected: 03/26/15 11:45
Date Received: 03/28/15 10:20
Matrix: Sediment

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	7310	B	1000	120	mg/Kg			04/01/15 22:14	1

Client: ESS Laboratory
Project/Site: 1503480

TestAmerica Job ID: 200-27289-1
SDG: 1503480

Client Sample ID: 1503480-08
Date Collected: 03/26/15 11:45
Date Received: 03/28/15 10:20

Lab Sample ID: 200-27289-8
Matrix: Sediment

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	61800	B ^	1000	120	mg/Kg			03/30/15 22:08	1

Client Sample ID: 1503480-09
Date Collected: 03/26/15 14:00
Date Received: 03/28/15 10:20

Lab Sample ID: 200-27289-9
Matrix: Sediment

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	67100	B ^	1000	120	mg/Kg			03/30/15 22:15	1

Client Sample ID: 1503480-10
Date Collected: 03/26/15 14:00
Date Received: 03/28/15 10:20

Lab Sample ID: 200-27289-10
Matrix: Sediment

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	33400	B ^	1000	120	mg/Kg			03/30/15 22:22	1

Client Sample ID: 1503480-11
Date Collected: 03/26/15 15:15
Date Received: 03/28/15 10:20

Lab Sample ID: 200-27289-11
Matrix: Sediment

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	89400	B	1000	120	mg/Kg			03/31/15 22:45	1

Client Sample ID: 1503480-12
Date Collected: 03/26/15 15:15
Date Received: 03/28/15 10:20

Lab Sample ID: 200-27289-12
Matrix: Sediment

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	35900	B ^	1000	120	mg/Kg			03/30/15 22:35	1

Method: Lloyd Kahn - Organic Carbon, Total (TOC)

Lab Sample ID: MB 200-86277/5
Matrix: Sediment
Analysis Batch: 86277

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	350.0	J	1000	120	mg/Kg			03/30/15 20:42	1

Lab Sample ID: LCS 200-86277/6
Matrix: Sediment
Analysis Batch: 86277

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	20100	23330		mg/Kg		116	75 - 125

Lab Sample ID: MB 200-86321/13
Matrix: Sediment
Analysis Batch: 86321

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	125.0	J	1000	120	mg/Kg			03/31/15 21:54	1

Lab Sample ID: LCS 200-86321/14
Matrix: Sediment
Analysis Batch: 86321

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	20100	19920		mg/Kg		99	75 - 125

Lab Sample ID: MB 200-86386/5
Matrix: Sediment
Analysis Batch: 86386

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	155.0	J	1000	120	mg/Kg			04/01/15 21:33	1

Lab Sample ID: LCS 200-86386/6
Matrix: Sediment
Analysis Batch: 86386

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	20100	20330		mg/Kg		101	75 - 125

QC Association Summary

Client: ESS Laboratory
Project/Site: 1503480

TestAmerica Job ID: 200-27289-1
SDG: 1503480

General Chemistry

Analysis Batch: 86277

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
200-27289-2	1503480-02	Total/NA	Sediment	Lloyd Kahn	
200-27289-3	1503480-03	Total/NA	Sediment	Lloyd Kahn	
200-27289-4	1503480-04	Total/NA	Sediment	Lloyd Kahn	
200-27289-5	1503480-05	Total/NA	Sediment	Lloyd Kahn	
200-27289-6	1503480-06	Total/NA	Sediment	Lloyd Kahn	
200-27289-8	1503480-08	Total/NA	Sediment	Lloyd Kahn	
200-27289-9	1503480-09	Total/NA	Sediment	Lloyd Kahn	
200-27289-10	1503480-10	Total/NA	Sediment	Lloyd Kahn	
200-27289-12	1503480-12	Total/NA	Sediment	Lloyd Kahn	
LCS 200-86277/6	Lab Control Sample	Total/NA	Sediment	Lloyd Kahn	
MB 200-86277/5	Method Blank	Total/NA	Sediment	Lloyd Kahn	

Analysis Batch: 86321

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
200-27289-1	1503480-01	Total/NA	Sediment	Lloyd Kahn	
200-27289-11	1503480-11	Total/NA	Sediment	Lloyd Kahn	
LCS 200-86321/14	Lab Control Sample	Total/NA	Sediment	Lloyd Kahn	
MB 200-86321/13	Method Blank	Total/NA	Sediment	Lloyd Kahn	

Analysis Batch: 86386

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
200-27289-7	1503480-07	Total/NA	Sediment	Lloyd Kahn	
LCS 200-86386/6	Lab Control Sample	Total/NA	Sediment	Lloyd Kahn	
MB 200-86386/5	Method Blank	Total/NA	Sediment	Lloyd Kahn	

Lab Chronicle

Client: ESS Laboratory
Project/Site: 1503480

TestAmerica Job ID: 200-27289-1
SDG: 1503480

Client Sample ID: 1503480-01
Lab Sample ID: 200-27289-1
Date Collected: 03/26/15 10:05
Matrix: Sediment
Date Received: 03/28/15 10:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Lloyd Kahn		1	86321	03/31/15 22:32	MDK	TAL BUR

Client Sample ID: 1503480-02
Lab Sample ID: 200-27289-2
Date Collected: 03/26/15 10:30
Matrix: Sediment
Date Received: 03/28/15 10:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Lloyd Kahn		1	86277	03/30/15 21:28	MDK	TAL BUR

Client Sample ID: 1503480-03
Lab Sample ID: 200-27289-3
Date Collected: 03/26/15 10:30
Matrix: Sediment
Date Received: 03/28/15 10:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Lloyd Kahn		1	86277	03/30/15 21:35	MDK	TAL BUR

Client Sample ID: 1503480-04
Lab Sample ID: 200-27289-4
Date Collected: 03/26/15 10:50
Matrix: Sediment
Date Received: 03/28/15 10:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Lloyd Kahn		1	86277	03/30/15 21:42	MDK	TAL BUR

Client Sample ID: 1503480-05
Lab Sample ID: 200-27289-5
Date Collected: 03/26/15 11:15
Matrix: Sediment
Date Received: 03/28/15 10:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Lloyd Kahn		1	86277	03/30/15 21:48	MDK	TAL BUR

Client Sample ID: 1503480-06
Lab Sample ID: 200-27289-6
Date Collected: 03/26/15 11:45
Matrix: Sediment
Date Received: 03/28/15 10:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Lloyd Kahn		1	86277	03/30/15 21:55	MDK	TAL BUR

Lab Chronicle

Client: ESS Laboratory
Project/Site: 1503480

TestAmerica Job ID: 200-27289-1
SDG: 1503480

Client Sample ID: 1503480-07
Date Collected: 03/26/15 11:45
Date Received: 03/28/15 10:20

Lab Sample ID: 200-27289-7
Matrix: Sediment

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Lloyd Kahn		1	86386	04/01/15 22:14	MDK	TAL BUR

Client Sample ID: 1503480-08
Date Collected: 03/26/15 11:45
Date Received: 03/28/15 10:20

Lab Sample ID: 200-27289-8
Matrix: Sediment

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Lloyd Kahn		1	86277	03/30/15 22:08	MDK	TAL BUR

Client Sample ID: 1503480-09
Date Collected: 03/26/15 14:00
Date Received: 03/28/15 10:20

Lab Sample ID: 200-27289-9
Matrix: Sediment

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Lloyd Kahn		1	86277	03/30/15 22:15	MDK	TAL BUR

Client Sample ID: 1503480-10
Date Collected: 03/26/15 14:00
Date Received: 03/28/15 10:20

Lab Sample ID: 200-27289-10
Matrix: Sediment

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Lloyd Kahn		1	86277	03/30/15 22:22	MDK	TAL BUR

Client Sample ID: 1503480-11
Date Collected: 03/26/15 15:15
Date Received: 03/28/15 10:20

Lab Sample ID: 200-27289-11
Matrix: Sediment

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Lloyd Kahn		1	86321	03/31/15 22:45	MDK	TAL BUR

Client Sample ID: 1503480-12
Date Collected: 03/26/15 15:15
Date Received: 03/28/15 10:20

Lab Sample ID: 200-27289-12
Matrix: Sediment

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Lloyd Kahn		1	86277	03/30/15 22:35	MDK	TAL BUR

Laboratory References:

TAL BUR = TestAmerica Burlington, 30 Community Drive, Suite 11, South Burlington, VT 05403, TEL (802)660-1990

Certification Summary

Client: ESS Laboratory
Project/Site: 1503480

TestAmerica Job ID: 200-27289-1
SDG: 1503480

Laboratory: TestAmerica Burlington

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Connecticut	State Program	1	PH-0751	09-30-15
DE Haz. Subst. Cleanup Act (HSCA)	State Program	3	NA	02-13-16
Florida	NELAP	4	E87467	06-30-15
L-A-B	DoD ELAP		L2336	02-26-17
Maine	State Program	1	VT00008	04-17-15 *
Minnesota	NELAP	5	050-999-436	12-31-15
New Hampshire	NELAP	1	2006	12-18-15
New Jersey	NELAP	2	VT972	06-30-15
New York	NELAP	2	10391	03-31-16
Pennsylvania	NELAP	3	68-00489	04-30-15 *
Rhode Island	State Program	1	LAO00298	12-30-15
US Fish & Wildlife	Federal		LE-058448-0	02-28-16
USDA	Federal		P330-11-00093	10-28-16
Vermont	State Program	1	VT-4000	12-31-15
Virginia	NELAP	3	460209	12-14-15

* Certification renewal pending - certification considered valid.

Method Summary

Client: ESS Laboratory
Project/Site: 1503480

TestAmerica Job ID: 200-27289-1
SDG: 1503480

Method	Method Description	Protocol	Laboratory
Lloyd Kahn	Organic Carbon, Total (TOC)	EPA	TAL BUR

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

TAL BUR = TestAmerica Burlington, 30 Community Drive, Suite 11, South Burlington, VT 05403, TEL (802)660-1990

Sample Summary

Client: ESS Laboratory
Project/Site: 1503480

TestAmerica Job ID: 200-27289-1
SDG: 1503480

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
200-27289-1	1503480-01	Sediment	03/26/15 10:05	03/28/15 10:20
200-27289-2	1503480-02	Sediment	03/26/15 10:30	03/28/15 10:20
200-27289-3	1503480-03	Sediment	03/26/15 10:30	03/28/15 10:20
200-27289-4	1503480-04	Sediment	03/26/15 10:50	03/28/15 10:20
200-27289-5	1503480-05	Sediment	03/26/15 11:15	03/28/15 10:20
200-27289-6	1503480-06	Sediment	03/26/15 11:45	03/28/15 10:20
200-27289-7	1503480-07	Sediment	03/26/15 11:45	03/28/15 10:20
200-27289-8	1503480-08	Sediment	03/26/15 11:45	03/28/15 10:20
200-27289-9	1503480-09	Sediment	03/26/15 14:00	03/28/15 10:20
200-27289-10	1503480-10	Sediment	03/26/15 14:00	03/28/15 10:20
200-27289-11	1503480-11	Sediment	03/26/15 15:15	03/28/15 10:20
200-27289-12	1503480-12	Sediment	03/26/15 15:15	03/28/15 10:20

ESS Laboratory — T. America — CHAIN OF CUSTODY

ESS Lab # 1503480

Division of Thielsch Engineering, Inc.

185 Frances Avenue,Cranston RI 02910-2211
Tel. (401)461-7181 Fax (401)461-4486
www.esslaboratory.com

Turn Time _____Standard Other **5 DAY**

Regulatory State: **MA** RI CT NH NJ NY ME Other_____

Is this project for any of the following:(please circle)
MA-MCP Navy USACE CT DEP Other_____

Reporting Limits - _____

Electonic Deliverables **Excel** Access **PDF** *

Co. Name: **ESS Laboratory**	Project #:	Project Name: **1503480**	
Contact Person: **Christine Taylor**	Proj. Location:		
Address:	City , State:	Zip:	PO #: B02192
Tel: ext. 3039	email: ctaylor@thielsch.com	email: smorrell@thielsch.com	

ESS Lab ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample ID	Pres Code	# of Containers	Type of Container	Vol of Container	Analysis: TOC Lloyd Kahn									
	3/26/15	1005	G	SED	1503480-01	1	1	G	2oz	X									
	3/26/15	1030	G	SED	1503480-02	1	1	G	2oz	X									
	3/26/15	1030	G	SED	1503480-03	1	1	G	2oz	X									
	3/26/15	1050	G	SED	1503480-04	1	1	G	2oz	X									
	3/26/15	1115	G	SED	1503480-05	1	1	G	2oz	X									
	3/26/15	1145	G	SED	1503480-06	1	1	G	2oz	X									
	3/26/15	1145	G	SED	1503480-07	1	1	G	2oz	X									
	3/26/15	1145	G	SED	1503480-08	1	1	G	2oz	X									
	3/26/15	1400	G	SED	1503480-09	1	1	G	2oz	X									
	3/26/15	1400	G	SED	1503480-10	1	1	G	2oz	X									
	3/26/15	1515	G	SED	1503480-11	1	1	G	2oz	X									
	3/26/15	1515	G	SED	1503480-12	1	1	G	2oz	X									

Container Type. P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater

Cooler Present _____Yes _____No

Seals Intact ____ Yes _____No NA:____

Cooler Temperature: _____

Internal Use Only

[ ] Pickup

[ ] Technician____

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-

Sampled by :

Comments:

200-27289 Chain of Custody

Relinquished by: (Signature, Date & Time)	Received by: (Signature, Date & Time)	Relinquished by: (Signature, Date & Time)	Received by: (Signature, Date & Time)
3/27/15 1450	3-29-15 1450	1700 3-27-15	3/28/15 1020 TARR
Relinquished by: (Signature, Date & Time)	Received by: (Signature, Date & Time)	Relinquished by: (Signature, Date & Time)	Received by: (Signature, Date & Time)

* By circling MA-MCP, client acknowledges samples were collected in accordance with MADEP CAM VIIA

Please fax to the laboratory all changes to Chain of Custody

Report Method Blank & Laboratory Control Sample Results


IDENT
A
ORIGIN ID:BXCA (781) 466-6900
PAUL HOBART
TESTAMERICA
240 BEAR HILL ROAD
SUITE 104
WALTHAM, MA 02451
UNITED STATES US
SHIP DATE: 27MAR15
ACTWGT: 13.2 LB
CAD: 590687/CAFE2807
BILL RECIPIENT
TO SAMPLE RECEIVING
TESTAMERICA BURLINGTON
30 COMMUNITY DRIVE
SUITE 11
SOUTH BURLINGTON VT 05403
(802) 660-1990
INV:
PO:
REF:
DEPT:
FedEx
Express
E
03.28
7728
SATURDAY 12:00P
PRIORITY OVERNIGHT
TRK#
0201
4258 8388 7728
XO BTVA
05403
VT-US
BTV
TAMPER

Login Sample Receipt Checklist

Client: ESS Laboratory

Job Number: 200-27289-1
SDG Number: 1503480

Login Number: 27289
List Number: 1
Creator: Young, Joseph W

List Source: TestAmerica Burlington

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.8ºC
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	N/A	
Residual Chlorine Checked.	N/A	

Sample and Cooler Receipt Checklist

Client: GZA GeoEnvironmental, Inc.
Client Project ID: _____
Shipped/Delivered Via: ESS Courier

ESS Project ID: 15030480
Date Project Due: 4/3/15
Days For Project: 5 Day

Items to be checked upon receipt:

1. Air Bill Manifest Present?	* No	10. Are the samples properly preserved?	Yes
Air No.:		11. Proper sample containers used?	Yes
2. Were Custody Seals Present?	No	12. Any air bubbles in the VOA vials?	N/A
3. Were Custody Seals Intact?	N/A	13. Holding times exceeded?	No
4. Is Radiation count < 100 CPM?	Yes	14. Sufficient sample volumes?	Yes
5. Is a cooler present?	Yes	15. Any Subcontracting needed?	* Yes
Cooler Temp: **3.0**		16. Are ESS labels on correct containers?	**Yes** | **No**
Iced With: **Ice**		17. Were samples received intact?	**Yes** | **No**
6. Was COC included with samples?	Yes	ESS Sample IDs:	01 - 12
7. Was COC signed and dated by client?	Yes	Sub Lab:	Test America
8. Does the COC match the sample	Yes	Analysis:	TOC - LK
9. Is COC complete and correct?	Yes	TAT:	5 Day

18. Was there need to call project manager to discuss status? If yes, please explain.

_____

_____

_____

Who was called?:_____ By whom? _____

Sample Number	Properly Preserved	Container Type	# of Containers	Preservative
1	Yes	2 oz Soil Jar	1	NP
2	Yes	2 oz Soil Jar	1	NP
3	Yes	2 oz Soil Jar	1	NP
4	Yes	2 oz Soil Jar	1	NP
5	Yes	2 oz Soil Jar	1	NP
6	Yes	2 oz Soil Jar	1	NP
7	Yes	2 oz Soil Jar	1	NP
8	Yes	2 oz Soil Jar	1	NP
9	Yes	2 oz Soil Jar	1	NP
10	Yes	2 oz Soil Jar	1	NP
11	Yes	2 oz Soil Jar	1	NP
12	Yes	2 oz Soil Jar	1	NP

Completed By: _____ Date/Time: 3/27/15 1011
Reviewed By: JAR Date/Time: 3/27/15 1045

ESS Laboratory

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185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS LAB PROJECT ID: 1503480

Turn Time ___X___Standard Rush_____ Approved By: _____

Reporting Limits -

State where samples were collected: **MA** RI CT NH NJ NY ME Other_____

Is this project for any of the following: (please circle)
MA-MCP CT-RCP NJ-DKQP RGP DOD Other___

Electonic Deliverable Yes ✓ No___
Format: Excel ✓ Access___ PDF ✓ Other_____

GZA Project Manager: David E. Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Ave
Norwood, MA 02062
(781) 278-3700

Project No.: 01.0171521.13 Task 001

Project Name: Wynn - Everett

Contract Pricing _____
Special Pricing WO#: _____

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	MCP 14 Metals	PAHs by SIM	TOC	SVOCs	PCBs (Aroclors)	EPH	Hexavalent Chromium	Reactivity (Sulfide and Cyanide)	VOCs	% water	Grain Size Analysis	Comment #
1	3-26-15	1005	G	S	LC-101 (0'-0.5')		X	X	X	X	X	X						
					LC-101 (0.5'-2')		HOLD	AND					FREEZE					
					LC-101 (2'-4')		X	X										
					LC-101 (4'-6')		HOLD	AND					FREEZE					
		↓			LC-101 (6'-8')		X	X										
2		1030			LC-102 (0'-0.5')		X	X	X	X	X	X						
3					LC-102 (0.5'-2')		X	X	X	X	X	X						
					LC-102 (2'-4')		HOLD	AND					FREEZE					
					LC-102 (4'-6')		HOLD	AND					FREEZE					
	↓	↓	↓	↓	LC-102 (6'-8')		HOLD	AND					FREEZE					

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-_____

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present ✓ Yes _____No

Seals Intact _____ Yes _____No NA: _____

Cooler Temperature: 3.0°C Ice Mum 3/27/15

Sampled by : Daniel Scanlon (Daniel.Scanlon@gza.com)

Comments: (1) TCLP 20X Rule Applies ONLY IF NOTED IN comment column

TOC only reported with this WO - cmt 4/1/15

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
	3/26/15 @ 1730	3/27/15		3/27/15 0920	3/27/15 0924

ESS Laboratory

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS LAB PROJECT ID: 1503480

Turn Time ___X___Standard Rush_____ Approved By: _____

Reporting Limits -

State where samples were collected: **MA** RI CT NH NJ NY ME Other_____

Is this project for any of the following: (please circle)
MA-MCP CT-RCP NJ-DKQP RGP DOD Other____

Electonic Deliverable Yes ✓ No____
Format: Excel X Access___ PDF X Other____

GZA Project Manager: David E. Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Ave
Norwood, MA 02062
(781) 278-3700

Project No.: 01.0171521.13 Task 001

Project Name: Wynn - Everett

Contract Pricing _____
Special Pricing WO#: _____

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	MCP 14 Metals	PAHs by SIM	TOC	SVOCs	PCBs (Aroclors)	EPH	Hexavalent Chromium	Reactivity (Sulfide and Cyanide)	VOCs	% water	Grain Size Analysis	Comment #
4	3/26/15	10:50	G	S	LC-103 (0'-0.5')		X	X	X	X	X	X						
					LC-103 (0.5'-2')		X	X	HOLD	AND	PRESERVE							
					LC-103 (2'-4')		X	X										
		↓			LC-103 (4'-6')		X	X										
5		11:15			LC-104 (0'-0.5')		X	X	X	X	X	X						
					LC-104 (0.5'-2')		X	X										
		↓			LC-104 (2'-4')		HOLD	AND	PRESERVE									
6		11:45			LC-105 (0'-0.5')		X	X	X	X	X	X						
					LC-105 (0.5'-2')		HOLD	AND	PRESERVE									
	↓	↓	↓	↓	LC-105 (2'-4')		X	X										

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-____

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present ___Yes ____No

Seals Intact ____Yes ____No NA: ✓

Cooler Temperature: 3.0°C 3/27/15

Sampled by : Daniel Scanlon (Daniel.Scanlon@gza.com)

Comments: (1) TCLP 20X Rule Applies ONLY if noted in comments column

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
	3/26/15 @ 1730	3/27/15 0700		3/27/15 0920	3/27/15 0924

ESS Laboratory

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston, RI 02910-2211
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www.esslaboratory.com

CHAIN OF CUSTODY

ESS LAB PROJECT ID: 1503480

Turn Time ___X___Standard Rush_____ Approved By: _____

Reporting Limits -

State where samples were collected: **MA** RI CT NH NJ NY ME Other_____

Is this project for any of the following: (please circle)
MA-MCP CT-RCP NJ-DKQP RGP DOD Other____

Electonic Deliverable Yes ✓ No____
Format: Excel ___ ✓ Access___ PDF ___ ✓ Other____

GZA Project Manager: David E. Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Ave
Norwood, MA 02062
(781) 278-3700

Project No.: 01.0171521.13 Task 001

Project Name: Wynn - Everett

Contract Pricing ____
Special Pricing WO#: _____

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	MCP 14 Metals	PAHs by SIM	TOC	SVOCs	PCBs (Aroclors)	EPH	Hexavalent Chromium	Reactivity (Sulfide and Cyanide)	VOCs	% water	Grain Size Analysis	Comment #
7	3/26/15	1145	G	S	LL-105 (4'-6')		X	X	X	X	X	X						
8					LL-109 (0'-0.5')		X	X	X	X	X	X						
					LL-109 (0.5'-2')		HOLD	AND	FREEZE									
					LL-109 (2'-4')		HOLD	AND	FREEZE									
		↓			LL-109 (4'-6')		X	X										
9		1400			LL-108 (0'-0.5')		X	X	X	X	X	X						
					LL-108 (0.5'-2')		X	X										
					LL-108 (2'-4')		HOLD	AND	FREEZE									
10		↓			LL-108 (4'-6')		X	X	X	X	X	X						
11	↓	1515	↓	↓	LL-107 (0'-0.5')		X	X	X	X	X	X						

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-_____

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present ✓ Yes ____No

Seals Intact ____Yes ____No NA: ✓

Cooler Temperature: 3.0°C Ice Mwan 3/27/15

Sampled by : Daniel Scanlon (Daniel.Scanlon@gza.com)

Comments: (1) TCLP 20X Rule Applies ONLY if noted in coments column.

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
	3/26/15 @ 1730	3/26/15 0700		3/27/15 0920	3/27/15 0924

ESS Laboratory
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185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS LAB PROJECT ID: 1503480

Turn Time ___X___ Standard Rush_____ Approved By: _____

Reporting Limits -

State where samples were collected: **MA** RI CT NH NJ NY ME Other_____

Is this project for any of the following: (please circle)
MA-MCP CT-RCP NJ-DKQP RGP DOD Other____

Electonic Deliverable Yes____ No____
Format: Excel___ Access___ PDF___ Other_____

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(781) 278-3700

Project No.: 01.0171521.13 Task 001

Project Name: Wynn - Everett

Contract Pricing _____
Special Pricing WO#: _____

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	MCP-14 Metals	PAHs by SIM	TOC	SVOCs	PCBs (Aroclors)	EPH	Hexavalent Chromium	Reactivity (Sulfide and Cyanide)	VOCs	% water	Grain Size Analysis	Comment #
	3/26/15	1515	G	S	LC-107 (0.5'-2')		HOLD AND FREEZE											
12	3/26/15	1515	G	S	LC-107 (2'-4')		X	X	X	X	X	X						

Analysis

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-_____

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present ✓ Yes ____ No

Seals Intact ____ Yes ____ No NA ✓

Cooler Temperature: 3.0°C Initial 3/27/15

Sampled by : Daniel Scanlon (Daniel.Scanlon@gza.com)

Comments: (1) TCLP 20X Rule Applies ONLY if noted in ~~Sample~~ Section Comments column

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
	3/26/15 @ 1730	3/27/15 0700	3/27/15	0820	3/27/15 0824

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CHAIN OF CUSTODY

ESS LAB PROJECT ID: 1503480

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Reporting Limits -

State where samples were collected: **MA** RI CT NH NJ NY ME Other_____

Is this project for any of the following: (please circle)
MA-MCP CT-RCP NJ-DKQP RGP DOD Other___

Electonic Deliverable Yes ✓ No___
Format: Excel ✓ Access___ PDF ✓ Other_____

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Project No.: 01.0171521.13 Task 001

Project Name: Wynn - Everett

Contract Pricing ____
Special Pricing WO#: _____

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	Analysis: MCP-14 Metals	PAHs by SIM	TOC	SVOCs	PCBs (Aroclors)	EPH	Hexavalent Chromium	Reactivity (Sulfide and Cyanide)	VOCs	% water	Grain Size Analysis	Comment #
1	3-26-15	1005	G	S	LC-101 (0'-0.5')		X	X	X	X	X	X						
					LC-101 (0.5'-2')		HOLD			AND			FREEZE					
					LC-101 (2'-4')		X	X										
					LC-101 (4'-6')		HOLD			AND			FREEZE					
		↓			LC-101 (6'-8')		X	X										
2		1030			LC-102 (0'-0.5')		X	X	X	X	X	X						
3					LC-102 (0.5'-2')		X	X	X	X	X	X						
					LC-102 (2'-4')		HOLD			AND			FREEZE					
					LC-102 (4'-6')		HOLD			AND			FREEZE					
	↓	↓	↓	↓	LC-102 (6'-8')		HOLD			AND			FREEZE					

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-_____

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present ✓ Yes _____No

Seals Intact _____ Yes _____No NA: _____

Cooler Temperature: 3.0°C ice mm 3/27/15

Sampled by : Daniel Scanlon (Daniel.Scanlon@gza.com)

Comments: (1) TCLP 20X Rule Applies ONLY IF NOTED IN comment column

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
	3/26/15 @ 1730	3/27/15 0700		3/27/15 0920	3/27/15 0924

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CHAIN OF CUSTODY

ESS LAB PROJECT ID: 1503480

Turn Time ___X___Standard Rush_____ Approved By: _____

Reporting Limits -

State where samples were collected: **MA** RI CT NH NJ NY ME Other_____

Is this project for any of the following: (please circle)
MA-MCP CT-RCP NJ-DKQP RGP DOD Other____

Electonic Deliverable Yes ✓ No____
Format: Excel X Access___ PDF X Other____

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Project No.: 01.0171521.13 Task 001

Project Name: Wynn - Everett

Contract Pricing _____
Special Pricing WO#: _____

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	MCP-14 Metals	PAHs by SIM	TOC	SVOCs	PCBs (Aroclors)	EPH	Hexavalent Chromium	Reactivity (Sulfide and Cyanide)	VOCs	% water	Grain Size Analysis	Comment #
						Analysis												
4	3/26/15	10:50	G	S	LC-103 (0'-0.5')		X	X	X	X	X	X						
					LC-103 (0.5'-2')		HOLD	AND	FREEZE									
					LC-103 (2'-4')		X	X										
		↓			LC-103 (4'-6')		X	X										
5		11:15			LC-104 (0'-0.5')		X	X	X	X	X	X						
					LC-104 (0.5'-2')		X	X										
		↓			LC-104 (2'-4')		HOLD	AND	FREEZE									
6		11:45			LC-105 (0'-0.5')		X	X	X	X	X	X						
					LC-105 (0.5'-2')		HOLD	AND	FREEZE									
	↓	↓	↓	↓	LC-105 (2'-4')		X	X										

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-____

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present ___Yes ____No

Seals Intact ____Yes ____No NA: ✓

Cooler Temperature: 3.0°C 3/27/15

Sampled by : Daniel Scanlon (Daniel.Scanlon@gza.com)

Comments: (1) TCLP 20X Rule Applies ONLY if noted in comments column

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
	3/26/15 @ 1730	3/27/15 0700		3/27/15 0920	3/27/15 0924

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CHAIN OF CUSTODY

ESS LAB PROJECT ID: 1503480

Turn Time ___X___Standard Rush_____ Approved By: _____

Reporting Limits -

State where samples were collected: **MA** RI CT NH NJ NY ME Other_____

Is this project for any of the following: (please circle)
MA-MCP CT-RCP NJ-DKQP RGP DOD Other____

Electonic Deliverable Yes ✓ No____
Format: Excel ___ Access___ PDF ✓ Other____

GZA Project Manager: David E. Leone
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Project No.: 01.0171521.13 Task 001

Project Name: Wynn - Everett

Contract Pricing ____
Special Pricing WO#: _____

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	Analysis: MCP-14 Metals	PAHs by SIM	TOC	SVOCs	PCBs (Aroclors)	EPH	Hexavalent Chromium	Reactivity (Sulfide and Cyanide)	VOCs	% water	Grain Size Analysis	Comment #
7	3/26/15	1145	G	S	LC-105 (4'-6')		X	X	X	X	X	X						
8					LC-109 (0'-0.5')		X	X	X	X	X	X						
					LC-109 (0.5'-2')		HOLD	AND	FREEZE									
					LC-109 (2'-4')		HOLD	AND	FREEZE									
		↓			LC-109 (4'-6')		X	X										
9		1400			LC-108 (0'-0.5')		X	X	X	X	X	X						
					LC-108 (0.5'-2')		X	X										
					LC-108 (2'-4')		HOLD	AND	FREEZE									
10		↓			LC-108 (4'-6')		X	X	X	X	X	X						
11	↓	1515	↓	↓	LC-107 (0'-0.5')		X	X	X	X	X	X						

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-_____

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present ✓ Yes ____ No

Seals Intact ____ Yes ____ No NA: ✓

Cooler Temperature: 3.0°C IR gun 3/27/15

Sampled by : Daniel Scanlon (Daniel.Scanlon@gza.com)

Comments: (1) TCLP 20X Rule Applies ONLY if noted in coments column.

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
	3/26/15 @ 1730	3/26/15 0700		3/27/15 0920	3/27/15 0924

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CHAIN OF CUSTODY

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State where samples were collected: **MA** RI CT NH NJ NY ME Other_____

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MA-MCP CT-RCP NJ-DKQP RGP DOD Other____

Electonic Deliverable Yes____ No____
Format: Excel___ Access___ PDF___ Other_____

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Project No.: 01.0171521.13 Task 001
Project Name: Wynn - Everett
Contract Pricing _____
Special Pricing WO#: _____

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	MCP-14 Metals	PAHs by SIM	TOC	SVOCs	PCBs (Aroclors)	EPH	Hexavalent Chromium	Reactivity (Sulfide and Cyanide)	VOCs	% water	Grain Size Analysis	Comment #
	3/26/15	1515	G	S	LC-107 (0.5'-2')		HOLD AND FREEZE											
12	3/26/15	1515	G	S	LC-107 (2'-4')		X	X	X	X	X	X						

Analysis

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-_____

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present ✓ Yes ____ No

Seals Intact _____ Yes ____ No NA ✓

Cooler Temperature: 3.0°C Initial 3/27/15

Sampled by : Daniel Scanlon (Daniel.Scanlon@gza.com)

Comments: (1) TCLP 20X Rule Applies ONLY if noted in ~~Sample~~ Section Comments column

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
	3/26/15 @ 1730	3/27/15 0700	3/27/15	0820	3/27/15 0824

CERTIFICATE OF ANALYSIS

David E Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Avenue
Norwood, MA 02062

RE: Wynn Everett Sediment Phase (01.0171521.13 Task 001)
ESS Laboratory Work Order Number: 1503482

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director

REVIEWED
By ESS Laboratory at 11:39 am, Apr 10, 2015

Analytical Summary
The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with NELAC Standards, A2LA and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503482

SAMPLE RECEIPT

The following samples were received on March 27, 2015 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has performed and reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Data Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

For EPH soil samples, the aromatic range results have been corrected for identified cartridge contaminant in accordance with the CAM protocol.

Question I: Samples LC-101 2ft-4ft, LC-101 6ft-8ft, LC-103 2ft-4ft, LC-103 4f-6ft, LC-104 0.5ft-2ft, LC-105 2ft-4ft, LL-109 4ft-6ft and LC-108 0.5ft-2ft (1503482-02, 1503482-03, 1503482-07, 1503482-08, 1503482-10, 1503482-12, 1503482-15 and 1503482-17 respectively) for SVOA were analyzed for a subset of the required MCP list per the client's request.

Samples were decanted, per client request, upon receipt by ESS.

Lab Number	Sample Name	Matrix	Analysis
1503482-01	LC-101 0ft-0.5ft	Soil	8270D, EPH8270, MADEP-EPH
1503482-02	LC-101 2ft-4ft	Soil	8270D
1503482-03	LC-101 6ft-8ft	Soil	8270D
1503482-04	LC-102 0ft-0.5ft	Soil	8270D, EPH8270, MADEP-EPH
1503482-05	LC-102 0.5ft-2ft	Soil	8270D, EPH8270, MADEP-EPH
1503482-06	LC-103 0ft-0.5ft	Soil	8270D, EPH8270, MADEP-EPH
1503482-07	LC-103 2ft-4ft	Soil	8270D
1503482-08	LC-103 4ft-6ft	Soil	8270D
1503482-09	LC-104 0ft-0.5ft	Soil	8270D, EPH8270, MADEP-EPH
1503482-10	LC-104 0.5ft-2ft	Soil	8270D
1503482-11	LC-105 0ft-0.5ft	Soil	8270D, EPH8270, MADEP-EPH
1503482-12	LC-105 2ft-4ft	Soil	8270D
1503482-13	LC-105 4ft-6ft	Soil	8270D, EPH8270, MADEP-EPH
1503482-14	LC-109 0ft-0.5ft	Soil	8270D, EPH8270, MADEP-EPH
1503482-15	LC-109 4ft-6ft	Soil	8270D

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase ESS Laboratory Work Order: 1503482

1503482-16	LC-108 0ft-0.5ft	Soil	8270D, EPH8270, MADEP-EPH
1503482-17	LC-108 0.5ft-2ft	Soil	8270D
1503482-18	LC-108 4ft-6ft	Soil	8270D, EPH8270, MADEP-EPH
1503482-19	LC-107 0ft-0.5ft	Soil	8270D, EPH8270, MADEP-EPH
1503482-20	LC-107 2ft-4ft	Soil	8270D, EPH8270, MADEP-EPH
1503482-21	LC-101 0ft-0.5ft	Soil	6010C, 7010, 7471B
1503482-22	LC-101 2ft-4ft	Soil	6010C, 7010, 7471B
1503482-23	LC-101 6ft-8ft	Soil	6010C, 7010, 7471B
1503482-24	LC-102 0ft-0.5ft	Soil	6010C, 7010, 7471B
1503482-25	LC-102 0.5ft-2ft	Soil	6010C, 7010, 7471B
1503482-26	LC-103 0ft-0.5ft	Soil	6010C, 7010, 7471B
1503482-27	LC-103 2ft-4ft	Soil	6010C, 7010, 7471B
1503482-28	LC-103 4ft-6ft	Soil	6010C, 7010, 7471B
1503482-29	LC-104 0ft-0.5ft	Soil	6010C, 7010, 7471B
1503482-30	LC-104 0.5ft-2ft	Soil	6010C, 7010, 7471B
1503482-31	LC-105 0ft-0.5ft	Soil	6010C, 7010, 7471B
1503482-32	LC-105 2ft-4ft	Soil	6010C, 7010, 7471B
1503482-33	LC-105 4ft-6ft	Soil	6010C, 7010, 7471B
1503482-34	LC-109 0ft-0.5ft	Soil	6010C, 7010, 7471B
1503482-35	LC-109 4ft-6ft	Soil	6010C, 7010, 7471B
1503482-36	LC-108 0ft-0.5ft	Soil	6010C, 7010, 7471B
1503482-37	LC-108 0.5ft-2ft	Soil	6010C, 7010, 7471B
1503482-38	LC-108 4ft-6ft	Soil	6010C, 7010, 7471B
1503482-39	LC-107 0ft-0.5ft	Soil	6010C, 7010, 7471B
1503482-40	LC-107 2ft-4ft	Soil	6010C, 7010, 7471B
1503482-41	LC-101 0ft-0.5ft	Soil	8082A
1503482-42	LC-102 0ft-0.5ft	Soil	8082A
1503482-43	LC-102 0.5ft-2ft	Soil	8082A
1503482-44	LC-103 0ft-0.5ft	Soil	8082A
1503482-45	LC-104 0ft-0.5ft	Soil	8082A
1503482-46	LC-105 0ft-0.5ft	Soil	8082A
1503482-47	LC-105 4ft-6ft	Soil	8082A
1503482-48	LC-109 0ft-0.5ft	Soil	8082A
1503482-49	LC-108 0ft-0.5ft	Soil	8082A
1503482-50	LC-108 4ft-6ft	Soil	8082A
1503482-51	LC-107 0ft-0.5ft	Soil	8082A
1503482-52	LC-107 2ft-4ft	Soil	8082A

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase ESS Laboratory Work Order: 1503482

PROJECT NARRATIVE

8082A Polychlorinated Biphenyls (PCB)

1503482-41	**Percent difference between primary and confirmation results exceeds 40% (P).** Aroclor 1248 , Aroclor 1254
1503482-42	**Percent difference between primary and confirmation results exceeds 40% (P).** Aroclor 1248
1503482-43	**Percent difference between primary and confirmation results exceeds 40% (P).** Aroclor 1248
1503482-43	**Surrogate recovery(ies) diluted below the MRL (SD).** Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)
1503482-44	**Percent difference between primary and confirmation results exceeds 40% (P).** Aroclor 1248
1503482-45	**Percent difference between primary and confirmation results exceeds 40% (P).** Aroclor 1248 , Aroclor 1260
1503482-48	**Percent difference between primary and confirmation results exceeds 40% (P).** Aroclor 1248
1503482-50	**Lower value is used due to matrix interferences (LC).** Aroclor 1248
1503482-50	**Percent difference between primary and confirmation results exceeds 40% (P).** Aroclor 1248
1503482-51	**Surrogate recovery(ies) outside of criteria. Reextraction/Reanalysis confirms results (SC).** Decachlorobiphenyl [2C] (29% @ 30-150%)
1503482-51RE1	**Surrogate recovery(ies) outside of criteria. Reextraction/Reanalysis confirms results (SC).** Decachlorobiphenyl [2C] (25% @ 30-150%), Tetrachloro-m-xylene (18% @ 30-150%), Tetrachloro-m-xylene [2C] (17% @ 30-150%)
1503482-52	**Surrogate recovery(ies) diluted below the MRL (SD).** Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

8270D Semi-Volatile Organic Compounds

1503482-18	**Internal Standard(s) outside of criteria due to matrix (UCM/coelution is present) (IM).** Chrysene-d12 (212% @ 50-200%)
CD50329-BS1	**Blank Spike recovery is below lower control limit (B-).** Aniline (30% @ 40-140%)
CD50329-BSD1	**Relative percent difference for duplicate is outside of criteria (D+).** Aniline (37% @ 30%)
CYC0367-CCV1	**Continuing Calibration recovery is above upper control limit (C+).** 2,4,6-Tribromophenol (131% @ 80-120%), 4-Nitrophenol (139% @ 80-120%)
CYC0367-CCV1	**Continuing Calibration recovery is below lower control limit (C-).** bis(2-chloroisopropyl)Ether (79% @ 80-120%)
CYC0367-TUN1	**Pentachlorophenol tailing factor > 2.**
CYC0371-CCV1	**Continuing Calibration recovery is above upper control limit (C+).**

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase ESS Laboratory Work Order: 1503482

2,4,6-Tribromophenol (131% @ 80-120%), 4-Nitrophenol (128% @ 80-120%), p-Terphenyl-d14 (122% @ 80-120%)

CYC0371-CCV1 **Continuing Calibration recovery is below lower control limit (C-).**
bis(2-chloroisopropyl)Ether (77% @ 80-120%)

CYC0371-TUN1 **Pentachlorophenol tailing factor > 2.**

CYD0019-CCV1 **Continuing Calibration recovery is above upper control limit (C+).**
Azobenzene (124% @ 80-120%)

8270D(SIM) Polynuclear Aromatic Hydrocarbons

1503482-15 **Elevated Method Reporting Limits due to sample matrix (EL).**
Hexachlorobenzene

CC53111-BSD1 **Relative percent difference for duplicate is outside of criteria (D+).**
Acenaphthylene (40% @ 30%), Benzo(a)pyrene (33% @ 30%)

CYD0062-CCV1 **Continuing Calibration recovery is above upper control limit (C+).**
2-Methylnaphthalene (144% @ 70-130%)

MADEP-EPH Extractable Petroleum Hydrocarbons

CYC0372-CCV4 **Continuing Calibration recovery is above upper control limit (C+).**
Dibenzo(a,h)Anthracene (122% @ 80-120%)

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

Definitions of Quality Control Parameters

Semivolatile Organics Internal Standard Information

Semivolatile Organics Surrogate Information

Volatile Organics Internal Standard Information

Volatile Organics Surrogate Information

EPH and VPH Alkane Lists

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503482

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

1010A - Flashpoint
6010C - ICP
6020A - ICP MS
7010 - Graphite Furnace
7196A - Hexavalent Chromium
7470A - Aqueous Mercury
7471B - Solid Mercury
8011 - EDB/DBCP/TCP
8015D - GRO/DRO
8081B - Pesticides
8082A - PCB
8100M - TPH
8151A - Herbicides
8260B - VOA
8270D - SVOA
8270D SIM - SVOA Low Level
9014 - Cyanide
9038 - Sulfate
9040C - Aqueous pH
9045D - Solid pH (Corrosivity)
9050A - Specific Conductance
9056A - Anions (IC)
9060A - TOC
9095B - Paint Filter
MADEP 04-1.1 - EPH / VPH

Prep Methods

3005A - Aqueous ICP and Graphite Furnace Digestion
3020A - Aqueous ICP MS Digestion
3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
3060A - Solid Hexavalent Chromium Digestion
3510C - Separatory Funnel Extraction
3520C - Liquid / Liquid Extraction
3540C - Manual Soxhlet Extraction
3541 - Automated Soxhlet Extraction
3546 - Microwave Extraction
3580A - Waste Dilution
5030B - Aqueous Purge and Trap
5030C - Aqueous Purge and Trap
5035 - Solid Purge and Trap

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503482

MassDEP Analytical Protocol Certification Form

MADEP RTN: _____

This form provides certification for the following data set: **1503482-01 through 1503482-52**

Matrices: ( ) Ground Water/Surface Water (X) Soil/Sediment ( ) Drinking Water ( ) Air ( ) Other:_____

CAM Protocol (check all that apply below):

( ) 8260 VOC CAM II A	(X) 7470/7471 Hg CAM III B	( ) MassDEP VPH CAM IV A	( ) 8081 Pesticides CAM V B	( ) 7196 Hex Cr CAM VI B	( ) MassDEP APH CAM IX A
(X) 8270 SVOC CAM II B	(X) 7010 Metals CAM III C	(X) MassDEP EPH CAM IV B	( ) 8151 Herbicides CAM V C	( ) 8330 Explosives CAM VIII A	( ) TO-15 VOC CAM IX B
(X) 6010 Metals CAM III A	( ) 6020 Metals CAM III D	(X) 8082 PCB CAM V A	( ) 6860 Perchlorate CAM VIII B	( ) 9014 Total Cyanide/PAC CAM VI A	

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	Yes (X) No ( )
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	Yes (X) No ( )
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	Yes (X) No ( )
D	Does the laboratory report comply with all the reporting requirements specified in the CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	Yes (X) No ( )
E	a. VPH, EPH, APH and TO-15 only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	Yes (X) No ( )
	b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	Yes ( ) No ( )
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	Yes (X) No ( )

Responses to Questions G, H and I below are required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocols(s)?	Yes (X) No ( )*
	***Data User Note:* Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.**	
H	Were **all** QC performance standards specified in the CAM protocol(s) achieved?	Yes ( ) No (X)*
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	Yes ( ) No (X)*

All negative responses must be addressed in an attached laboratory narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: _____ Date: April 10, 2015

Printed Name: Laurel Stoddard Position: Laboratory Director

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-101 0ft-0.5ft
Date Sampled: 03/26/15 10:05
Percent Solids: 49
Initial Volume: 30.2
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503482
ESS Laboratory Sample ID: 1503482-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JXS
Prepared: 3/30/15 16:37

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.335)		8270D		1	03/31/15 23:16	CYC0371	CD50329
1,2-Dichlorobenzene	ND (0.335)		8270D		1	03/31/15 23:16	CYC0371	CD50329
1,3-Dichlorobenzene	ND (0.335)		8270D		1	03/31/15 23:16	CYC0371	CD50329
1,4-Dichlorobenzene	ND (0.335)		8270D		1	03/31/15 23:16	CYC0371	CD50329
2,4,5-Trichlorophenol	ND (0.335)		8270D		1	03/31/15 23:16	CYC0371	CD50329
2,4,6-Trichlorophenol	ND (0.335)		8270D		1	03/31/15 23:16	CYC0371	CD50329
2,4-Dichlorophenol	ND (0.335)		8270D		1	03/31/15 23:16	CYC0371	CD50329
2,4-Dimethylphenol	ND (0.335)		8270D		1	03/31/15 23:16	CYC0371	CD50329
2,4-Dinitrophenol	ND (1.68)		8270D		1	03/31/15 23:16	CYC0371	CD50329
2,4-Dinitrotoluene	ND (0.335)		8270D		1	03/31/15 23:16	CYC0371	CD50329
2,6-Dinitrotoluene	ND (0.335)		8270D		1	03/31/15 23:16	CYC0371	CD50329
2-Chloronaphthalene	ND (0.335)		8270D		1	03/31/15 23:16	CYC0371	CD50329
2-Chlorophenol	ND (0.335)		8270D		1	03/31/15 23:16	CYC0371	CD50329
2-Methylphenol	ND (0.335)		8270D		1	03/31/15 23:16	CYC0371	CD50329
2-Nitrophenol	ND (0.335)		8270D		1	03/31/15 23:16	CYC0371	CD50329
3,3´-Dichlorobenzidine	ND (0.671)		8270D		1	03/31/15 23:16	CYC0371	CD50329
3+4-Methylphenol	ND (0.671)		8270D		1	03/31/15 23:16	CYC0371	CD50329
4-Bromophenyl-phenylether	ND (0.335)		8270D		1	03/31/15 23:16	CYC0371	CD50329
4-Chloroaniline	ND (0.671)		8270D		1	03/31/15 23:16	CYC0371	CD50329
4-Nitrophenol	ND (1.68)		8270D		1	03/31/15 23:16	CYC0371	CD50329
Acetophenone	ND (0.671)		8270D		1	03/31/15 23:16	CYC0371	CD50329
Aniline	ND (1.68)		8270D		1	03/31/15 23:16	CYC0371	CD50329
Azobenzene	ND (0.335)		8270D		1	03/31/15 23:16	CYC0371	CD50329
bis(2-Chloroethoxy)methane	ND (0.335)		8270D		1	03/31/15 23:16	CYC0371	CD50329
bis(2-Chloroethyl)ether	ND (0.335)		8270D		1	03/31/15 23:16	CYC0371	CD50329
bis(2-chloroisopropyl)Ether	ND (0.335)		8270D		1	03/31/15 23:16	CYC0371	CD50329
bis(2-Ethylhexyl)phthalate	**2.34** (0.335)		8270D		1	03/31/15 23:16	CYC0371	CD50329
Butylbenzylphthalate	ND (0.335)		8270D		1	03/31/15 23:16	CYC0371	CD50329
Dibenzofuran	ND (0.335)		8270D		1	03/31/15 23:16	CYC0371	CD50329
Diethylphthalate	ND (0.335)		8270D		1	03/31/15 23:16	CYC0371	CD50329
Dimethylphthalate	ND (0.335)		8270D		1	03/31/15 23:16	CYC0371	CD50329
Di-n-butylphthalate	ND (0.335)		8270D		1	03/31/15 23:16	CYC0371	CD50329

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-101 0ft-0.5ft
Date Sampled: 03/26/15 10:05
Percent Solids: 49
Initial Volume: 30.2
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503482
ESS Laboratory Sample ID: 1503482-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JXS
Prepared: 3/30/15 16:37

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Di-n-octylphthalate	ND (0.335)		8270D		1	03/31/15 23:16	CYC0371	CD50329
Hexachlorobenzene	ND (0.335)		8270D		1	03/31/15 23:16	CYC0371	CD50329
Hexachlorobutadiene	ND (0.335)		8270D		1	03/31/15 23:16	CYC0371	CD50329
Hexachloroethane	ND (0.335)		8270D		1	03/31/15 23:16	CYC0371	CD50329
Isophorone	ND (0.335)		8270D		1	03/31/15 23:16	CYC0371	CD50329
Nitrobenzene	ND (0.335)		8270D		1	03/31/15 23:16	CYC0371	CD50329
N-Nitrosodimethylamine	ND (0.335)		8270D		1	03/31/15 23:16	CYC0371	CD50329
Pentachlorophenol	ND (1.68)		8270D		1	03/31/15 23:16	CYC0371	CD50329
Phenol	ND (0.335)		8270D		1	03/31/15 23:16	CYC0371	CD50329

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*57 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*113 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*58 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*74 %*		*30-130*
Surrogate: 2-Fluorophenol	*53 %*		*30-130*
Surrogate: Nitrobenzene-d5	*56 %*		*30-130*
Surrogate: Phenol-d6	*57 %*		*30-130*
Surrogate: p-Terphenyl-d14	*91 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-101 0ft-0.5ft
Date Sampled: 03/26/15 10:05
Percent Solids: 49
Initial Volume: 20.6
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503482
ESS Laboratory Sample ID: 1503482-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 3/31/15 12:26

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	**0.230** (0.025)		8270D		1	04/02/15 9:12	CYD0016	CC53111
Acenaphthene	**0.302** (0.025)		8270D		1	04/02/15 9:12	CYD0016	CC53111
Acenaphthylene	**1.17** (0.025)		8270D		1	04/02/15 9:12	CYD0016	CC53111
Anthracene	**2.65** (0.123)		8270D		5	04/09/15 15:09	CYD0016	CC53111
Benzo(a)anthracene	**3.97** (0.123)		8270D		5	04/09/15 15:09	CYD0016	CC53111
Benzo(a)pyrene	**4.25** (0.123)		8270D		5	04/09/15 15:09	CYD0016	CC53111
Benzo(b)fluoranthene	**5.03** (0.123)		8270D		5	04/09/15 15:09	CYD0016	CC53111
Benzo(g,h,i)perylene	**1.66** (0.025)		8270D		1	04/02/15 9:12	CYD0016	CC53111
Benzo(k)fluoranthene	**1.28** (0.025)		8270D		1	04/02/15 9:12	CYD0016	CC53111
Chrysene	**3.63** (0.123)		8270D		5	04/09/15 15:09	CYD0016	CC53111
Dibenzo(a,h)Anthracene	**0.656** (0.025)		8270D		1	04/02/15 9:12	CYD0016	CC53111
Fluoranthene	**8.56** (0.123)		8270D		5	04/09/15 15:09	CYD0016	CC53111
Fluorene	**0.747** (0.025)		8270D		1	04/02/15 9:12	CYD0016	CC53111
Hexachlorobenzene	ND (0.025)		8270D		1	04/02/15 9:12	CYD0016	CC53111
Indeno(1,2,3-cd)Pyrene	**2.08** (0.025)		8270D		1	04/02/15 9:12	CYD0016	CC53111
Naphthalene	**0.867** (0.025)		8270D		1	04/02/15 9:12	CYD0016	CC53111
Phenanthrene	**5.46** (0.123)		8270D		5	04/09/15 15:09	CYD0016	CC53111
Pyrene	**7.27** (0.123)		8270D		5	04/09/15 15:09	CYD0016	CC53111

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*52 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*72 %*		*30-130*
Surrogate: Nitrobenzene-d5	*69 %*		*30-130*
Surrogate: p-Terphenyl-d14	*91 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-101 0ft-0.5ft
Date Sampled: 03/26/15 10:05
Percent Solids: 49
Initial Volume: 30.1
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1503482
ESS Laboratory Sample ID: 1503482-01
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 3/30/15 16:49

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	ND (25.2)		MADEP-EPH		1	DPS	03/31/15 21:22	CYC0382	CC53008
C19-C36 Aliphatics1	**118** (25.2)		MADEP-EPH		1	DPS	03/31/15 21:22	CYC0382	CC53008
C11-C22 Unadjusted Aromatics1	**88.3** (25.2)		EPH8270		1	JXS	03/31/15 19:09	CYC0372	CC53008
C11-C22 Aromatics1,2	**72.7** (25.2)		EPH8270			JXS	03/31/15 19:09		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*44 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*85 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*82 %*		*40-140*
Surrogate: O-Terphenyl	*62 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-101 2ft-4ft
Date Sampled: 03/26/15 10:05
Percent Solids: 60
Initial Volume: 20.4
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503482
ESS Laboratory Sample ID: 1503482-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 3/31/15 12:26

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.020)		8270D		1	04/02/15 10:02	CYD0016	CC53111
Acenaphthene	ND (0.020)		8270D		1	04/02/15 10:02	CYD0016	CC53111
Acenaphthylene	**0.051** (0.020)		8270D		1	04/02/15 10:02	CYD0016	CC53111
Anthracene	**0.052** (0.020)		8270D		1	04/02/15 10:02	CYD0016	CC53111
Benzo(a)anthracene	**0.089** (0.020)		8270D		1	04/02/15 10:02	CYD0016	CC53111
Benzo(a)pyrene	**0.091** (0.020)		8270D		1	04/02/15 10:02	CYD0016	CC53111
Benzo(b)fluoranthene	**0.135** (0.020)		8270D		1	04/02/15 10:02	CYD0016	CC53111
Benzo(g,h,i)perylene	**0.045** (0.020)		8270D		1	04/02/15 10:02	CYD0016	CC53111
Benzo(k)fluoranthene	**0.035** (0.020)		8270D		1	04/02/15 10:02	CYD0016	CC53111
Chrysene	**0.100** (0.020)		8270D		1	04/02/15 10:02	CYD0016	CC53111
Dibenzo(a,h)Anthracene	ND (0.020)		8270D		1	04/02/15 10:02	CYD0016	CC53111
Fluoranthene	**0.169** (0.020)		8270D		1	04/02/15 10:02	CYD0016	CC53111
Fluorene	ND (0.020)		8270D		1	04/02/15 10:02	CYD0016	CC53111
Hexachlorobenzene	ND (0.020)		8270D		1	04/02/15 10:02	CYD0016	CC53111
Indeno(1,2,3-cd)Pyrene	**0.052** (0.020)		8270D		1	04/02/15 10:02	CYD0016	CC53111
Naphthalene	**0.055** (0.020)		8270D		1	04/02/15 10:02	CYD0016	CC53111
Phenanthrene	**0.042** (0.020)		8270D		1	04/02/15 10:02	CYD0016	CC53111
Pyrene	**0.193** (0.020)		8270D		1	04/02/15 10:02	CYD0016	CC53111

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*45 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*65 %*		*30-130*
Surrogate: Nitrobenzene-d5	*62 %*		*30-130*
Surrogate: p-Terphenyl-d14	*82 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-101 6ft-8ft
Date Sampled: 03/26/15 10:05
Percent Solids: 74
Initial Volume: 20.3
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503482
ESS Laboratory Sample ID: 1503482-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 3/31/15 12:26

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.017)		8270D		1	04/02/15 10:52	CYD0016	CC53111
Acenaphthene	ND (0.017)		8270D		1	04/02/15 10:52	CYD0016	CC53111
Acenaphthylene	ND (0.017)		8270D		1	04/02/15 10:52	CYD0016	CC53111
Anthracene	ND (0.017)		8270D		1	04/02/15 10:52	CYD0016	CC53111
Benzo(a)anthracene	ND (0.017)		8270D		1	04/02/15 10:52	CYD0016	CC53111
Benzo(a)pyrene	ND (0.017)		8270D		1	04/02/15 10:52	CYD0016	CC53111
Benzo(b)fluoranthene	ND (0.017)		8270D		1	04/02/15 10:52	CYD0016	CC53111
Benzo(g,h,i)perylene	ND (0.017)		8270D		1	04/02/15 10:52	CYD0016	CC53111
Benzo(k)fluoranthene	ND (0.017)		8270D		1	04/02/15 10:52	CYD0016	CC53111
Chrysene	ND (0.017)		8270D		1	04/02/15 10:52	CYD0016	CC53111
Dibenzo(a,h)Anthracene	ND (0.017)		8270D		1	04/02/15 10:52	CYD0016	CC53111
Fluoranthene	ND (0.017)		8270D		1	04/02/15 10:52	CYD0016	CC53111
Fluorene	ND (0.017)		8270D		1	04/02/15 10:52	CYD0016	CC53111
Hexachlorobenzene	ND (0.017)		8270D		1	04/02/15 10:52	CYD0016	CC53111
Indeno(1,2,3-cd)Pyrene	ND (0.017)		8270D		1	04/02/15 10:52	CYD0016	CC53111
Naphthalene	ND (0.017)		8270D		1	04/02/15 10:52	CYD0016	CC53111
Phenanthrene	ND (0.017)		8270D		1	04/02/15 10:52	CYD0016	CC53111
Pyrene	ND (0.017)		8270D		1	04/02/15 10:52	CYD0016	CC53111

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*69 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*89 %*		*30-130*
Surrogate: Nitrobenzene-d5	*90 %*		*30-130*
Surrogate: p-Terphenyl-d14	*88 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-102 0ft-0.5ft
Date Sampled: 03/26/15 10:30
Percent Solids: 33
Initial Volume: 30
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503482
ESS Laboratory Sample ID: 1503482-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JXS
Prepared: 3/30/15 16:37

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.500)		8270D		1	03/31/15 23:47	CYC0371	CD50329
1,2-Dichlorobenzene	ND (0.500)		8270D		1	03/31/15 23:47	CYC0371	CD50329
1,3-Dichlorobenzene	ND (0.500)		8270D		1	03/31/15 23:47	CYC0371	CD50329
1,4-Dichlorobenzene	ND (0.500)		8270D		1	03/31/15 23:47	CYC0371	CD50329
2,4,5-Trichlorophenol	ND (0.500)		8270D		1	03/31/15 23:47	CYC0371	CD50329
2,4,6-Trichlorophenol	ND (0.500)		8270D		1	03/31/15 23:47	CYC0371	CD50329
2,4-Dichlorophenol	ND (0.500)		8270D		1	03/31/15 23:47	CYC0371	CD50329
2,4-Dimethylphenol	ND (0.500)		8270D		1	03/31/15 23:47	CYC0371	CD50329
2,4-Dinitrophenol	ND (2.50)		8270D		1	03/31/15 23:47	CYC0371	CD50329
2,4-Dinitrotoluene	ND (0.500)		8270D		1	03/31/15 23:47	CYC0371	CD50329
2,6-Dinitrotoluene	ND (0.500)		8270D		1	03/31/15 23:47	CYC0371	CD50329
2-Chloronaphthalene	ND (0.500)		8270D		1	03/31/15 23:47	CYC0371	CD50329
2-Chlorophenol	ND (0.500)		8270D		1	03/31/15 23:47	CYC0371	CD50329
2-Methylphenol	ND (0.500)		8270D		1	03/31/15 23:47	CYC0371	CD50329
2-Nitrophenol	ND (0.500)		8270D		1	03/31/15 23:47	CYC0371	CD50329
3,3´-Dichlorobenzidine	ND (1.00)		8270D		1	03/31/15 23:47	CYC0371	CD50329
3+4-Methylphenol	ND (1.00)		8270D		1	03/31/15 23:47	CYC0371	CD50329
4-Bromophenyl-phenylether	ND (0.500)		8270D		1	03/31/15 23:47	CYC0371	CD50329
4-Chloroaniline	ND (1.00)		8270D		1	03/31/15 23:47	CYC0371	CD50329
4-Nitrophenol	ND (2.50)		8270D		1	03/31/15 23:47	CYC0371	CD50329
Acetophenone	ND (1.00)		8270D		1	03/31/15 23:47	CYC0371	CD50329
Aniline	ND (2.50)		8270D		1	03/31/15 23:47	CYC0371	CD50329
Azobenzene	ND (0.500)		8270D		1	03/31/15 23:47	CYC0371	CD50329
bis(2-Chloroethoxy)methane	ND (0.500)		8270D		1	03/31/15 23:47	CYC0371	CD50329
bis(2-Chloroethyl)ether	ND (0.500)		8270D		1	03/31/15 23:47	CYC0371	CD50329
bis(2-chloroisopropyl)Ether	ND (0.500)		8270D		1	03/31/15 23:47	CYC0371	CD50329
bis(2-Ethylhexyl)phthalate	**2.58** (0.500)		8270D		1	03/31/15 23:47	CYC0371	CD50329
Butylbenzylphthalate	ND (0.500)		8270D		1	03/31/15 23:47	CYC0371	CD50329
Dibenzofuran	ND (0.500)		8270D		1	03/31/15 23:47	CYC0371	CD50329
Diethylphthalate	ND (0.500)		8270D		1	03/31/15 23:47	CYC0371	CD50329
Dimethylphthalate	ND (0.500)		8270D		1	03/31/15 23:47	CYC0371	CD50329
Di-n-butylphthalate	ND (0.500)		8270D		1	03/31/15 23:47	CYC0371	CD50329

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-102 0ft-0.5ft
Date Sampled: 03/26/15 10:30
Percent Solids: 33
Initial Volume: 30
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503482
ESS Laboratory Sample ID: 1503482-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JXS
Prepared: 3/30/15 16:37

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Di-n-octylphthalate	ND (0.500)		8270D		1	03/31/15 23:47	CYC0371	CD50329
Hexachlorobenzene	ND (0.500)		8270D		1	03/31/15 23:47	CYC0371	CD50329
Hexachlorobutadiene	ND (0.500)		8270D		1	03/31/15 23:47	CYC0371	CD50329
Hexachloroethane	ND (0.500)		8270D		1	03/31/15 23:47	CYC0371	CD50329
Isophorone	ND (0.500)		8270D		1	03/31/15 23:47	CYC0371	CD50329
Nitrobenzene	ND (0.500)		8270D		1	03/31/15 23:47	CYC0371	CD50329
N-Nitrosodimethylamine	ND (0.500)		8270D		1	03/31/15 23:47	CYC0371	CD50329
Pentachlorophenol	ND (2.50)		8270D		1	03/31/15 23:47	CYC0371	CD50329
Phenol	ND (0.500)		8270D		1	03/31/15 23:47	CYC0371	CD50329

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*53 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*105 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*54 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*67 %*		*30-130*
Surrogate: 2-Fluorophenol	*48 %*		*30-130*
Surrogate: Nitrobenzene-d5	*50 %*		*30-130*
Surrogate: Phenol-d6	*53 %*		*30-130*
Surrogate: p-Terphenyl-d14	*83 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-102 0ft-0.5ft
Date Sampled: 03/26/15 10:30
Percent Solids: 33
Initial Volume: 20
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503482
ESS Laboratory Sample ID: 1503482-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 3/31/15 12:26

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	**0.127** (0.038)		8270D		1	04/02/15 13:20	CYD0016	CC53111
Acenaphthene	**0.108** (0.038)		8270D		1	04/02/15 13:20	CYD0016	CC53111
Acenaphthylene	**0.341** (0.038)		8270D		1	04/02/15 13:20	CYD0016	CC53111
Anthracene	**0.511** (0.038)		8270D		1	04/02/15 13:20	CYD0016	CC53111
Benzo(a)anthracene	**1.21** (0.038)		8270D		1	04/02/15 13:20	CYD0016	CC53111
Benzo(a)pyrene	**1.51** (0.038)		8270D		1	04/02/15 13:20	CYD0016	CC53111
Benzo(b)fluoranthene	**2.53** (0.038)		8270D		1	04/02/15 13:20	CYD0016	CC53111
Benzo(g,h,i)perylene	**0.706** (0.038)		8270D		1	04/02/15 13:20	CYD0016	CC53111
Benzo(k)fluoranthene	**0.694** (0.038)		8270D		1	04/02/15 13:20	CYD0016	CC53111
Chrysene	**1.57** (0.038)		8270D		1	04/02/15 13:20	CYD0016	CC53111
Dibenzo(a,h)Anthracene	**0.232** (0.038)		8270D		1	04/02/15 13:20	CYD0016	CC53111
Fluoranthene	**2.33** (0.038)		8270D		1	04/02/15 13:20	CYD0016	CC53111
Fluorene	**0.181** (0.038)		8270D		1	04/02/15 13:20	CYD0016	CC53111
Hexachlorobenzene	ND (0.038)		8270D		1	04/02/15 13:20	CYD0016	CC53111
Indeno(1,2,3-cd)Pyrene	**0.888** (0.038)		8270D		1	04/02/15 13:20	CYD0016	CC53111
Naphthalene	**0.544** (0.038)		8270D		1	04/02/15 13:20	CYD0016	CC53111
Phenanthrene	**1.16** (0.038)		8270D		1	04/02/15 13:20	CYD0016	CC53111
Pyrene	**2.45** (0.038)		8270D		1	04/02/15 13:20	CYD0016	CC53111

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*45 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*68 %*		*30-130*
Surrogate: Nitrobenzene-d5	*60 %*		*30-130*
Surrogate: p-Terphenyl-d14	*81 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-102 0ft-0.5ft
Date Sampled: 03/26/15 10:30
Percent Solids: 33
Initial Volume: 30.2
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1503482
ESS Laboratory Sample ID: 1503482-04
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 3/30/15 16:49

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	ND (37.3)		MADEP-EPH		1	DPS	03/31/15 22:12	CYC0382	CC53008
C19-C36 Aliphatics1	**99.4** (37.3)		MADEP-EPH		1	DPS	03/31/15 22:12	CYC0382	CC53008
C11-C22 Unadjusted Aromatics1	**43.0** (37.3)		EPH8270		1	JXS	03/31/15 19:43	CYC0372	CC53008
C11-C22 Aromatics1,2	**40.8** (37.3)		EPH8270			JXS	03/31/15 19:43		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*58 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*72 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*67 %*		*40-140*
Surrogate: O-Terphenyl	*66 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-102 0.5ft-2ft
Date Sampled: 03/26/15 10:30
Percent Solids: 33
Initial Volume: 30.1
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503482
ESS Laboratory Sample ID: 1503482-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JXS
Prepared: 3/30/15 16:37

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.505)		8270D		1	04/01/15 0:19	CYC0371	CD50329
1,2-Dichlorobenzene	ND (0.505)		8270D		1	04/01/15 0:19	CYC0371	CD50329
1,3-Dichlorobenzene	ND (0.505)		8270D		1	04/01/15 0:19	CYC0371	CD50329
1,4-Dichlorobenzene	ND (0.505)		8270D		1	04/01/15 0:19	CYC0371	CD50329
2,4,5-Trichlorophenol	ND (0.505)		8270D		1	04/01/15 0:19	CYC0371	CD50329
2,4,6-Trichlorophenol	ND (0.505)		8270D		1	04/01/15 0:19	CYC0371	CD50329
2,4-Dichlorophenol	ND (0.505)		8270D		1	04/01/15 0:19	CYC0371	CD50329
2,4-Dimethylphenol	ND (0.505)		8270D		1	04/01/15 0:19	CYC0371	CD50329
2,4-Dinitrophenol	ND (2.53)		8270D		1	04/01/15 0:19	CYC0371	CD50329
2,4-Dinitrotoluene	ND (0.505)		8270D		1	04/01/15 0:19	CYC0371	CD50329
2,6-Dinitrotoluene	ND (0.505)		8270D		1	04/01/15 0:19	CYC0371	CD50329
2-Chloronaphthalene	ND (0.505)		8270D		1	04/01/15 0:19	CYC0371	CD50329
2-Chlorophenol	ND (0.505)		8270D		1	04/01/15 0:19	CYC0371	CD50329
2-Methylphenol	ND (0.505)		8270D		1	04/01/15 0:19	CYC0371	CD50329
2-Nitrophenol	ND (0.505)		8270D		1	04/01/15 0:19	CYC0371	CD50329
3,3´-Dichlorobenzidine	ND (1.01)		8270D		1	04/01/15 0:19	CYC0371	CD50329
3+4-Methylphenol	ND (1.01)		8270D		1	04/01/15 0:19	CYC0371	CD50329
4-Bromophenyl-phenylether	ND (0.505)		8270D		1	04/01/15 0:19	CYC0371	CD50329
4-Chloroaniline	ND (1.01)		8270D		1	04/01/15 0:19	CYC0371	CD50329
4-Nitrophenol	ND (2.53)		8270D		1	04/01/15 0:19	CYC0371	CD50329
Acetophenone	ND (1.01)		8270D		1	04/01/15 0:19	CYC0371	CD50329
Aniline	ND (2.53)		8270D		1	04/01/15 0:19	CYC0371	CD50329
Azobenzene	ND (0.505)		8270D		1	04/01/15 0:19	CYC0371	CD50329
bis(2-Chloroethoxy)methane	ND (0.505)		8270D		1	04/01/15 0:19	CYC0371	CD50329
bis(2-Chloroethyl)ether	ND (0.505)		8270D		1	04/01/15 0:19	CYC0371	CD50329
bis(2-chloroisopropyl)Ether	ND (0.505)		8270D		1	04/01/15 0:19	CYC0371	CD50329
bis(2-Ethylhexyl)phthalate	**278** (50.5)		8270D		100	04/02/15 2:46	CYC0371	CD50329
Butylbenzylphthalate	ND (0.505)		8270D		1	04/01/15 0:19	CYC0371	CD50329
Dibenzofuran	ND (0.505)		8270D		1	04/01/15 0:19	CYC0371	CD50329
Diethylphthalate	ND (0.505)		8270D		1	04/01/15 0:19	CYC0371	CD50329
Dimethylphthalate	ND (0.505)		8270D		1	04/01/15 0:19	CYC0371	CD50329
Di-n-butylphthalate	ND (0.505)		8270D		1	04/01/15 0:19	CYC0371	CD50329

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-102 0.5ft-2ft
Date Sampled: 03/26/15 10:30
Percent Solids: 33
Initial Volume: 30.1
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503482
ESS Laboratory Sample ID: 1503482-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 3/30/15 16:37

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Di-n-octylphthalate	**25.1** (5.05)		8270D		10	04/02/15 2:10	CYC0371	CD50329
Hexachlorobenzene	ND (0.505)		8270D		1	04/01/15 0:19	CYC0371	CD50329
Hexachlorobutadiene	ND (0.505)		8270D		1	04/01/15 0:19	CYC0371	CD50329
Hexachloroethane	ND (0.505)		8270D		1	04/01/15 0:19	CYC0371	CD50329
Isophorone	ND (0.505)		8270D		1	04/01/15 0:19	CYC0371	CD50329
Nitrobenzene	ND (0.505)		8270D		1	04/01/15 0:19	CYC0371	CD50329
N-Nitrosodimethylamine	ND (0.505)		8270D		1	04/01/15 0:19	CYC0371	CD50329
Pentachlorophenol	ND (2.53)		8270D		1	04/01/15 0:19	CYC0371	CD50329
Phenol	ND (0.505)		8270D		1	04/01/15 0:19	CYC0371	CD50329

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*52 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*108 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*52 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*72 %*		*30-130*
Surrogate: 2-Fluorophenol	*46 %*		*30-130*
Surrogate: Nitrobenzene-d5	*53 %*		*30-130*
Surrogate: Phenol-d6	*53 %*		*30-130*
Surrogate: p-Terphenyl-d14	*84 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-102 0.5ft-2ft
Date Sampled: 03/26/15 10:30
Percent Solids: 33
Initial Volume: 20.4
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503482
ESS Laboratory Sample ID: 1503482-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 3/31/15 12:26

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	**0.126** (0.075)		8270D		5	04/04/15 7:20	CYD0060	CC53111
Acenaphthene	**0.074** (0.037)		8270D		5	04/04/15 7:20	CYD0060	CC53111
Acenaphthylene	**0.410** (0.187)		8270D		5	04/04/15 7:20	CYD0060	CC53111
Anthracene	**0.363** (0.187)		8270D		5	04/04/15 7:20	CYD0060	CC53111
Benzo(a)anthracene	**0.619** (0.187)		8270D		5	04/04/15 7:20	CYD0060	CC53111
Benzo(a)pyrene	**0.677** (0.187)		8270D		5	04/04/15 7:20	CYD0060	CC53111
Benzo(b)fluoranthene	**0.955** (0.187)		8270D		5	04/04/15 7:20	CYD0060	CC53111
Benzo(g,h,i)perylene	**0.370** (0.187)		8270D		5	04/04/15 7:20	CYD0060	CC53111
Benzo(k)fluoranthene	**0.287** (0.187)		8270D		5	04/04/15 7:20	CYD0060	CC53111
Chrysene	**0.672** (0.187)		8270D		5	04/04/15 7:20	CYD0060	CC53111
Dibenzo(a,h)Anthracene	**0.115** (0.075)		8270D		5	04/04/15 7:20	CYD0060	CC53111
Fluoranthene	**1.19** (0.187)		8270D		5	04/04/15 7:20	CYD0060	CC53111
Fluorene	**0.127** (0.075)		8270D		5	04/04/15 7:20	CYD0060	CC53111
Hexachlorobenzene	ND (0.037)		8270D		5	04/04/15 7:20	CYD0060	CC53111
Indeno(1,2,3-cd)Pyrene	**0.410** (0.187)		8270D		5	04/04/15 7:20	CYD0060	CC53111
Naphthalene	**0.580** (0.187)		8270D		5	04/04/15 7:20	CYD0060	CC53111
Phenanthrene	**0.481** (0.187)		8270D		5	04/04/15 7:20	CYD0060	CC53111
Pyrene	**1.60** (0.187)		8270D		5	04/04/15 7:20	CYD0060	CC53111

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*44 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*77 %*		*30-130*
Surrogate: Nitrobenzene-d5	*66 %*		*30-130*
Surrogate: p-Terphenyl-d14	*87 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-102 0.5ft-2ft
Date Sampled: 03/26/15 10:30
Percent Solids: 33
Initial Volume: 30.3
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1503482
ESS Laboratory Sample ID: 1503482-05
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 3/30/15 16:49

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	**145** (37.7)		MADEP-EPH		1	DPS	03/31/15 23:03	CYC0382	CC53008
C19-C36 Aliphatics1	**266** (37.7)		MADEP-EPH		1	DPS	03/31/15 23:03	CYC0382	CC53008
C11-C22 Unadjusted Aromatics1	**434** (37.7)		EPH8270		1	JXS	03/31/15 20:17	CYC0372	CC53008
C11-C22 Aromatics1,2	**434** (37.7)		EPH8270			JXS	03/31/15 20:17		[CALC]

	%Recovery	*Qualifier*	*Limits*
Surrogate: 1-Chlorooctadecane	*59 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*82 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*76 %*		*40-140*
Surrogate: O-Terphenyl	*108 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-103 0ft-0.5ft
Date Sampled: 03/26/15 10:50
Percent Solids: 45
Initial Volume: 30
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503482
ESS Laboratory Sample ID: 1503482-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JXS
Prepared: 3/30/15 16:37

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.373)		8270D		1	04/01/15 0:51	CYC0371	CD50329
1,2-Dichlorobenzene	ND (0.373)		8270D		1	04/01/15 0:51	CYC0371	CD50329
1,3-Dichlorobenzene	ND (0.373)		8270D		1	04/01/15 0:51	CYC0371	CD50329
1,4-Dichlorobenzene	ND (0.373)		8270D		1	04/01/15 0:51	CYC0371	CD50329
2,4,5-Trichlorophenol	ND (0.373)		8270D		1	04/01/15 0:51	CYC0371	CD50329
2,4,6-Trichlorophenol	ND (0.373)		8270D		1	04/01/15 0:51	CYC0371	CD50329
2,4-Dichlorophenol	ND (0.373)		8270D		1	04/01/15 0:51	CYC0371	CD50329
2,4-Dimethylphenol	ND (0.373)		8270D		1	04/01/15 0:51	CYC0371	CD50329
2,4-Dinitrophenol	ND (1.87)		8270D		1	04/01/15 0:51	CYC0371	CD50329
2,4-Dinitrotoluene	ND (0.373)		8270D		1	04/01/15 0:51	CYC0371	CD50329
2,6-Dinitrotoluene	ND (0.373)		8270D		1	04/01/15 0:51	CYC0371	CD50329
2-Chloronaphthalene	ND (0.373)		8270D		1	04/01/15 0:51	CYC0371	CD50329
2-Chlorophenol	ND (0.373)		8270D		1	04/01/15 0:51	CYC0371	CD50329
2-Methylphenol	ND (0.373)		8270D		1	04/01/15 0:51	CYC0371	CD50329
2-Nitrophenol	ND (0.373)		8270D		1	04/01/15 0:51	CYC0371	CD50329
3,3´-Dichlorobenzidine	ND (0.747)		8270D		1	04/01/15 0:51	CYC0371	CD50329
3+4-Methylphenol	ND (0.747)		8270D		1	04/01/15 0:51	CYC0371	CD50329
4-Bromophenyl-phenylether	ND (0.373)		8270D		1	04/01/15 0:51	CYC0371	CD50329
4-Chloroaniline	ND (0.747)		8270D		1	04/01/15 0:51	CYC0371	CD50329
4-Nitrophenol	ND (1.87)		8270D		1	04/01/15 0:51	CYC0371	CD50329
Acetophenone	ND (0.747)		8270D		1	04/01/15 0:51	CYC0371	CD50329
Aniline	ND (1.87)		8270D		1	04/01/15 0:51	CYC0371	CD50329
Azobenzene	ND (0.373)		8270D		1	04/01/15 0:51	CYC0371	CD50329
bis(2-Chloroethoxy)methane	ND (0.373)		8270D		1	04/01/15 0:51	CYC0371	CD50329
bis(2-Chloroethyl)ether	ND (0.373)		8270D		1	04/01/15 0:51	CYC0371	CD50329
bis(2-chloroisopropyl)Ether	ND (0.373)		8270D		1	04/01/15 0:51	CYC0371	CD50329
bis(2-Ethylhexyl)phthalate	**1.80** (0.373)		8270D		1	04/01/15 0:51	CYC0371	CD50329
Butylbenzylphthalate	ND (0.373)		8270D		1	04/01/15 0:51	CYC0371	CD50329
Dibenzofuran	ND (0.373)		8270D		1	04/01/15 0:51	CYC0371	CD50329
Diethylphthalate	ND (0.373)		8270D		1	04/01/15 0:51	CYC0371	CD50329
Dimethylphthalate	ND (0.373)		8270D		1	04/01/15 0:51	CYC0371	CD50329
Di-n-butylphthalate	ND (0.373)		8270D		1	04/01/15 0:51	CYC0371	CD50329

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-103 0ft-0.5ft
Date Sampled: 03/26/15 10:50
Percent Solids: 45
Initial Volume: 30
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503482
ESS Laboratory Sample ID: 1503482-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JXS
Prepared: 3/30/15 16:37

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Di-n-octylphthalate	ND (0.373)		8270D		1	04/01/15 0:51	CYC0371	CD50329
Hexachlorobenzene	ND (0.373)		8270D		1	04/01/15 0:51	CYC0371	CD50329
Hexachlorobutadiene	ND (0.373)		8270D		1	04/01/15 0:51	CYC0371	CD50329
Hexachloroethane	ND (0.373)		8270D		1	04/01/15 0:51	CYC0371	CD50329
Isophorone	ND (0.373)		8270D		1	04/01/15 0:51	CYC0371	CD50329
Nitrobenzene	ND (0.373)		8270D		1	04/01/15 0:51	CYC0371	CD50329
N-Nitrosodimethylamine	ND (0.373)		8270D		1	04/01/15 0:51	CYC0371	CD50329
Pentachlorophenol	ND (1.87)		8270D		1	04/01/15 0:51	CYC0371	CD50329
Phenol	ND (0.373)		8270D		1	04/01/15 0:51	CYC0371	CD50329

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*57 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*112 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*57 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*74 %*		*30-130*
Surrogate: 2-Fluorophenol	*53 %*		*30-130*
Surrogate: Nitrobenzene-d5	*57 %*		*30-130*
Surrogate: Phenol-d6	*56 %*		*30-130*
Surrogate: p-Terphenyl-d14	*86 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-103 0ft-0.5ft
Date Sampled: 03/26/15 10:50
Percent Solids: 45
Initial Volume: 20.1
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503482
ESS Laboratory Sample ID: 1503482-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 3/31/15 12:26

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	**0.049** (0.028)		8270D		1	04/04/15 1:33	CYD0060	CC53111
Acenaphthene	**0.054** (0.028)		8270D		1	04/04/15 1:33	CYD0060	CC53111
Acenaphthylene	**0.221** (0.028)		8270D		1	04/04/15 1:33	CYD0060	CC53111
Anthracene	**0.270** (0.028)		8270D		1	04/04/15 1:33	CYD0060	CC53111
Benzo(a)anthracene	**0.726** (0.028)		8270D		1	04/04/15 1:33	CYD0060	CC53111
Benzo(a)pyrene	**0.920** (0.028)		8270D		1	04/04/15 1:33	CYD0060	CC53111
Benzo(b)fluoranthene	**1.29** (0.028)		8270D		1	04/04/15 1:33	CYD0060	CC53111
Benzo(g,h,i)perylene	**0.759** (0.028)		8270D		1	04/04/15 1:33	CYD0060	CC53111
Benzo(k)fluoranthene	**0.326** (0.028)		8270D		1	04/04/15 1:33	CYD0060	CC53111
Chrysene	**0.870** (0.028)		8270D		1	04/04/15 1:33	CYD0060	CC53111
Dibenzo(a,h)Anthracene	**0.185** (0.028)		8270D		1	04/04/15 1:33	CYD0060	CC53111
Fluoranthene	**1.38** (0.028)		8270D		1	04/04/15 1:33	CYD0060	CC53111
Fluorene	**0.084** (0.028)		8270D		1	04/04/15 1:33	CYD0060	CC53111
Hexachlorobenzene	ND (0.028)		8270D		1	04/04/15 1:33	CYD0060	CC53111
Indeno(1,2,3-cd)Pyrene	**0.824** (0.028)		8270D		1	04/04/15 1:33	CYD0060	CC53111
Naphthalene	**0.248** (0.028)		8270D		1	04/04/15 1:33	CYD0060	CC53111
Phenanthrene	**0.609** (0.028)		8270D		1	04/04/15 1:33	CYD0060	CC53111
Pyrene	**1.51** (0.028)		8270D		1	04/04/15 1:33	CYD0060	CC53111

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*46 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*70 %*		*30-130*
Surrogate: Nitrobenzene-d5	*63 %*		*30-130*
Surrogate: p-Terphenyl-d14	*81 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-103 0ft-0.5ft
Date Sampled: 03/26/15 10:50
Percent Solids: 45
Initial Volume: 30.2
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1503482
ESS Laboratory Sample ID: 1503482-06
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 3/30/15 16:49

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	ND (27.8)		MADEP-EPH		1	DPS	03/31/15 23:53	CYC0382	CC53008
C19-C36 Aliphatics1	**90.7** (27.8)		MADEP-EPH		1	DPS	03/31/15 23:53	CYC0382	CC53008
C11-C22 Unadjusted Aromatics1	**58.9** (27.8)		EPH8270		1	JXS	03/31/15 20:51	CYC0372	CC53008
C11-C22 Aromatics1,2	**53.0** (27.8)		EPH8270			JXS	03/31/15 20:51		[CALC]

	%Recovery	*Qualifier*	*Limits*
Surrogate: 1-Chlorooctadecane	*58 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*91 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*88 %*		*40-140*
Surrogate: O-Terphenyl	*76 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-103 2ft-4ft
Date Sampled: 03/26/15 10:50
Percent Solids: 72
Initial Volume: 20.6
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503482
ESS Laboratory Sample ID: 1503482-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 3/31/15 12:26

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.017)		8270D		1	04/02/15 15:50	CYD0016	CC53111
Acenaphthene	ND (0.017)		8270D		1	04/02/15 15:50	CYD0016	CC53111
Acenaphthylene	ND (0.017)		8270D		1	04/02/15 15:50	CYD0016	CC53111
Anthracene	ND (0.017)		8270D		1	04/02/15 15:50	CYD0016	CC53111
Benzo(a)anthracene	ND (0.017)		8270D		1	04/02/15 15:50	CYD0016	CC53111
Benzo(a)pyrene	ND (0.017)		8270D		1	04/02/15 15:50	CYD0016	CC53111
Benzo(b)fluoranthene	ND (0.017)		8270D		1	04/02/15 15:50	CYD0016	CC53111
Benzo(g,h,i)perylene	ND (0.017)		8270D		1	04/02/15 15:50	CYD0016	CC53111
Benzo(k)fluoranthene	ND (0.017)		8270D		1	04/02/15 15:50	CYD0016	CC53111
Chrysene	ND (0.017)		8270D		1	04/02/15 15:50	CYD0016	CC53111
Dibenzo(a,h)Anthracene	ND (0.017)		8270D		1	04/02/15 15:50	CYD0016	CC53111
Fluoranthene	ND (0.017)		8270D		1	04/02/15 15:50	CYD0016	CC53111
Fluorene	ND (0.017)		8270D		1	04/02/15 15:50	CYD0016	CC53111
Hexachlorobenzene	ND (0.017)		8270D		1	04/02/15 15:50	CYD0016	CC53111
Indeno(1,2,3-cd)Pyrene	ND (0.017)		8270D		1	04/02/15 15:50	CYD0016	CC53111
Naphthalene	ND (0.017)		8270D		1	04/02/15 15:50	CYD0016	CC53111
Phenanthrene	ND (0.017)		8270D		1	04/02/15 15:50	CYD0016	CC53111
Pyrene	**0.023** (0.017)		8270D		1	04/02/15 15:50	CYD0016	CC53111

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*70 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*87 %*		*30-130*
Surrogate: Nitrobenzene-d5	*89 %*		*30-130*
Surrogate: p-Terphenyl-d14	*88 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-103 4ft-6ft
Date Sampled: 03/26/15 10:50
Percent Solids: 74
Initial Volume: 20.3
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503482
ESS Laboratory Sample ID: 1503482-08
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 3/31/15 12:26

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.017)		8270D		1	04/04/15 8:09	CYD0060	CC53111
Acenaphthene	ND (0.017)		8270D		1	04/04/15 8:09	CYD0060	CC53111
Acenaphthylene	ND (0.017)		8270D		1	04/04/15 8:09	CYD0060	CC53111
Anthracene	ND (0.017)		8270D		1	04/04/15 8:09	CYD0060	CC53111
Benzo(a)anthracene	ND (0.017)		8270D		1	04/04/15 8:09	CYD0060	CC53111
Benzo(a)pyrene	ND (0.017)		8270D		1	04/04/15 8:09	CYD0060	CC53111
Benzo(b)fluoranthene	ND (0.017)		8270D		1	04/04/15 8:09	CYD0060	CC53111
Benzo(g,h,i)perylene	ND (0.017)		8270D		1	04/04/15 8:09	CYD0060	CC53111
Benzo(k)fluoranthene	ND (0.017)		8270D		1	04/04/15 8:09	CYD0060	CC53111
Chrysene	ND (0.017)		8270D		1	04/04/15 8:09	CYD0060	CC53111
Dibenzo(a,h)Anthracene	ND (0.017)		8270D		1	04/04/15 8:09	CYD0060	CC53111
Fluoranthene	ND (0.017)		8270D		1	04/04/15 8:09	CYD0060	CC53111
Fluorene	ND (0.017)		8270D		1	04/04/15 8:09	CYD0060	CC53111
Hexachlorobenzene	ND (0.017)		8270D		1	04/04/15 8:09	CYD0060	CC53111
Indeno(1,2,3-cd)Pyrene	ND (0.017)		8270D		1	04/04/15 8:09	CYD0060	CC53111
Naphthalene	ND (0.017)		8270D		1	04/04/15 8:09	CYD0060	CC53111
Phenanthrene	ND (0.017)		8270D		1	04/04/15 8:09	CYD0060	CC53111
Pyrene	ND (0.017)		8270D		1	04/04/15 8:09	CYD0060	CC53111

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*60 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*76 %*		*30-130*
Surrogate: Nitrobenzene-d5	*74 %*		*30-130*
Surrogate: p-Terphenyl-d14	*79 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-104 0ft-0.5ft
Date Sampled: 03/26/15 11:15
Percent Solids: 36
Initial Volume: 30.4
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503482
ESS Laboratory Sample ID: 1503482-09
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JXS
Prepared: 3/30/15 16:37

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.455)		8270D		1	04/01/15 1:22	CYC0371	CD50329
1,2-Dichlorobenzene	ND (0.455)		8270D		1	04/01/15 1:22	CYC0371	CD50329
1,3-Dichlorobenzene	ND (0.455)		8270D		1	04/01/15 1:22	CYC0371	CD50329
1,4-Dichlorobenzene	ND (0.455)		8270D		1	04/01/15 1:22	CYC0371	CD50329
2,4,5-Trichlorophenol	ND (0.455)		8270D		1	04/01/15 1:22	CYC0371	CD50329
2,4,6-Trichlorophenol	ND (0.455)		8270D		1	04/01/15 1:22	CYC0371	CD50329
2,4-Dichlorophenol	ND (0.455)		8270D		1	04/01/15 1:22	CYC0371	CD50329
2,4-Dimethylphenol	ND (0.455)		8270D		1	04/01/15 1:22	CYC0371	CD50329
2,4-Dinitrophenol	ND (2.28)		8270D		1	04/01/15 1:22	CYC0371	CD50329
2,4-Dinitrotoluene	ND (0.455)		8270D		1	04/01/15 1:22	CYC0371	CD50329
2,6-Dinitrotoluene	ND (0.455)		8270D		1	04/01/15 1:22	CYC0371	CD50329
2-Chloronaphthalene	ND (0.455)		8270D		1	04/01/15 1:22	CYC0371	CD50329
2-Chlorophenol	ND (0.455)		8270D		1	04/01/15 1:22	CYC0371	CD50329
2-Methylphenol	ND (0.455)		8270D		1	04/01/15 1:22	CYC0371	CD50329
2-Nitrophenol	ND (0.455)		8270D		1	04/01/15 1:22	CYC0371	CD50329
3,3´-Dichlorobenzidine	ND (0.912)		8270D		1	04/01/15 1:22	CYC0371	CD50329
3+4-Methylphenol	ND (0.912)		8270D		1	04/01/15 1:22	CYC0371	CD50329
4-Bromophenyl-phenylether	ND (0.455)		8270D		1	04/01/15 1:22	CYC0371	CD50329
4-Chloroaniline	ND (0.912)		8270D		1	04/01/15 1:22	CYC0371	CD50329
4-Nitrophenol	ND (2.28)		8270D		1	04/01/15 1:22	CYC0371	CD50329
Acetophenone	ND (0.912)		8270D		1	04/01/15 1:22	CYC0371	CD50329
Aniline	ND (2.28)		8270D		1	04/01/15 1:22	CYC0371	CD50329
Azobenzene	ND (0.455)		8270D		1	04/01/15 1:22	CYC0371	CD50329
bis(2-Chloroethoxy)methane	ND (0.455)		8270D		1	04/01/15 1:22	CYC0371	CD50329
bis(2-Chloroethyl)ether	ND (0.455)		8270D		1	04/01/15 1:22	CYC0371	CD50329
bis(2-chloroisopropyl)Ether	ND (0.455)		8270D		1	04/01/15 1:22	CYC0371	CD50329
bis(2-Ethylhexyl)phthalate	**2.44** (0.455)		8270D		1	04/01/15 1:22	CYC0371	CD50329
Butylbenzylphthalate	ND (0.455)		8270D		1	04/01/15 1:22	CYC0371	CD50329
Dibenzofuran	ND (0.455)		8270D		1	04/01/15 1:22	CYC0371	CD50329
Diethylphthalate	ND (0.455)		8270D		1	04/01/15 1:22	CYC0371	CD50329
Dimethylphthalate	ND (0.455)		8270D		1	04/01/15 1:22	CYC0371	CD50329
Di-n-butylphthalate	ND (0.455)		8270D		1	04/01/15 1:22	CYC0371	CD50329

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-104 0ft-0.5ft
Date Sampled: 03/26/15 11:15
Percent Solids: 36
Initial Volume: 30.4
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503482
ESS Laboratory Sample ID: 1503482-09
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JXS
Prepared: 3/30/15 16:37

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Di-n-octylphthalate	ND (0.455)		8270D		1	04/01/15 1:22	CYC0371	CD50329
Hexachlorobenzene	ND (0.455)		8270D		1	04/01/15 1:22	CYC0371	CD50329
Hexachlorobutadiene	ND (0.455)		8270D		1	04/01/15 1:22	CYC0371	CD50329
Hexachloroethane	ND (0.455)		8270D		1	04/01/15 1:22	CYC0371	CD50329
Isophorone	ND (0.455)		8270D		1	04/01/15 1:22	CYC0371	CD50329
Nitrobenzene	ND (0.455)		8270D		1	04/01/15 1:22	CYC0371	CD50329
N-Nitrosodimethylamine	ND (0.455)		8270D		1	04/01/15 1:22	CYC0371	CD50329
Pentachlorophenol	ND (2.28)		8270D		1	04/01/15 1:22	CYC0371	CD50329
Phenol	ND (0.455)		8270D		1	04/01/15 1:22	CYC0371	CD50329

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*51 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*100 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*52 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*63 %*		*30-130*
Surrogate: 2-Fluorophenol	*46 %*		*30-130*
Surrogate: Nitrobenzene-d5	*48 %*		*30-130*
Surrogate: Phenol-d6	*51 %*		*30-130*
Surrogate: p-Terphenyl-d14	*78 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-104 0ft-0.5ft
Date Sampled: 03/26/15 11:15
Percent Solids: 36
Initial Volume: 20.1
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503482
ESS Laboratory Sample ID: 1503482-09
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 3/31/15 12:26

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	**0.041** (0.034)		8270D		1	04/04/15 4:02	CYD0060	CC53111
Acenaphthene	**0.058** (0.034)		8270D		1	04/04/15 4:02	CYD0060	CC53111
Acenaphthylene	**0.176** (0.034)		8270D		1	04/04/15 4:02	CYD0060	CC53111
Anthracene	**0.242** (0.034)		8270D		1	04/04/15 4:02	CYD0060	CC53111
Benzo(a)anthracene	**0.713** (0.034)		8270D		1	04/04/15 4:02	CYD0060	CC53111
Benzo(a)pyrene	**0.884** (0.034)		8270D		1	04/04/15 4:02	CYD0060	CC53111
Benzo(b)fluoranthene	**1.27** (0.034)		8270D		1	04/04/15 4:02	CYD0060	CC53111
Benzo(g,h,i)perylene	**0.617** (0.034)		8270D		1	04/04/15 4:02	CYD0060	CC53111
Benzo(k)fluoranthene	**0.308** (0.034)		8270D		1	04/04/15 4:02	CYD0060	CC53111
Chrysene	**0.924** (0.034)		8270D		1	04/04/15 4:02	CYD0060	CC53111
Dibenzo(a,h)Anthracene	**0.168** (0.034)		8270D		1	04/04/15 4:02	CYD0060	CC53111
Fluoranthene	**1.52** (0.034)		8270D		1	04/04/15 4:02	CYD0060	CC53111
Fluorene	**0.082** (0.034)		8270D		1	04/04/15 4:02	CYD0060	CC53111
Hexachlorobenzene	ND (0.034)		8270D		1	04/04/15 4:02	CYD0060	CC53111
Indeno(1,2,3-cd)Pyrene	**0.699** (0.034)		8270D		1	04/04/15 4:02	CYD0060	CC53111
Naphthalene	**0.212** (0.034)		8270D		1	04/04/15 4:02	CYD0060	CC53111
Phenanthrene	**0.718** (0.034)		8270D		1	04/04/15 4:02	CYD0060	CC53111
Pyrene	**1.45** (0.034)		8270D		1	04/04/15 4:02	CYD0060	CC53111

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*51 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*73 %*		*30-130*
Surrogate: Nitrobenzene-d5	*70 %*		*30-130*
Surrogate: p-Terphenyl-d14	*83 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-104 0ft-0.5ft
Date Sampled: 03/26/15 11:15
Percent Solids: 36
Initial Volume: 30.3
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1503482
ESS Laboratory Sample ID: 1503482-09
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 3/30/15 16:49

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	ND (34.3)		MADEP-EPH		1	DPS	04/01/15 0:44	CYC0382	CC53008
C19-C36 Aliphatics1	**105** (34.3)		MADEP-EPH		1	DPS	04/01/15 0:44	CYC0382	CC53008
C11-C22 Unadjusted Aromatics1	**51.1** (34.3)		EPH8270		1	JXS	03/31/15 21:25	CYC0372	CC53008
C11-C22 Aromatics1,2	**47.7** (34.3)		EPH8270			JXS	03/31/15 21:25		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*55 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*93 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*92 %*		*40-140*
Surrogate: O-Terphenyl	*68 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-104 0.5ft-2ft
Date Sampled: 03/26/15 11:15
Percent Solids: 61
Initial Volume: 20.6
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503482
ESS Laboratory Sample ID: 1503482-10
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 3/31/15 12:26

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	**0.447** (0.020)		8270D		1	04/04/15 4:52	CYD0060	CC53111
Acenaphthene	**1.56** (0.020)		8270D		1	04/04/15 4:52	CYD0060	CC53111
Acenaphthylene	**1.04** (0.020)		8270D		1	04/04/15 4:52	CYD0060	CC53111
Anthracene	**6.84** (0.200)		8270D		10	04/08/15 5:57	CYD0060	CC53111
Benzo(a)anthracene	**11.8** (0.200)		8270D		10	04/08/15 5:57	CYD0060	CC53111
Benzo(a)pyrene	**11.5** (0.200)		8270D		10	04/08/15 5:57	CYD0060	CC53111
Benzo(b)fluoranthene	**13.7** (0.200)		8270D		10	04/08/15 5:57	CYD0060	CC53111
Benzo(g,h,i)perylene	**7.45** (0.200)		8270D		10	04/08/15 5:57	CYD0060	CC53111
Benzo(k)fluoranthene	**1.61** (0.020)		8270D		1	04/04/15 4:52	CYD0060	CC53111
Chrysene	**11.4** (0.200)		8270D		10	04/08/15 5:57	CYD0060	CC53111
Dibenzo(a,h)Anthracene	**1.74** (0.200)		8270D		10	04/08/15 5:57	CYD0060	CC53111
Fluoranthene	**33.8** (2.00)		8270D		100	04/08/15 13:19	CYD0060	CC53111
Fluorene	**2.87** (0.200)		8270D		10	04/08/15 5:57	CYD0060	CC53111
Hexachlorobenzene	ND (0.020)		8270D		1	04/04/15 4:52	CYD0060	CC53111
Indeno(1,2,3-cd)Pyrene	**8.75** (0.200)		8270D		10	04/08/15 5:57	CYD0060	CC53111
Naphthalene	**1.30** (0.020)		8270D		1	04/04/15 4:52	CYD0060	CC53111
Phenanthrene	**28.3** (2.00)		8270D		100	04/08/15 13:19	CYD0060	CC53111
Pyrene	**29.8** (2.00)		8270D		100	04/08/15 13:19	CYD0060	CC53111

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*51 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*72 %*		*30-130*
Surrogate: Nitrobenzene-d5	*63 %*		*30-130*
Surrogate: p-Terphenyl-d14	*105 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-105 0ft-0.5ft
Date Sampled: 03/26/15 11:45
Percent Solids: 33
Initial Volume: 30.1
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503482
ESS Laboratory Sample ID: 1503482-11
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JXS
Prepared: 3/30/15 16:37

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.498)		8270D		1	04/01/15 1:54	CYC0371	CD50329
1,2-Dichlorobenzene	ND (0.498)		8270D		1	04/01/15 1:54	CYC0371	CD50329
1,3-Dichlorobenzene	ND (0.498)		8270D		1	04/01/15 1:54	CYC0371	CD50329
1,4-Dichlorobenzene	ND (0.498)		8270D		1	04/01/15 1:54	CYC0371	CD50329
2,4,5-Trichlorophenol	ND (0.498)		8270D		1	04/01/15 1:54	CYC0371	CD50329
2,4,6-Trichlorophenol	ND (0.498)		8270D		1	04/01/15 1:54	CYC0371	CD50329
2,4-Dichlorophenol	ND (0.498)		8270D		1	04/01/15 1:54	CYC0371	CD50329
2,4-Dimethylphenol	ND (0.498)		8270D		1	04/01/15 1:54	CYC0371	CD50329
2,4-Dinitrophenol	ND (2.50)		8270D		1	04/01/15 1:54	CYC0371	CD50329
2,4-Dinitrotoluene	ND (0.498)		8270D		1	04/01/15 1:54	CYC0371	CD50329
2,6-Dinitrotoluene	ND (0.498)		8270D		1	04/01/15 1:54	CYC0371	CD50329
2-Chloronaphthalene	ND (0.498)		8270D		1	04/01/15 1:54	CYC0371	CD50329
2-Chlorophenol	ND (0.498)		8270D		1	04/01/15 1:54	CYC0371	CD50329
2-Methylphenol	ND (0.498)		8270D		1	04/01/15 1:54	CYC0371	CD50329
2-Nitrophenol	ND (0.498)		8270D		1	04/01/15 1:54	CYC0371	CD50329
3,3´-Dichlorobenzidine	ND (0.997)		8270D		1	04/01/15 1:54	CYC0371	CD50329
3+4-Methylphenol	ND (0.997)		8270D		1	04/01/15 1:54	CYC0371	CD50329
4-Bromophenyl-phenylether	ND (0.498)		8270D		1	04/01/15 1:54	CYC0371	CD50329
4-Chloroaniline	ND (0.997)		8270D		1	04/01/15 1:54	CYC0371	CD50329
4-Nitrophenol	ND (2.50)		8270D		1	04/01/15 1:54	CYC0371	CD50329
Acetophenone	ND (0.997)		8270D		1	04/01/15 1:54	CYC0371	CD50329
Aniline	ND (2.50)		8270D		1	04/01/15 1:54	CYC0371	CD50329
Azobenzene	ND (0.498)		8270D		1	04/01/15 1:54	CYC0371	CD50329
bis(2-Chloroethoxy)methane	ND (0.498)		8270D		1	04/01/15 1:54	CYC0371	CD50329
bis(2-Chloroethyl)ether	ND (0.498)		8270D		1	04/01/15 1:54	CYC0371	CD50329
bis(2-chloroisopropyl)Ether	ND (0.498)		8270D		1	04/01/15 1:54	CYC0371	CD50329
bis(2-Ethylhexyl)phthalate	**2.43** (0.498)		8270D		1	04/01/15 1:54	CYC0371	CD50329
Butylbenzylphthalate	ND (0.498)		8270D		1	04/01/15 1:54	CYC0371	CD50329
Dibenzofuran	ND (0.498)		8270D		1	04/01/15 1:54	CYC0371	CD50329
Diethylphthalate	ND (0.498)		8270D		1	04/01/15 1:54	CYC0371	CD50329
Dimethylphthalate	ND (0.498)		8270D		1	04/01/15 1:54	CYC0371	CD50329
Di-n-butylphthalate	ND (0.498)		8270D		1	04/01/15 1:54	CYC0371	CD50329

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-105 0ft-0.5ft
Date Sampled: 03/26/15 11:45
Percent Solids: 33
Initial Volume: 30.1
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503482
ESS Laboratory Sample ID: 1503482-11
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JXS
Prepared: 3/30/15 16:37

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Di-n-octylphthalate	ND (0.498)		8270D		1	04/01/15 1:54	CYC0371	CD50329
Hexachlorobenzene	ND (0.498)		8270D		1	04/01/15 1:54	CYC0371	CD50329
Hexachlorobutadiene	ND (0.498)		8270D		1	04/01/15 1:54	CYC0371	CD50329
Hexachloroethane	ND (0.498)		8270D		1	04/01/15 1:54	CYC0371	CD50329
Isophorone	ND (0.498)		8270D		1	04/01/15 1:54	CYC0371	CD50329
Nitrobenzene	ND (0.498)		8270D		1	04/01/15 1:54	CYC0371	CD50329
N-Nitrosodimethylamine	ND (0.498)		8270D		1	04/01/15 1:54	CYC0371	CD50329
Pentachlorophenol	ND (2.50)		8270D		1	04/01/15 1:54	CYC0371	CD50329
Phenol	ND (0.498)		8270D		1	04/01/15 1:54	CYC0371	CD50329

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*54 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*111 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*55 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*71 %*		*30-130*
Surrogate: 2-Fluorophenol	*50 %*		*30-130*
Surrogate: Nitrobenzene-d5	*57 %*		*30-130*
Surrogate: Phenol-d6	*53 %*		*30-130*
Surrogate: p-Terphenyl-d14	*83 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-105 0ft-0.5ft
Date Sampled: 03/26/15 11:45
Percent Solids: 33
Initial Volume: 20.5
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503482
ESS Laboratory Sample ID: 1503482-11
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 3/31/15 12:26

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	**0.046** (0.037)		8270D		1	04/04/15 2:23	CYD0060	CC53111
Acenaphthene	**0.070** (0.037)		8270D		1	04/04/15 2:23	CYD0060	CC53111
Acenaphthylene	**0.296** (0.037)		8270D		1	04/04/15 2:23	CYD0060	CC53111
Anthracene	**0.379** (0.037)		8270D		1	04/04/15 2:23	CYD0060	CC53111
Benzo(a)anthracene	**1.07** (0.037)		8270D		1	04/04/15 2:23	CYD0060	CC53111
Benzo(a)pyrene	**1.45** (0.037)		8270D		1	04/04/15 2:23	CYD0060	CC53111
Benzo(b)fluoranthene	**2.30** (0.037)		8270D		1	04/04/15 2:23	CYD0060	CC53111
Benzo(g,h,i)perylene	**1.08** (0.037)		8270D		1	04/04/15 2:23	CYD0060	CC53111
Benzo(k)fluoranthene	**0.490** (0.037)		8270D		1	04/04/15 2:23	CYD0060	CC53111
Chrysene	**1.48** (0.037)		8270D		1	04/04/15 2:23	CYD0060	CC53111
Dibenzo(a,h)Anthracene	**0.296** (0.037)		8270D		1	04/04/15 2:23	CYD0060	CC53111
Fluoranthene	**2.28** (0.037)		8270D		1	04/04/15 2:23	CYD0060	CC53111
Fluorene	**0.106** (0.037)		8270D		1	04/04/15 2:23	CYD0060	CC53111
Hexachlorobenzene	ND (0.037)		8270D		1	04/04/15 2:23	CYD0060	CC53111
Indeno(1,2,3-cd)Pyrene	**1.24** (0.037)		8270D		1	04/04/15 2:23	CYD0060	CC53111
Naphthalene	**0.223** (0.037)		8270D		1	04/04/15 2:23	CYD0060	CC53111
Phenanthrene	**0.953** (0.037)		8270D		1	04/04/15 2:23	CYD0060	CC53111
Pyrene	**2.33** (0.037)		8270D		1	04/04/15 2:23	CYD0060	CC53111

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*43 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*66 %*		*30-130*
Surrogate: Nitrobenzene-d5	*58 %*		*30-130*
Surrogate: p-Terphenyl-d14	*83 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-105 0ft-0.5ft
Date Sampled: 03/26/15 11:45
Percent Solids: 33
Initial Volume: 30.4
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1503482
ESS Laboratory Sample ID: 1503482-11
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 3/30/15 16:49

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	ND (37.0)		MADEP-EPH		1	DPS	04/01/15 1:35	CYC0382	CC53008
C19-C36 Aliphatics1	**109** (37.0)		MADEP-EPH		1	DPS	04/01/15 1:35	CYC0382	CC53008
C11-C22 Unadjusted Aromatics1	**49.1** (37.0)		EPH8270		1	JXS	03/31/15 22:00	CYC0372	CC53008
C11-C22 Aromatics1,2	**45.3** (37.0)		EPH8270			JXS	03/31/15 22:00		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*60 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*84 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*84 %*		*40-140*
Surrogate: O-Terphenyl	*67 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-105 2ft-4ft
Date Sampled: 03/26/15 11:45
Percent Solids: 44
Initial Volume: 20
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503482
ESS Laboratory Sample ID: 1503482-12
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 3/31/15 12:26

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.028)		8270D		1	04/04/15 3:12	CYD0060	CC53111
Acenaphthene	ND (0.028)		8270D		1	04/04/15 3:12	CYD0060	CC53111
Acenaphthylene	**0.150** (0.028)		8270D		1	04/04/15 3:12	CYD0060	CC53111
Anthracene	**0.137** (0.028)		8270D		1	04/04/15 3:12	CYD0060	CC53111
Benzo(a)anthracene	**0.181** (0.028)		8270D		1	04/04/15 3:12	CYD0060	CC53111
Benzo(a)pyrene	**0.244** (0.028)		8270D		1	04/04/15 3:12	CYD0060	CC53111
Benzo(b)fluoranthene	**0.328** (0.028)		8270D		1	04/04/15 3:12	CYD0060	CC53111
Benzo(g,h,i)perylene	**0.178** (0.028)		8270D		1	04/04/15 3:12	CYD0060	CC53111
Benzo(k)fluoranthene	**0.093** (0.028)		8270D		1	04/04/15 3:12	CYD0060	CC53111
Chrysene	**0.232** (0.028)		8270D		1	04/04/15 3:12	CYD0060	CC53111
Dibenzo(a,h)Anthracene	**0.053** (0.028)		8270D		1	04/04/15 3:12	CYD0060	CC53111
Fluoranthene	**0.369** (0.028)		8270D		1	04/04/15 3:12	CYD0060	CC53111
Fluorene	**0.030** (0.028)		8270D		1	04/04/15 3:12	CYD0060	CC53111
Hexachlorobenzene	ND (0.028)		8270D		1	04/04/15 3:12	CYD0060	CC53111
Indeno(1,2,3-cd)Pyrene	**0.184** (0.028)		8270D		1	04/04/15 3:12	CYD0060	CC53111
Naphthalene	**0.176** (0.028)		8270D		1	04/04/15 3:12	CYD0060	CC53111
Phenanthrene	**0.080** (0.028)		8270D		1	04/04/15 3:12	CYD0060	CC53111
Pyrene	**0.481** (0.028)		8270D		1	04/04/15 3:12	CYD0060	CC53111

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*46 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*65 %*		*30-130*
Surrogate: Nitrobenzene-d5	*61 %*		*30-130*
Surrogate: p-Terphenyl-d14	*77 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-105 4ft-6ft
Date Sampled: 03/26/15 11:45
Percent Solids: 76
Initial Volume: 30.6
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503482
ESS Laboratory Sample ID: 1503482-13
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JXS
Prepared: 3/30/15 17:08

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.214)		8270D		1	04/01/15 2:26	CYC0371	CD50329
1,2-Dichlorobenzene	ND (0.214)		8270D		1	04/01/15 2:26	CYC0371	CD50329
1,3-Dichlorobenzene	ND (0.214)		8270D		1	04/01/15 2:26	CYC0371	CD50329
1,4-Dichlorobenzene	ND (0.214)		8270D		1	04/01/15 2:26	CYC0371	CD50329
2,4,5-Trichlorophenol	ND (0.214)		8270D		1	04/01/15 2:26	CYC0371	CD50329
2,4,6-Trichlorophenol	ND (0.214)		8270D		1	04/01/15 2:26	CYC0371	CD50329
2,4-Dichlorophenol	ND (0.214)		8270D		1	04/01/15 2:26	CYC0371	CD50329
2,4-Dimethylphenol	ND (0.214)		8270D		1	04/01/15 2:26	CYC0371	CD50329
2,4-Dinitrophenol	ND (1.07)		8270D		1	04/01/15 2:26	CYC0371	CD50329
2,4-Dinitrotoluene	ND (0.214)		8270D		1	04/01/15 2:26	CYC0371	CD50329
2,6-Dinitrotoluene	ND (0.214)		8270D		1	04/01/15 2:26	CYC0371	CD50329
2-Chloronaphthalene	ND (0.214)		8270D		1	04/01/15 2:26	CYC0371	CD50329
2-Chlorophenol	ND (0.214)		8270D		1	04/01/15 2:26	CYC0371	CD50329
2-Methylphenol	ND (0.214)		8270D		1	04/01/15 2:26	CYC0371	CD50329
2-Nitrophenol	ND (0.214)		8270D		1	04/01/15 2:26	CYC0371	CD50329
3,3´-Dichlorobenzidine	ND (0.428)		8270D		1	04/01/15 2:26	CYC0371	CD50329
3+4-Methylphenol	ND (0.428)		8270D		1	04/01/15 2:26	CYC0371	CD50329
4-Bromophenyl-phenylether	ND (0.214)		8270D		1	04/01/15 2:26	CYC0371	CD50329
4-Chloroaniline	ND (0.428)		8270D		1	04/01/15 2:26	CYC0371	CD50329
4-Nitrophenol	ND (1.07)		8270D		1	04/01/15 2:26	CYC0371	CD50329
Acetophenone	ND (0.428)		8270D		1	04/01/15 2:26	CYC0371	CD50329
Aniline	ND (1.07)		8270D		1	04/01/15 2:26	CYC0371	CD50329
Azobenzene	ND (0.214)		8270D		1	04/01/15 2:26	CYC0371	CD50329
bis(2-Chloroethoxy)methane	ND (0.214)		8270D		1	04/01/15 2:26	CYC0371	CD50329
bis(2-Chloroethyl)ether	ND (0.214)		8270D		1	04/01/15 2:26	CYC0371	CD50329
bis(2-chloroisopropyl)Ether	ND (0.214)		8270D		1	04/01/15 2:26	CYC0371	CD50329
bis(2-Ethylhexyl)phthalate	**0.586** (0.214)		8270D		1	04/01/15 2:26	CYC0371	CD50329
Butylbenzylphthalate	ND (0.214)		8270D		1	04/01/15 2:26	CYC0371	CD50329
Dibenzofuran	ND (0.214)		8270D		1	04/01/15 2:26	CYC0371	CD50329
Diethylphthalate	ND (0.214)		8270D		1	04/01/15 2:26	CYC0371	CD50329
Dimethylphthalate	ND (0.214)		8270D		1	04/01/15 2:26	CYC0371	CD50329
Di-n-butylphthalate	ND (0.214)		8270D		1	04/01/15 2:26	CYC0371	CD50329

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-105 4ft-6ft
Date Sampled: 03/26/15 11:45
Percent Solids: 76
Initial Volume: 30.6
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503482
ESS Laboratory Sample ID: 1503482-13
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JXS
Prepared: 3/30/15 17:08

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Di-n-octylphthalate	ND (0.214)		8270D		1	04/01/15 2:26	CYC0371	CD50329
Hexachlorobenzene	ND (0.214)		8270D		1	04/01/15 2:26	CYC0371	CD50329
Hexachlorobutadiene	ND (0.214)		8270D		1	04/01/15 2:26	CYC0371	CD50329
Hexachloroethane	ND (0.214)		8270D		1	04/01/15 2:26	CYC0371	CD50329
Isophorone	ND (0.214)		8270D		1	04/01/15 2:26	CYC0371	CD50329
Nitrobenzene	ND (0.214)		8270D		1	04/01/15 2:26	CYC0371	CD50329
N-Nitrosodimethylamine	ND (0.214)		8270D		1	04/01/15 2:26	CYC0371	CD50329
Pentachlorophenol	ND (1.07)		8270D		1	04/01/15 2:26	CYC0371	CD50329
Phenol	ND (0.214)		8270D		1	04/01/15 2:26	CYC0371	CD50329

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*69 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*108 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*67 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*82 %*		*30-130*
Surrogate: 2-Fluorophenol	*63 %*		*30-130*
Surrogate: Nitrobenzene-d5	*72 %*		*30-130*
Surrogate: Phenol-d6	*65 %*		*30-130*
Surrogate: p-Terphenyl-d14	*87 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-105 4ft-6ft
Date Sampled: 03/26/15 11:45
Percent Solids: 76
Initial Volume: 20
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503482
ESS Laboratory Sample ID: 1503482-13
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 3/31/15 12:26

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.016)		8270D		1	04/04/15 8:59	CYD0060	CC53111
Acenaphthene	ND (0.016)		8270D		1	04/04/15 8:59	CYD0060	CC53111
Acenaphthylene	**0.040** (0.016)		8270D		1	04/04/15 8:59	CYD0060	CC53111
Anthracene	**0.039** (0.016)		8270D		1	04/04/15 8:59	CYD0060	CC53111
Benzo(a)anthracene	**0.046** (0.016)		8270D		1	04/04/15 8:59	CYD0060	CC53111
Benzo(a)pyrene	**0.052** (0.016)		8270D		1	04/04/15 8:59	CYD0060	CC53111
Benzo(b)fluoranthene	**0.054** (0.016)		8270D		1	04/04/15 8:59	CYD0060	CC53111
Benzo(g,h,i)perylene	**0.028** (0.016)		8270D		1	04/04/15 8:59	CYD0060	CC53111
Benzo(k)fluoranthene	**0.019** (0.016)		8270D		1	04/04/15 8:59	CYD0060	CC53111
Chrysene	**0.040** (0.016)		8270D		1	04/04/15 8:59	CYD0060	CC53111
Dibenzo(a,h)Anthracene	ND (0.016)		8270D		1	04/04/15 8:59	CYD0060	CC53111
Fluoranthene	**0.132** (0.016)		8270D		1	04/04/15 8:59	CYD0060	CC53111
Fluorene	**0.025** (0.016)		8270D		1	04/04/15 8:59	CYD0060	CC53111
Hexachlorobenzene	ND (0.016)		8270D		1	04/04/15 8:59	CYD0060	CC53111
Indeno(1,2,3-cd)Pyrene	**0.029** (0.016)		8270D		1	04/04/15 8:59	CYD0060	CC53111
Naphthalene	**0.032** (0.016)		8270D		1	04/04/15 8:59	CYD0060	CC53111
Phenanthrene	**0.113** (0.016)		8270D		1	04/04/15 8:59	CYD0060	CC53111
Pyrene	**0.136** (0.016)		8270D		1	04/04/15 8:59	CYD0060	CC53111

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*61 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*77 %*		*30-130*
Surrogate: Nitrobenzene-d5	*78 %*		*30-130*
Surrogate: p-Terphenyl-d14	*79 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-105 4ft-6ft
Date Sampled: 03/26/15 11:45
Percent Solids: 76
Initial Volume: 30.3
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1503482
ESS Laboratory Sample ID: 1503482-13
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 3/30/15 16:49

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	ND (16.2)		MADEP-EPH		1	DPS	04/01/15 2:25	CYC0382	CC53008
C19-C36 Aliphatics1	ND (16.2)		MADEP-EPH		1	DPS	04/01/15 2:25	CYC0382	CC53008
C11-C22 Unadjusted Aromatics1	ND (16.2)		EPH8270		1	JXS	03/31/15 22:34	CYC0372	CC53008
C11-C22 Aromatics1,2	ND (16.2)		EPH8270			JXS	03/31/15 22:34		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*63 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*91 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*91 %*		*40-140*
Surrogate: O-Terphenyl	*82 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-109 0ft-0.5ft
Date Sampled: 03/26/15 11:45
Percent Solids: 35
Initial Volume: 30.1
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503482
ESS Laboratory Sample ID: 1503482-14
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JXS
Prepared: 3/30/15 17:08

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.479)		8270D		1	04/01/15 2:57	CYC0371	CD50329
1,2-Dichlorobenzene	ND (0.479)		8270D		1	04/01/15 2:57	CYC0371	CD50329
1,3-Dichlorobenzene	ND (0.479)		8270D		1	04/01/15 2:57	CYC0371	CD50329
1,4-Dichlorobenzene	ND (0.479)		8270D		1	04/01/15 2:57	CYC0371	CD50329
2,4,5-Trichlorophenol	ND (0.479)		8270D		1	04/01/15 2:57	CYC0371	CD50329
2,4,6-Trichlorophenol	ND (0.479)		8270D		1	04/01/15 2:57	CYC0371	CD50329
2,4-Dichlorophenol	ND (0.479)		8270D		1	04/01/15 2:57	CYC0371	CD50329
2,4-Dimethylphenol	ND (0.479)		8270D		1	04/01/15 2:57	CYC0371	CD50329
2,4-Dinitrophenol	ND (2.40)		8270D		1	04/01/15 2:57	CYC0371	CD50329
2,4-Dinitrotoluene	ND (0.479)		8270D		1	04/01/15 2:57	CYC0371	CD50329
2,6-Dinitrotoluene	ND (0.479)		8270D		1	04/01/15 2:57	CYC0371	CD50329
2-Chloronaphthalene	ND (0.479)		8270D		1	04/01/15 2:57	CYC0371	CD50329
2-Chlorophenol	ND (0.479)		8270D		1	04/01/15 2:57	CYC0371	CD50329
2-Methylphenol	ND (0.479)		8270D		1	04/01/15 2:57	CYC0371	CD50329
2-Nitrophenol	ND (0.479)		8270D		1	04/01/15 2:57	CYC0371	CD50329
3,3´-Dichlorobenzidine	ND (0.959)		8270D		1	04/01/15 2:57	CYC0371	CD50329
3+4-Methylphenol	ND (0.959)		8270D		1	04/01/15 2:57	CYC0371	CD50329
4-Bromophenyl-phenylether	ND (0.479)		8270D		1	04/01/15 2:57	CYC0371	CD50329
4-Chloroaniline	ND (0.959)		8270D		1	04/01/15 2:57	CYC0371	CD50329
4-Nitrophenol	ND (2.40)		8270D		1	04/01/15 2:57	CYC0371	CD50329
Acetophenone	ND (0.959)		8270D		1	04/01/15 2:57	CYC0371	CD50329
Aniline	ND (2.40)		8270D		1	04/01/15 2:57	CYC0371	CD50329
Azobenzene	ND (0.479)		8270D		1	04/01/15 2:57	CYC0371	CD50329
bis(2-Chloroethoxy)methane	ND (0.479)		8270D		1	04/01/15 2:57	CYC0371	CD50329
bis(2-Chloroethyl)ether	ND (0.479)		8270D		1	04/01/15 2:57	CYC0371	CD50329
bis(2-chloroisopropyl)Ether	ND (0.479)		8270D		1	04/01/15 2:57	CYC0371	CD50329
bis(2-Ethylhexyl)phthalate	**2.33** (0.479)		8270D		1	04/01/15 2:57	CYC0371	CD50329
Butylbenzylphthalate	ND (0.479)		8270D		1	04/01/15 2:57	CYC0371	CD50329
Dibenzofuran	ND (0.479)		8270D		1	04/01/15 2:57	CYC0371	CD50329
Diethylphthalate	ND (0.479)		8270D		1	04/01/15 2:57	CYC0371	CD50329
Dimethylphthalate	ND (0.479)		8270D		1	04/01/15 2:57	CYC0371	CD50329
Di-n-butylphthalate	ND (0.479)		8270D		1	04/01/15 2:57	CYC0371	CD50329

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-109 0ft-0.5ft
Date Sampled: 03/26/15 11:45
Percent Solids: 35
Initial Volume: 30.1
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503482
ESS Laboratory Sample ID: 1503482-14
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JXS
Prepared: 3/30/15 17:08

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Di-n-octylphthalate	ND (0.479)		8270D		1	04/01/15 2:57	CYC0371	CD50329
Hexachlorobenzene	ND (0.479)		8270D		1	04/01/15 2:57	CYC0371	CD50329
Hexachlorobutadiene	ND (0.479)		8270D		1	04/01/15 2:57	CYC0371	CD50329
Hexachloroethane	ND (0.479)		8270D		1	04/01/15 2:57	CYC0371	CD50329
Isophorone	ND (0.479)		8270D		1	04/01/15 2:57	CYC0371	CD50329
Nitrobenzene	ND (0.479)		8270D		1	04/01/15 2:57	CYC0371	CD50329
N-Nitrosodimethylamine	ND (0.479)		8270D		1	04/01/15 2:57	CYC0371	CD50329
Pentachlorophenol	ND (2.40)		8270D		1	04/01/15 2:57	CYC0371	CD50329
Phenol	ND (0.479)		8270D		1	04/01/15 2:57	CYC0371	CD50329

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*61 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*103 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*59 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*73 %*		*30-130*
Surrogate: 2-Fluorophenol	*56 %*		*30-130*
Surrogate: Nitrobenzene-d5	*61 %*		*30-130*
Surrogate: Phenol-d6	*57 %*		*30-130*
Surrogate: p-Terphenyl-d14	*81 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-109 0ft-0.5ft
Date Sampled: 03/26/15 11:45
Percent Solids: 35
Initial Volume: 20.1
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503482
ESS Laboratory Sample ID: 1503482-14
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 3/31/15 12:26

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	**0.074** (0.036)		8270D		1	04/04/15 5:41	CYD0060	CC53111
Acenaphthene	**0.094** (0.036)		8270D		1	04/04/15 5:41	CYD0060	CC53111
Acenaphthylene	**0.417** (0.036)		8270D		1	04/04/15 5:41	CYD0060	CC53111
Anthracene	**0.423** (0.036)		8270D		1	04/04/15 5:41	CYD0060	CC53111
Benzo(a)anthracene	**1.01** (0.036)		8270D		1	04/04/15 5:41	CYD0060	CC53111
Benzo(a)pyrene	**1.36** (0.036)		8270D		1	04/04/15 5:41	CYD0060	CC53111
Benzo(b)fluoranthene	**2.10** (0.036)		8270D		1	04/04/15 5:41	CYD0060	CC53111
Benzo(g,h,i)perylene	**0.850** (0.036)		8270D		1	04/04/15 5:41	CYD0060	CC53111
Benzo(k)fluoranthene	**0.472** (0.036)		8270D		1	04/04/15 5:41	CYD0060	CC53111
Chrysene	**1.27** (0.036)		8270D		1	04/04/15 5:41	CYD0060	CC53111
Dibenzo(a,h)Anthracene	**0.248** (0.036)		8270D		1	04/04/15 5:41	CYD0060	CC53111
Fluoranthene	**2.18** (0.036)		8270D		1	04/04/15 5:41	CYD0060	CC53111
Fluorene	**0.165** (0.036)		8270D		1	04/04/15 5:41	CYD0060	CC53111
Hexachlorobenzene	ND (0.036)		8270D		1	04/04/15 5:41	CYD0060	CC53111
Indeno(1,2,3-cd)Pyrene	**0.990** (0.036)		8270D		1	04/04/15 5:41	CYD0060	CC53111
Naphthalene	**0.372** (0.036)		8270D		1	04/04/15 5:41	CYD0060	CC53111
Phenanthrene	**1.14** (0.036)		8270D		1	04/04/15 5:41	CYD0060	CC53111
Pyrene	**2.21** (0.036)		8270D		1	04/04/15 5:41	CYD0060	CC53111

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*52 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*70 %*		*30-130*
Surrogate: Nitrobenzene-d5	*67 %*		*30-130*
Surrogate: p-Terphenyl-d14	*76 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-109 0ft-0.5ft
Date Sampled: 03/26/15 11:45
Percent Solids: 35
Initial Volume: 30
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1503482
ESS Laboratory Sample ID: 1503482-14
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 3/30/15 16:49

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	ND (36.1)		MADEP-EPH		1	DPS	04/01/15 3:17	CYC0382	CC53008
C19-C36 Aliphatics1	**163** (36.1)		MADEP-EPH		1	DPS	04/01/15 3:17	CYC0382	CC53008
C11-C22 Unadjusted Aromatics1	**121** (36.1)		EPH8270		1	JXS	03/31/15 23:08	CYC0372	CC53008
C11-C22 Aromatics1,2	**103** (36.1)		EPH8270			JXS	03/31/15 23:08		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*51 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*94 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*94 %*		*40-140*
Surrogate: O-Terphenyl	*80 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-109 4ft-6ft
Date Sampled: 03/26/15 11:45
Percent Solids: 58
Initial Volume: 20.1
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1503482
ESS Laboratory Sample ID: 1503482-15
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 3/31/15 12:26

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	**3.48** (1.08)		8270D		25	04/08/15 15:48	CYD0116	CC53111
Acenaphthene	**27.0** (1.08)		8270D		25	04/08/15 15:48	CYD0116	CC53111
Acenaphthylene	**101** (1.08)		8270D		25	04/08/15 15:48	CYD0116	CC53111
Anthracene	**177** (5.40)		8270D		125	04/08/15 22:21	CYD0116	CC53111
Benzo(a)anthracene	**129** (5.40)		8270D		125	04/08/15 22:21	CYD0116	CC53111
Benzo(a)pyrene	**130** (5.40)		8270D		125	04/08/15 22:21	CYD0116	CC53111
Benzo(b)fluoranthene	**147** (5.40)		8270D		125	04/08/15 22:21	CYD0116	CC53111
Benzo(g,h,i)perylene	**87.8** (1.08)		8270D		25	04/08/15 15:48	CYD0116	CC53111
Benzo(k)fluoranthene	**40.1** (1.08)		8270D		25	04/08/15 15:48	CYD0116	CC53111
Chrysene	**104** (1.08)		8270D		25	04/08/15 15:48	CYD0116	CC53111
Dibenzo(a,h)Anthracene	**23.0** (1.08)		8270D		25	04/08/15 15:48	CYD0116	CC53111
Fluoranthene	**411** (5.40)		8270D		125	04/08/15 22:21	CYD0116	CC53111
Fluorene	**80.1** (1.08)		8270D		25	04/08/15 15:48	CYD0116	CC53111
Hexachlorobenzene	**EL** ND (0.043)		8270D		5	04/08/15 15:48	CYD0116	CC53111
Indeno(1,2,3-cd)Pyrene	**93.9** (1.08)		8270D		25	04/08/15 15:48	CYD0116	CC53111
Naphthalene	**20.7** (1.08)		8270D		25	04/08/15 15:48	CYD0116	CC53111
Phenanthrene	**415** (5.40)		8270D		125	04/08/15 22:21	CYD0116	CC53111
Pyrene	**322** (5.40)		8270D		125	04/08/15 22:21	CYD0116	CC53111

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*78 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*87 %*		*30-130*
Surrogate: Nitrobenzene-d5	*65 %*		*30-130*
Surrogate: p-Terphenyl-d14	*82 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-108 0ft-0.5ft
Date Sampled: 03/26/15 14:00
Percent Solids: 32
Initial Volume: 30
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503482
ESS Laboratory Sample ID: 1503482-16
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JXS
Prepared: 3/30/15 17:08

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.516)		8270D		1	04/01/15 3:29	CYC0371	CD50329
1,2-Dichlorobenzene	ND (0.516)		8270D		1	04/01/15 3:29	CYC0371	CD50329
1,3-Dichlorobenzene	ND (0.516)		8270D		1	04/01/15 3:29	CYC0371	CD50329
1,4-Dichlorobenzene	ND (0.516)		8270D		1	04/01/15 3:29	CYC0371	CD50329
2,4,5-Trichlorophenol	ND (0.516)		8270D		1	04/01/15 3:29	CYC0371	CD50329
2,4,6-Trichlorophenol	ND (0.516)		8270D		1	04/01/15 3:29	CYC0371	CD50329
2,4-Dichlorophenol	ND (0.516)		8270D		1	04/01/15 3:29	CYC0371	CD50329
2,4-Dimethylphenol	ND (0.516)		8270D		1	04/01/15 3:29	CYC0371	CD50329
2,4-Dinitrophenol	ND (2.59)		8270D		1	04/01/15 3:29	CYC0371	CD50329
2,4-Dinitrotoluene	ND (0.516)		8270D		1	04/01/15 3:29	CYC0371	CD50329
2,6-Dinitrotoluene	ND (0.516)		8270D		1	04/01/15 3:29	CYC0371	CD50329
2-Chloronaphthalene	ND (0.516)		8270D		1	04/01/15 3:29	CYC0371	CD50329
2-Chlorophenol	ND (0.516)		8270D		1	04/01/15 3:29	CYC0371	CD50329
2-Methylphenol	ND (0.516)		8270D		1	04/01/15 3:29	CYC0371	CD50329
2-Nitrophenol	ND (0.516)		8270D		1	04/01/15 3:29	CYC0371	CD50329
3,3´-Dichlorobenzidine	ND (1.03)		8270D		1	04/01/15 3:29	CYC0371	CD50329
3+4-Methylphenol	ND (1.03)		8270D		1	04/01/15 3:29	CYC0371	CD50329
4-Bromophenyl-phenylether	ND (0.516)		8270D		1	04/01/15 3:29	CYC0371	CD50329
4-Chloroaniline	ND (1.03)		8270D		1	04/01/15 3:29	CYC0371	CD50329
4-Nitrophenol	ND (2.59)		8270D		1	04/01/15 3:29	CYC0371	CD50329
Acetophenone	ND (1.03)		8270D		1	04/01/15 3:29	CYC0371	CD50329
Aniline	ND (2.59)		8270D		1	04/01/15 3:29	CYC0371	CD50329
Azobenzene	ND (0.516)		8270D		1	04/01/15 3:29	CYC0371	CD50329
bis(2-Chloroethoxy)methane	ND (0.516)		8270D		1	04/01/15 3:29	CYC0371	CD50329
bis(2-Chloroethyl)ether	ND (0.516)		8270D		1	04/01/15 3:29	CYC0371	CD50329
bis(2-chloroisopropyl)Ether	ND (0.516)		8270D		1	04/01/15 3:29	CYC0371	CD50329
bis(2-Ethylhexyl)phthalate	**3.62** (0.516)		8270D		1	04/01/15 3:29	CYC0371	CD50329
Butylbenzylphthalate	ND (0.516)		8270D		1	04/01/15 3:29	CYC0371	CD50329
Dibenzofuran	ND (0.516)		8270D		1	04/01/15 3:29	CYC0371	CD50329
Diethylphthalate	ND (0.516)		8270D		1	04/01/15 3:29	CYC0371	CD50329
Dimethylphthalate	ND (0.516)		8270D		1	04/01/15 3:29	CYC0371	CD50329
Di-n-butylphthalate	ND (0.516)		8270D		1	04/01/15 3:29	CYC0371	CD50329

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-108 0ft-0.5ft
Date Sampled: 03/26/15 14:00
Percent Solids: 32
Initial Volume: 30
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503482
ESS Laboratory Sample ID: 1503482-16
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JXS
Prepared: 3/30/15 17:08

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Di-n-octylphthalate	ND (0.516)		8270D		1	04/01/15 3:29	CYC0371	CD50329
Hexachlorobenzene	ND (0.516)		8270D		1	04/01/15 3:29	CYC0371	CD50329
Hexachlorobutadiene	ND (0.516)		8270D		1	04/01/15 3:29	CYC0371	CD50329
Hexachloroethane	ND (0.516)		8270D		1	04/01/15 3:29	CYC0371	CD50329
Isophorone	ND (0.516)		8270D		1	04/01/15 3:29	CYC0371	CD50329
Nitrobenzene	ND (0.516)		8270D		1	04/01/15 3:29	CYC0371	CD50329
N-Nitrosodimethylamine	ND (0.516)		8270D		1	04/01/15 3:29	CYC0371	CD50329
Pentachlorophenol	ND (2.59)		8270D		1	04/01/15 3:29	CYC0371	CD50329
Phenol	ND (0.516)		8270D		1	04/01/15 3:29	CYC0371	CD50329

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*63 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*108 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*59 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*74 %*		*30-130*
Surrogate: 2-Fluorophenol	*56 %*		*30-130*
Surrogate: Nitrobenzene-d5	*61 %*		*30-130*
Surrogate: Phenol-d6	*57 %*		*30-130*
Surrogate: p-Terphenyl-d14	*83 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-108 0ft-0.5ft
Date Sampled: 03/26/15 14:00
Percent Solids: 32
Initial Volume: 20
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503482
ESS Laboratory Sample ID: 1503482-16
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 3/31/15 12:26

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	**0.056** (0.039)		8270D		1	04/04/15 6:31	CYD0060	CC53111
Acenaphthene	**0.080** (0.039)		8270D		1	04/04/15 6:31	CYD0060	CC53111
Acenaphthylene	**0.310** (0.039)		8270D		1	04/04/15 6:31	CYD0060	CC53111
Anthracene	**0.349** (0.039)		8270D		1	04/04/15 6:31	CYD0060	CC53111
Benzo(a)anthracene	**0.877** (0.039)		8270D		1	04/04/15 6:31	CYD0060	CC53111
Benzo(a)pyrene	**1.20** (0.039)		8270D		1	04/04/15 6:31	CYD0060	CC53111
Benzo(b)fluoranthene	**1.71** (0.039)		8270D		1	04/04/15 6:31	CYD0060	CC53111
Benzo(g,h,i)perylene	**0.691** (0.039)		8270D		1	04/04/15 6:31	CYD0060	CC53111
Benzo(k)fluoranthene	**0.596** (0.039)		8270D		1	04/04/15 6:31	CYD0060	CC53111
Chrysene	**1.19** (0.039)		8270D		1	04/04/15 6:31	CYD0060	CC53111
Dibenzo(a,h)Anthracene	**0.217** (0.039)		8270D		1	04/04/15 6:31	CYD0060	CC53111
Fluoranthene	**1.84** (0.039)		8270D		1	04/04/15 6:31	CYD0060	CC53111
Fluorene	**0.118** (0.039)		8270D		1	04/04/15 6:31	CYD0060	CC53111
Hexachlorobenzene	ND (0.015)		8270D		1	04/04/15 6:31	CYD0060	CC53111
Indeno(1,2,3-cd)Pyrene	**0.812** (0.039)		8270D		1	04/04/15 6:31	CYD0060	CC53111
Naphthalene	**0.281** (0.039)		8270D		1	04/04/15 6:31	CYD0060	CC53111
Phenanthrene	**0.878** (0.039)		8270D		1	04/04/15 6:31	CYD0060	CC53111
Pyrene	**1.89** (0.039)		8270D		1	04/04/15 6:31	CYD0060	CC53111

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*46 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*68 %*		*30-130*
Surrogate: Nitrobenzene-d5	*61 %*		*30-130*
Surrogate: p-Terphenyl-d14	*82 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-108 0ft-0.5ft
Date Sampled: 03/26/15 14:00
Percent Solids: 32
Initial Volume: 30
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1503482
ESS Laboratory Sample ID: 1503482-16
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 3/30/15 16:49

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	ND (38.7)		MADEP-EPH		1	DPS	04/01/15 4:07	CYC0382	CC53008
C19-C36 Aliphatics1	**138** (38.7)		MADEP-EPH		1	DPS	04/01/15 4:07	CYC0382	CC53008
C11-C22 Unadjusted Aromatics1	**72.0** (38.7)		EPH8270		1	JXS	03/31/15 23:42	CYC0372	CC53008
C11-C22 Aromatics1,2	**66.5** (38.7)		EPH8270			JXS	03/31/15 23:42		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*62 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*93 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*93 %*		*40-140*
Surrogate: O-Terphenyl	*78 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-108 0.5ft-2ft
Date Sampled: 03/26/15 14:00
Percent Solids: 40
Initial Volume: 20.5
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503482
ESS Laboratory Sample ID: 1503482-17
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 3/31/15 12:26

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	**0.044** (0.030)		8270D		1	04/04/15 12:08	CYD0062	CC53111
Acenaphthene	**0.054** (0.030)		8270D		1	04/04/15 12:08	CYD0062	CC53111
Acenaphthylene	**0.264** (0.030)		8270D		1	04/04/15 12:08	CYD0062	CC53111
Anthracene	**0.257** (0.030)		8270D		1	04/04/15 12:08	CYD0062	CC53111
Benzo(a)anthracene	**0.469** (0.030)		8270D		1	04/04/15 12:08	CYD0062	CC53111
Benzo(a)pyrene	**0.579** (0.030)		8270D		1	04/04/15 12:08	CYD0062	CC53111
Benzo(b)fluoranthene	**0.790** (0.030)		8270D		1	04/04/15 12:08	CYD0062	CC53111
Benzo(g,h,i)perylene	**0.312** (0.030)		8270D		1	04/04/15 12:08	CYD0062	CC53111
Benzo(k)fluoranthene	**0.323** (0.030)		8270D		1	04/04/15 12:08	CYD0062	CC53111
Chrysene	**0.467** (0.030)		8270D		1	04/04/15 12:08	CYD0062	CC53111
Dibenzo(a,h)Anthracene	**0.097** (0.030)		8270D		1	04/04/15 12:08	CYD0062	CC53111
Fluoranthene	**0.772** (0.030)		8270D		1	04/04/15 12:08	CYD0062	CC53111
Fluorene	**0.082** (0.030)		8270D		1	04/04/15 12:08	CYD0062	CC53111
Hexachlorobenzene	ND (0.030)		8270D		1	04/04/15 12:08	CYD0062	CC53111
Indeno(1,2,3-cd)Pyrene	**0.372** (0.030)		8270D		1	04/04/15 12:08	CYD0062	CC53111
Naphthalene	**0.168** (0.030)		8270D		1	04/04/15 12:08	CYD0062	CC53111
Phenanthrene	**0.448** (0.030)		8270D		1	04/04/15 12:08	CYD0062	CC53111
Pyrene	**1.14** (0.030)		8270D		1	04/04/15 12:08	CYD0062	CC53111

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*41 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*56 %*		*30-130*
Surrogate: Nitrobenzene-d5	*55 %*		*30-130*
Surrogate: p-Terphenyl-d14	*74 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-108 4ft-6ft
Date Sampled: 03/26/15 14:00
Percent Solids: 68
Initial Volume: 30.1
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503482
ESS Laboratory Sample ID: 1503482-18
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 3/30/15 17:08

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.244)		8270D		1	04/02/15 5:44	CYD0019	CD50329
1,2-Dichlorobenzene	ND (0.244)		8270D		1	04/02/15 5:44	CYD0019	CD50329
1,3-Dichlorobenzene	ND (0.244)		8270D		1	04/02/15 5:44	CYD0019	CD50329
1,4-Dichlorobenzene	ND (0.244)		8270D		1	04/02/15 5:44	CYD0019	CD50329
2,4,5-Trichlorophenol	ND (0.244)		8270D		1	04/02/15 5:44	CYD0019	CD50329
2,4,6-Trichlorophenol	ND (0.244)		8270D		1	04/02/15 5:44	CYD0019	CD50329
2,4-Dichlorophenol	ND (0.244)		8270D		1	04/02/15 5:44	CYD0019	CD50329
2,4-Dimethylphenol	ND (0.244)		8270D		1	04/02/15 5:44	CYD0019	CD50329
2,4-Dinitrophenol	ND (1.22)		8270D		1	04/02/15 5:44	CYD0019	CD50329
2,4-Dinitrotoluene	ND (0.244)		8270D		1	04/02/15 5:44	CYD0019	CD50329
2,6-Dinitrotoluene	ND (0.244)		8270D		1	04/02/15 5:44	CYD0019	CD50329
2-Chloronaphthalene	ND (0.244)		8270D		1	04/02/15 5:44	CYD0019	CD50329
2-Chlorophenol	ND (0.244)		8270D		1	04/02/15 5:44	CYD0019	CD50329
2-Methylphenol	ND (0.244)		8270D		1	04/02/15 5:44	CYD0019	CD50329
2-Nitrophenol	ND (0.244)		8270D		1	04/02/15 5:44	CYD0019	CD50329
3,3´-Dichlorobenzidine	ND (0.488)		8270D		1	04/02/15 5:44	CYD0019	CD50329
3+4-Methylphenol	ND (0.488)		8270D		1	04/02/15 5:44	CYD0019	CD50329
4-Bromophenyl-phenylether	ND (0.244)		8270D		1	04/02/15 5:44	CYD0019	CD50329
4-Chloroaniline	ND (0.488)		8270D		1	04/02/15 5:44	CYD0019	CD50329
4-Nitrophenol	ND (1.22)		8270D		1	04/02/15 5:44	CYD0019	CD50329
Acetophenone	ND (0.488)		8270D		1	04/02/15 5:44	CYD0019	CD50329
Aniline	ND (1.22)		8270D		1	04/02/15 5:44	CYD0019	CD50329
Azobenzene	ND (0.244)		8270D		1	04/02/15 5:44	CYD0019	CD50329
bis(2-Chloroethoxy)methane	ND (0.244)		8270D		1	04/02/15 5:44	CYD0019	CD50329
bis(2-Chloroethyl)ether	ND (0.244)		8270D		1	04/02/15 5:44	CYD0019	CD50329
bis(2-chloroisopropyl)Ether	ND (0.244)		8270D		1	04/02/15 5:44	CYD0019	CD50329
bis(2-Ethylhexyl)phthalate	**35.7** (2.44)		8270D		10	04/02/15 17:11	CYD0019	CD50329
Butylbenzylphthalate	ND (0.244)		8270D		1	04/02/15 5:44	CYD0019	CD50329
Dibenzofuran	**0.861** (0.244)		8270D		1	04/02/15 5:44	CYD0019	CD50329
Diethylphthalate	ND (0.244)		8270D		1	04/02/15 5:44	CYD0019	CD50329
Dimethylphthalate	ND (0.244)		8270D		1	04/02/15 5:44	CYD0019	CD50329
Di-n-butylphthalate	ND (0.244)		8270D		1	04/02/15 5:44	CYD0019	CD50329

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-108 4ft-6ft
Date Sampled: 03/26/15 14:00
Percent Solids: 68
Initial Volume: 30.1
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503482
ESS Laboratory Sample ID: 1503482-18
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 3/30/15 17:08

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Di-n-octylphthalate	**1.26** (0.244)		8270D		1	04/02/15 5:44	CYD0019	CD50329
Hexachlorobenzene	ND (0.244)		8270D		1	04/02/15 5:44	CYD0019	CD50329
Hexachlorobutadiene	ND (0.244)		8270D		1	04/02/15 5:44	CYD0019	CD50329
Hexachloroethane	ND (0.244)		8270D		1	04/02/15 5:44	CYD0019	CD50329
Isophorone	ND (0.244)		8270D		1	04/02/15 5:44	CYD0019	CD50329
Nitrobenzene	ND (0.244)		8270D		1	04/02/15 5:44	CYD0019	CD50329
N-Nitrosodimethylamine	ND (0.244)		8270D		1	04/02/15 5:44	CYD0019	CD50329
Pentachlorophenol	ND (1.22)		8270D		1	04/02/15 5:44	CYD0019	CD50329
Phenol	**0.307** (0.244)		8270D		1	04/02/15 5:44	CYD0019	CD50329

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*55 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*64 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*59 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*62 %*		*30-130*
Surrogate: 2-Fluorophenol	*59 %*		*30-130*
Surrogate: Nitrobenzene-d5	*61 %*		*30-130*
Surrogate: Phenol-d6	*62 %*		*30-130*
Surrogate: p-Terphenyl-d14	*57 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-108 4ft-6ft
Date Sampled: 03/26/15 14:00
Percent Solids: 68
Initial Volume: 20.1
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503482
ESS Laboratory Sample ID: 1503482-18
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 3/31/15 12:26

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	**0.344** (0.183)		8270D		10	04/08/15 18:16	CYD0116	CC53111
Acenaphthene	**2.31** (0.183)		8270D		10	04/08/15 18:16	CYD0116	CC53111
Acenaphthylene	**1.80** (0.183)		8270D		10	04/08/15 18:16	CYD0116	CC53111
Anthracene	**4.60** (0.183)		8270D		10	04/08/15 18:16	CYD0116	CC53111
Benzo(a)anthracene	**4.25** (0.183)		8270D		10	04/08/15 18:16	CYD0116	CC53111
Benzo(a)pyrene	**4.54** (0.183)		8270D		10	04/08/15 18:16	CYD0116	CC53111
Benzo(b)fluoranthene	**5.31** (0.183)		8270D		10	04/08/15 18:16	CYD0116	CC53111
Benzo(g,h,i)perylene	**3.59** (0.183)		8270D		10	04/08/15 18:16	CYD0116	CC53111
Benzo(k)fluoranthene	**1.67** (0.183)		8270D		10	04/08/15 18:16	CYD0116	CC53111
Chrysene	**4.21** (0.183)		8270D		10	04/08/15 18:16	CYD0116	CC53111
Dibenzo(a,h)Anthracene	**0.688** (0.183)		8270D		10	04/08/15 18:16	CYD0116	CC53111
Fluoranthene	**13.5** (0.183)		8270D		10	04/08/15 18:16	CYD0116	CC53111
Fluorene	**1.86** (0.183)		8270D		10	04/08/15 18:16	CYD0116	CC53111
Hexachlorobenzene	ND (0.037)		8270D		10	04/08/15 18:16	CYD0116	CC53111
Indeno(1,2,3-cd)Pyrene	**3.65** (0.183)		8270D		10	04/08/15 18:16	CYD0116	CC53111
Naphthalene	**3.34** (0.183)		8270D		10	04/08/15 18:16	CYD0116	CC53111
Phenanthrene	**8.35** (0.183)		8270D		10	04/08/15 18:16	CYD0116	CC53111
Pyrene	**11.5** (0.183)		8270D		10	04/08/15 18:16	CYD0116	CC53111

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*43 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*71 %*		*30-130*
Surrogate: Nitrobenzene-d5	*47 %*		*30-130*
Surrogate: p-Terphenyl-d14	*89 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-108 4ft-6ft
Date Sampled: 03/26/15 14:00
Percent Solids: 68
Initial Volume: 30.5
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1503482
ESS Laboratory Sample ID: 1503482-18
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 3/30/15 16:49

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	**139** (18.1)		MADEP-EPH		1	DPS	04/01/15 4:58	CYC0382	CC53008
C19-C36 Aliphatics1	**275** (18.1)		MADEP-EPH		1	DPS	04/01/15 4:58	CYC0382	CC53008
C11-C22 Unadjusted Aromatics1	**496** (18.1)		EPH8270		1	JXS	04/01/15 3:14	CYC0372	CC53008
C11-C22 Aromatics1,2	**371** (18.1)		EPH8270			JXS	04/01/15 19:17		[CALC]

	%Recovery	*Qualifier*	*Limits*
Surrogate: 1-Chlorooctadecane	*59 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*89 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*79 %*		*40-140*
Surrogate: O-Terphenyl	*77 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-107 0ft-0.5ft
Date Sampled: 03/26/15 15:15
Percent Solids: 30
Initial Volume: 30.1
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503482
ESS Laboratory Sample ID: 1503482-19
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JXS
Prepared: 3/30/15 17:08

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.545)		8270D		1	04/01/15 4:32	CYC0371	CD50329
1,2-Dichlorobenzene	ND (0.545)		8270D		1	04/01/15 4:32	CYC0371	CD50329
1,3-Dichlorobenzene	ND (0.545)		8270D		1	04/01/15 4:32	CYC0371	CD50329
1,4-Dichlorobenzene	ND (0.545)		8270D		1	04/01/15 4:32	CYC0371	CD50329
2,4,5-Trichlorophenol	ND (0.545)		8270D		1	04/01/15 4:32	CYC0371	CD50329
2,4,6-Trichlorophenol	ND (0.545)		8270D		1	04/01/15 4:32	CYC0371	CD50329
2,4-Dichlorophenol	ND (0.545)		8270D		1	04/01/15 4:32	CYC0371	CD50329
2,4-Dimethylphenol	ND (0.545)		8270D		1	04/01/15 4:32	CYC0371	CD50329
2,4-Dinitrophenol	ND (2.73)		8270D		1	04/01/15 4:32	CYC0371	CD50329
2,4-Dinitrotoluene	ND (0.545)		8270D		1	04/01/15 4:32	CYC0371	CD50329
2,6-Dinitrotoluene	ND (0.545)		8270D		1	04/01/15 4:32	CYC0371	CD50329
2-Chloronaphthalene	ND (0.545)		8270D		1	04/01/15 4:32	CYC0371	CD50329
2-Chlorophenol	ND (0.545)		8270D		1	04/01/15 4:32	CYC0371	CD50329
2-Methylphenol	ND (0.545)		8270D		1	04/01/15 4:32	CYC0371	CD50329
2-Nitrophenol	ND (0.545)		8270D		1	04/01/15 4:32	CYC0371	CD50329
3,3´-Dichlorobenzidine	ND (1.09)		8270D		1	04/01/15 4:32	CYC0371	CD50329
3+4-Methylphenol	ND (1.09)		8270D		1	04/01/15 4:32	CYC0371	CD50329
4-Bromophenyl-phenylether	ND (0.545)		8270D		1	04/01/15 4:32	CYC0371	CD50329
4-Chloroaniline	ND (1.09)		8270D		1	04/01/15 4:32	CYC0371	CD50329
4-Nitrophenol	ND (2.73)		8270D		1	04/01/15 4:32	CYC0371	CD50329
Acetophenone	ND (1.09)		8270D		1	04/01/15 4:32	CYC0371	CD50329
Aniline	ND (2.73)		8270D		1	04/01/15 4:32	CYC0371	CD50329
Azobenzene	ND (0.545)		8270D		1	04/01/15 4:32	CYC0371	CD50329
bis(2-Chloroethoxy)methane	ND (0.545)		8270D		1	04/01/15 4:32	CYC0371	CD50329
bis(2-Chloroethyl)ether	ND (0.545)		8270D		1	04/01/15 4:32	CYC0371	CD50329
bis(2-chloroisopropyl)Ether	ND (0.545)		8270D		1	04/01/15 4:32	CYC0371	CD50329
bis(2-Ethylhexyl)phthalate	**5.95** (0.545)		8270D		1	04/01/15 4:32	CYC0371	CD50329
Butylbenzylphthalate	ND (0.545)		8270D		1	04/01/15 4:32	CYC0371	CD50329
Dibenzofuran	ND (0.545)		8270D		1	04/01/15 4:32	CYC0371	CD50329
Diethylphthalate	ND (0.545)		8270D		1	04/01/15 4:32	CYC0371	CD50329
Dimethylphthalate	ND (0.545)		8270D		1	04/01/15 4:32	CYC0371	CD50329
Di-n-butylphthalate	ND (0.545)		8270D		1	04/01/15 4:32	CYC0371	CD50329

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-107 0ft-0.5ft
Date Sampled: 03/26/15 15:15
Percent Solids: 30
Initial Volume: 30.1
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503482
ESS Laboratory Sample ID: 1503482-19
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JXS
Prepared: 3/30/15 17:08

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Di-n-octylphthalate	ND (0.545)		8270D		1	04/01/15 4:32	CYC0371	CD50329
Hexachlorobenzene	ND (0.545)		8270D		1	04/01/15 4:32	CYC0371	CD50329
Hexachlorobutadiene	ND (0.545)		8270D		1	04/01/15 4:32	CYC0371	CD50329
Hexachloroethane	ND (0.545)		8270D		1	04/01/15 4:32	CYC0371	CD50329
Isophorone	ND (0.545)		8270D		1	04/01/15 4:32	CYC0371	CD50329
Nitrobenzene	ND (0.545)		8270D		1	04/01/15 4:32	CYC0371	CD50329
N-Nitrosodimethylamine	ND (0.545)		8270D		1	04/01/15 4:32	CYC0371	CD50329
Pentachlorophenol	ND (2.73)		8270D		1	04/01/15 4:32	CYC0371	CD50329
Phenol	ND (0.545)		8270D		1	04/01/15 4:32	CYC0371	CD50329

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*56 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*104 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*52 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*64 %*		*30-130*
Surrogate: 2-Fluorophenol	*49 %*		*30-130*
Surrogate: Nitrobenzene-d5	*48 %*		*30-130*
Surrogate: Phenol-d6	*52 %*		*30-130*
Surrogate: p-Terphenyl-d14	*77 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-107 0ft-0.5ft
Date Sampled: 03/26/15 15:15
Percent Solids: 30
Initial Volume: 20.3
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503482
ESS Laboratory Sample ID: 1503482-19
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 3/31/15 12:26

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	**0.050** (0.040)		8270D		1	04/04/15 13:47	CYD0062	CC53111
Acenaphthene	**0.092** (0.040)		8270D		1	04/04/15 13:47	CYD0062	CC53111
Acenaphthylene	**0.268** (0.040)		8270D		1	04/04/15 13:47	CYD0062	CC53111
Anthracene	**0.419** (0.040)		8270D		1	04/04/15 13:47	CYD0062	CC53111
Benzo(a)anthracene	**1.26** (0.040)		8270D		1	04/04/15 13:47	CYD0062	CC53111
Benzo(a)pyrene	**1.64** (0.040)		8270D		1	04/04/15 13:47	CYD0062	CC53111
Benzo(b)fluoranthene	**2.90** (0.040)		8270D		1	04/04/15 13:47	CYD0062	CC53111
Benzo(g,h,i)perylene	**0.845** (0.040)		8270D		1	04/04/15 13:47	CYD0062	CC53111
Benzo(k)fluoranthene	**0.751** (0.040)		8270D		1	04/04/15 13:47	CYD0062	CC53111
Chrysene	**1.72** (0.040)		8270D		1	04/04/15 13:47	CYD0062	CC53111
Dibenzo(a,h)Anthracene	**0.260** (0.040)		8270D		1	04/04/15 13:47	CYD0062	CC53111
Fluoranthene	**3.21** (0.040)		8270D		1	04/04/15 13:47	CYD0062	CC53111
Fluorene	**0.126** (0.040)		8270D		1	04/04/15 13:47	CYD0062	CC53111
Hexachlorobenzene	ND (0.040)		8270D		1	04/04/15 13:47	CYD0062	CC53111
Indeno(1,2,3-cd)Pyrene	**1.05** (0.040)		8270D		1	04/04/15 13:47	CYD0062	CC53111
Naphthalene	**0.205** (0.040)		8270D		1	04/04/15 13:47	CYD0062	CC53111
Phenanthrene	**1.15** (0.040)		8270D		1	04/04/15 13:47	CYD0062	CC53111
Pyrene	**2.74** (0.040)		8270D		1	04/04/15 13:47	CYD0062	CC53111

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*57 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*77 %*		*30-130*
Surrogate: Nitrobenzene-d5	*75 %*		*30-130*
Surrogate: p-Terphenyl-d14	*82 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-107 0ft-0.5ft
Date Sampled: 03/26/15 15:15
Percent Solids: 30
Initial Volume: 30
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1503482
ESS Laboratory Sample ID: 1503482-19
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 3/30/15 16:49

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	ND (41.0)		MADEP-EPH		1	DPS	04/01/15 5:48	CYC0382	CC53008
C19-C36 Aliphatics1	**277** (41.0)		MADEP-EPH		1	DPS	04/01/15 5:48	CYC0382	CC53008
C11-C22 Unadjusted Aromatics1	**163** (41.0)		EPH8270		1	JXS	04/01/15 3:48	CYC0372	CC53008
C11-C22 Aromatics1,2	**149** (41.0)		EPH8270			JXS	04/01/15 3:48		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*57 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*84 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*84 %*		*40-140*
Surrogate: O-Terphenyl	*75 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-107 2ft-4ft
Date Sampled: 03/26/15 15:15
Percent Solids: 50
Initial Volume: 30
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503482
ESS Laboratory Sample ID: 1503482-20
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JXS
Prepared: 3/30/15 17:08

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.335)		8270D		1	04/01/15 5:03	CYC0371	CD50329
1,2-Dichlorobenzene	ND (0.335)		8270D		1	04/01/15 5:03	CYC0371	CD50329
1,3-Dichlorobenzene	ND (0.335)		8270D		1	04/01/15 5:03	CYC0371	CD50329
1,4-Dichlorobenzene	ND (0.335)		8270D		1	04/01/15 5:03	CYC0371	CD50329
2,4,5-Trichlorophenol	ND (0.335)		8270D		1	04/01/15 5:03	CYC0371	CD50329
2,4,6-Trichlorophenol	ND (0.335)		8270D		1	04/01/15 5:03	CYC0371	CD50329
2,4-Dichlorophenol	ND (0.335)		8270D		1	04/01/15 5:03	CYC0371	CD50329
2,4-Dimethylphenol	ND (0.335)		8270D		1	04/01/15 5:03	CYC0371	CD50329
2,4-Dinitrophenol	ND (1.68)		8270D		1	04/01/15 5:03	CYC0371	CD50329
2,4-Dinitrotoluene	ND (0.335)		8270D		1	04/01/15 5:03	CYC0371	CD50329
2,6-Dinitrotoluene	ND (0.335)		8270D		1	04/01/15 5:03	CYC0371	CD50329
2-Chloronaphthalene	ND (0.335)		8270D		1	04/01/15 5:03	CYC0371	CD50329
2-Chlorophenol	ND (0.335)		8270D		1	04/01/15 5:03	CYC0371	CD50329
2-Methylphenol	ND (0.335)		8270D		1	04/01/15 5:03	CYC0371	CD50329
2-Nitrophenol	ND (0.335)		8270D		1	04/01/15 5:03	CYC0371	CD50329
3,3´-Dichlorobenzidine	ND (0.671)		8270D		1	04/01/15 5:03	CYC0371	CD50329
3+4-Methylphenol	ND (0.671)		8270D		1	04/01/15 5:03	CYC0371	CD50329
4-Bromophenyl-phenylether	ND (0.335)		8270D		1	04/01/15 5:03	CYC0371	CD50329
4-Chloroaniline	ND (0.671)		8270D		1	04/01/15 5:03	CYC0371	CD50329
4-Nitrophenol	ND (1.68)		8270D		1	04/01/15 5:03	CYC0371	CD50329
Acetophenone	ND (0.671)		8270D		1	04/01/15 5:03	CYC0371	CD50329
Aniline	ND (1.68)		8270D		1	04/01/15 5:03	CYC0371	CD50329
Azobenzene	ND (0.335)		8270D		1	04/01/15 5:03	CYC0371	CD50329
bis(2-Chloroethoxy)methane	ND (0.335)		8270D		1	04/01/15 5:03	CYC0371	CD50329
bis(2-Chloroethyl)ether	ND (0.335)		8270D		1	04/01/15 5:03	CYC0371	CD50329
bis(2-chloroisopropyl)Ether	ND (0.335)		8270D		1	04/01/15 5:03	CYC0371	CD50329
bis(2-Ethylhexyl)phthalate	**250** (33.5)		8270D		100	04/02/15 4:33	CYC0371	CD50329
Butylbenzylphthalate	ND (0.335)		8270D		1	04/01/15 5:03	CYC0371	CD50329
Dibenzofuran	ND (0.335)		8270D		1	04/01/15 5:03	CYC0371	CD50329
Diethylphthalate	ND (0.335)		8270D		1	04/01/15 5:03	CYC0371	CD50329
Dimethylphthalate	ND (0.335)		8270D		1	04/01/15 5:03	CYC0371	CD50329
Di-n-butylphthalate	ND (0.335)		8270D		1	04/01/15 5:03	CYC0371	CD50329

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-107 2ft-4ft
Date Sampled: 03/26/15 15:15
Percent Solids: 50
Initial Volume: 30
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503482
ESS Laboratory Sample ID: 1503482-20
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 3/30/15 17:08

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Di-n-octylphthalate	**43.5** (3.35)		8270D		10	04/02/15 3:57	CYC0371	CD50329
Hexachlorobenzene	ND (0.335)		8270D		1	04/01/15 5:03	CYC0371	CD50329
Hexachlorobutadiene	ND (0.335)		8270D		1	04/01/15 5:03	CYC0371	CD50329
Hexachloroethane	ND (0.335)		8270D		1	04/01/15 5:03	CYC0371	CD50329
Isophorone	ND (0.335)		8270D		1	04/01/15 5:03	CYC0371	CD50329
Nitrobenzene	ND (0.335)		8270D		1	04/01/15 5:03	CYC0371	CD50329
N-Nitrosodimethylamine	ND (0.335)		8270D		1	04/01/15 5:03	CYC0371	CD50329
Pentachlorophenol	ND (1.68)		8270D		1	04/01/15 5:03	CYC0371	CD50329
Phenol	ND (0.335)		8270D		1	04/01/15 5:03	CYC0371	CD50329

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*44 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*96 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*45 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*64 %*		*30-130*
Surrogate: 2-Fluorophenol	*41 %*		*30-130*
Surrogate: Nitrobenzene-d5	*51 %*		*30-130*
Surrogate: Phenol-d6	*46 %*		*30-130*
Surrogate: p-Terphenyl-d14	*76 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-107 2ft-4ft
Date Sampled: 03/26/15 15:15
Percent Solids: 50
Initial Volume: 20
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503482
ESS Laboratory Sample ID: 1503482-20
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 3/31/15 12:26

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	**0.758** (0.629)		8270D		25	04/08/15 17:26	CYD0116	CC53111
Acenaphthene	**2.27** (0.629)		8270D		25	04/08/15 17:26	CYD0116	CC53111
Acenaphthylene	**0.488** (0.252)		8270D		25	04/08/15 17:26	CYD0116	CC53111
Anthracene	**5.61** (0.629)		8270D		25	04/08/15 17:26	CYD0116	CC53111
Benzo(a)anthracene	**10.8** (0.629)		8270D		25	04/08/15 17:26	CYD0116	CC53111
Benzo(a)pyrene	**7.84** (0.629)		8270D		25	04/08/15 17:26	CYD0116	CC53111
Benzo(b)fluoranthene	**10.6** (0.629)		8270D		25	04/08/15 17:26	CYD0116	CC53111
Benzo(g,h,i)perylene	**4.33** (0.629)		8270D		25	04/08/15 17:26	CYD0116	CC53111
Benzo(k)fluoranthene	**3.73** (0.629)		8270D		25	04/08/15 17:26	CYD0116	CC53111
Chrysene	**10.8** (0.629)		8270D		25	04/08/15 17:26	CYD0116	CC53111
Dibenzo(a,h)Anthracene	**1.23** (0.629)		8270D		25	04/08/15 17:26	CYD0116	CC53111
Fluoranthene	**31.9** (0.629)		8270D		25	04/08/15 17:26	CYD0116	CC53111
Fluorene	**2.97** (0.629)		8270D		25	04/08/15 17:26	CYD0116	CC53111
Hexachlorobenzene	ND (0.025)		8270D		5	04/08/15 17:26	CYD0116	CC53111
Indeno(1,2,3-cd)Pyrene	**5.51** (0.629)		8270D		25	04/08/15 17:26	CYD0116	CC53111
Naphthalene	**1.32** (0.629)		8270D		25	04/08/15 17:26	CYD0116	CC53111
Phenanthrene	**24.9** (0.629)		8270D		25	04/08/15 17:26	CYD0116	CC53111
Pyrene	**23.8** (0.629)		8270D		25	04/08/15 17:26	CYD0116	CC53111

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*40 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*87 %*		*30-130*
Surrogate: Nitrobenzene-d5	*82 %*		*30-130*
Surrogate: p-Terphenyl-d14	*104 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-107 2ft-4ft
Date Sampled: 03/26/15 15:15
Percent Solids: 50
Initial Volume: 30
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1503482
ESS Laboratory Sample ID: 1503482-20
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 3/30/15 16:49

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	**293** (25.2)		MADEP-EPH		1	DPS	04/01/15 6:39	CYC0382	CC53008
C19-C36 Aliphatics1	**474** (25.2)		MADEP-EPH		1	DPS	04/01/15 6:39	CYC0382	CC53008
C11-C22 Unadjusted Aromatics1	**638** (25.2)		EPH8270		1	JXS	04/01/15 4:22	CYC0372	CC53008
C11-C22 Aromatics1,2	**631** (25.2)		EPH8270			JXS	04/01/15 4:22		[CALC]

	%Recovery	*Qualifier*	*Limits*
Surrogate: 1-Chlorooctadecane	*61 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*82 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*78 %*		*40-140*
Surrogate: O-Terphenyl	*135 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-101 0ft-0.5ft
Date Sampled: 03/26/15 10:05
Percent Solids: 100

ESS Laboratory Work Order: 1503482
ESS Laboratory Sample ID: 1503482-21
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.24)		7010		5	KJK	04/02/15 5:04	2.01	100	CC53118
Arsenic	**16.4** (2.49)		6010C		1	KJK	03/31/15 19:29	2.01	100	CC53118
Barium	**47.8** (2.49)		6010C		1	KJK	03/31/15 19:29	2.01	100	CC53118
Beryllium	**0.42** (0.11)		6010C		1	KJK	03/31/15 19:29	2.01	100	CC53118
Cadmium	**0.85** (0.50)		6010C		1	KJK	03/31/15 19:29	2.01	100	CC53118
Chromium	**55.8** (1.00)		6010C		1	KJK	03/31/15 19:29	2.01	100	CC53118
Lead	**161** (4.98)		6010C		1	KJK	03/31/15 19:29	2.01	100	CC53118
Mercury	**0.181** (0.030)		7471B		1	RLA	04/01/15 17:41	0.65	40	CC53119
Nickel	**17.9** (2.49)		6010C		1	KJK	03/31/15 19:29	2.01	100	CC53118
Selenium	ND (2.49)		7010		5	KJK	04/02/15 13:12	2.01	100	CC53118
Silver	**0.88** (0.50)		6010C		1	KJK	03/31/15 19:29	2.01	100	CC53118
Thallium	ND (0.40)		7010		4	JP	04/07/15 2:12	2.01	100	CC53118
Vanadium	**49.1** (1.00)		6010C		1	KJK	03/31/15 19:29	2.01	100	CC53118
Zinc	**235** (2.49)		6010C		1	KJK	03/31/15 19:29	2.01	100	CC53118

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-101 2ft-4ft
Date Sampled: 03/26/15 10:05
Percent Solids: 100

ESS Laboratory Work Order: 1503482
ESS Laboratory Sample ID: 1503482-22
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.22)		7010		5	KJK	04/02/15 5:49	2.05	100	CC53118
Arsenic	**11.6** (2.44)		6010C		1	KJK	03/31/15 20:04	2.05	100	CC53118
Barium	**34.3** (2.44)		6010C		1	KJK	03/31/15 20:04	2.05	100	CC53118
Beryllium	**0.41** (0.11)		6010C		1	KJK	03/31/15 20:04	2.05	100	CC53118
Cadmium	ND (0.49)		6010C		1	KJK	03/31/15 20:04	2.05	100	CC53118
Chromium	**34.9** (0.98)		6010C		1	KJK	03/31/15 20:04	2.05	100	CC53118
Lead	**63.1** (4.88)		6010C		1	KJK	03/31/15 20:04	2.05	100	CC53118
Mercury	**0.099** (0.024)		7471B		1	RLA	04/01/15 17:52	0.82	40	CC53119
Nickel	**13.9** (2.44)		6010C		1	KJK	03/31/15 20:04	2.05	100	CC53118
Selenium	ND (4.88)		6010C		1	KJK	03/31/15 20:04	2.05	100	CC53118
Silver	ND (0.49)		6010C		1	KJK	03/31/15 20:04	2.05	100	CC53118
Thallium	ND (0.39)		7010		4	JP	04/07/15 2:57	2.05	100	CC53118
Vanadium	**38.3** (0.98)		6010C		1	KJK	03/31/15 20:04	2.05	100	CC53118
Zinc	**119** (2.44)		6010C		1	KJK	03/31/15 20:04	2.05	100	CC53118

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-101 6ft-8ft
Date Sampled: 03/26/15 10:05
Percent Solids: 100

ESS Laboratory Work Order: 1503482
ESS Laboratory Sample ID: 1503482-23
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (4.35)		6010C		1	KJK	03/31/15 20:08	2.3	100	CC53118
Arsenic	**4.34** (2.17)		6010C		1	KJK	03/31/15 20:08	2.3	100	CC53118
Barium	**18.3** (2.17)		6010C		1	KJK	03/31/15 20:08	2.3	100	CC53118
Beryllium	**0.34** (0.10)		6010C		1	KJK	03/31/15 20:08	2.3	100	CC53118
Cadmium	ND (0.43)		6010C		1	KJK	03/31/15 20:08	2.3	100	CC53118
Chromium	**16.1** (0.87)		6010C		1	KJK	03/31/15 20:08	2.3	100	CC53118
Lead	ND (4.35)		6010C		1	KJK	03/31/15 20:08	2.3	100	CC53118
Mercury	ND (0.029)		7471B		1	RLA	04/01/15 17:54	0.68	40	CC53119
Nickel	**10.3** (2.17)		6010C		1	KJK	03/31/15 20:08	2.3	100	CC53118
Selenium	ND (4.35)		6010C		1	KJK	03/31/15 20:08	2.3	100	CC53118
Silver	ND (0.43)		6010C		1	KJK	03/31/15 20:08	2.3	100	CC53118
Thallium	ND (0.35)		7010		4	JP	04/07/15 3:20	2.3	100	CC53118
Vanadium	**22.0** (0.87)		6010C		1	KJK	03/31/15 20:08	2.3	100	CC53118
Zinc	**25.8** (2.17)		6010C		1	KJK	03/31/15 20:08	2.3	100	CC53118

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-102 0ft-0.5ft
Date Sampled: 03/26/15 10:30
Percent Solids: 100

ESS Laboratory Work Order: 1503482
ESS Laboratory Sample ID: 1503482-24
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.17)		7010		5	KJK	04/02/15 6:01	2.13	100	CC53118
Arsenic	**22.7** (2.35)		6010C		1	KJK	03/31/15 20:12	2.13	100	CC53118
Barium	**63.3** (2.35)		6010C		1	KJK	03/31/15 20:12	2.13	100	CC53118
Beryllium	**0.59** (0.10)		6010C		1	KJK	03/31/15 20:12	2.13	100	CC53118
Cadmium	**1.26** (0.47)		6010C		1	KJK	03/31/15 20:12	2.13	100	CC53118
Chromium	**79.2** (0.94)		6010C		1	KJK	03/31/15 20:12	2.13	100	CC53118
Lead	**770** (4.69)		6010C		1	KJK	03/31/15 20:12	2.13	100	CC53118
Mercury	**0.130** (0.033)		7471B		1	RLA	04/01/15 17:56	0.6	40	CC53119
Nickel	**24.7** (2.35)		6010C		1	KJK	03/31/15 20:12	2.13	100	CC53118
Selenium	ND (2.35)		7010		5	KJK	04/02/15 14:23	2.13	100	CC53118
Silver	**1.23** (0.47)		6010C		1	KJK	03/31/15 20:12	2.13	100	CC53118
Thallium	ND (0.38)		7010		4	JP	04/07/15 3:25	2.13	100	CC53118
Vanadium	**68.6** (0.94)		6010C		1	KJK	03/31/15 20:12	2.13	100	CC53118
Zinc	**383** (2.35)		6010C		1	KJK	03/31/15 20:12	2.13	100	CC53118

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-102 0.5ft-2ft
Date Sampled: 03/26/15 10:30
Percent Solids: 100

ESS Laboratory Work Order: 1503482
ESS Laboratory Sample ID: 1503482-25
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	**1.42** (1.18)		7010		5	KJK	04/02/15 6:23	2.12	100	CC53118
Arsenic	**35.5** (2.36)		6010C		1	KJK	03/31/15 20:18	2.12	100	CC53118
Barium	**77.9** (2.36)		6010C		1	KJK	03/31/15 20:18	2.12	100	CC53118
Beryllium	**0.62** (0.10)		6010C		1	KJK	03/31/15 20:18	2.12	100	CC53118
Cadmium	**4.91** (0.47)		6010C		1	KJK	03/31/15 20:18	2.12	100	CC53118
Chromium	**170** (0.94)		6010C		1	KJK	03/31/15 20:18	2.12	100	CC53118
Lead	**413** (4.72)		6010C		1	KJK	03/31/15 20:18	2.12	100	CC53118
Mercury	**0.449** (0.030)		7471B		1	RLA	04/01/15 17:57	0.67	40	CC53119
Nickel	**67.4** (2.36)		6010C		1	KJK	03/31/15 20:18	2.12	100	CC53118
Selenium	ND (2.36)		7010		5	KJK	04/02/15 14:28	2.12	100	CC53118
Silver	**3.01** (0.47)		6010C		1	KJK	03/31/15 20:18	2.12	100	CC53118
Thallium	ND (0.38)		7010		4	JP	04/07/15 3:31	2.12	100	CC53118
Vanadium	**484** (0.94)		6010C		1	KJK	03/31/15 20:18	2.12	100	CC53118
Zinc	**618** (2.36)		6010C		1	KJK	03/31/15 20:18	2.12	100	CC53118

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-103 0ft-0.5ft
Date Sampled: 03/26/15 10:50
Percent Solids: 100

ESS Laboratory Work Order: 1503482
ESS Laboratory Sample ID: 1503482-26
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.19)		7010		5	KJK	04/02/15 6:29	2.1	100	CC53118
Arsenic	**21.0** (2.38)		6010C		1	KJK	03/31/15 20:24	2.1	100	CC53118
Barium	**55.9** (2.38)		6010C		1	KJK	03/31/15 20:24	2.1	100	CC53118
Beryllium	**0.50** (0.10)		6010C		1	KJK	03/31/15 20:24	2.1	100	CC53118
Cadmium	**1.05** (0.48)		6010C		1	KJK	03/31/15 20:24	2.1	100	CC53118
Chromium	**69.3** (0.95)		6010C		1	KJK	03/31/15 20:24	2.1	100	CC53118
Lead	**180** (4.76)		6010C		1	KJK	03/31/15 20:24	2.1	100	CC53118
Mercury	**0.176** (0.031)		7471B		1	RLA	04/01/15 17:59	0.63	40	CC53119
Nickel	**22.6** (2.38)		6010C		1	KJK	03/31/15 20:24	2.1	100	CC53118
Selenium	ND (2.38)		7010		5	KJK	04/02/15 14:34	2.1	100	CC53118
Silver	**1.20** (0.48)		6010C		1	KJK	03/31/15 20:24	2.1	100	CC53118
Thallium	ND (0.38)		7010		4	JP	04/07/15 3:36	2.1	100	CC53118
Vanadium	**67.0** (0.95)		6010C		1	KJK	03/31/15 20:24	2.1	100	CC53118
Zinc	**290** (2.38)		6010C		1	KJK	03/31/15 20:24	2.1	100	CC53118

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-103 2ft-4ft
Date Sampled: 03/26/15 10:50
Percent Solids: 100

ESS Laboratory Work Order: 1503482
ESS Laboratory Sample ID: 1503482-27
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.13)		7010		5	KJK	04/02/15 6:34	2.21	100	CC53118
Arsenic	**6.30** (2.26)		6010C		1	KJK	03/31/15 20:29	2.21	100	CC53118
Barium	**23.4** (2.26)		6010C		1	KJK	03/31/15 20:29	2.21	100	CC53118
Beryllium	**0.40** (0.10)		6010C		1	KJK	03/31/15 20:29	2.21	100	CC53118
Cadmium	ND (0.45)		6010C		1	KJK	03/31/15 20:29	2.21	100	CC53118
Chromium	**19.4** (0.90)		6010C		1	KJK	03/31/15 20:29	2.21	100	CC53118
Lead	**5.44** (4.52)		6010C		1	KJK	03/31/15 20:29	2.21	100	CC53118
Mercury	ND (0.027)		7471B		1	RLA	04/01/15 18:00	0.74	40	CC53119
Nickel	**12.1** (2.26)		6010C		1	KJK	03/31/15 20:29	2.21	100	CC53118
Selenium	ND (2.26)		7010		5	KJK	04/02/15 14:40	2.21	100	CC53118
Silver	ND (0.45)		6010C		1	KJK	03/31/15 20:29	2.21	100	CC53118
Thallium	ND (0.36)		7010		4	JP	04/07/15 3:42	2.21	100	CC53118
Vanadium	**27.2** (0.90)		6010C		1	KJK	03/31/15 20:29	2.21	100	CC53118
Zinc	**31.4** (2.26)		6010C		1	KJK	03/31/15 20:29	2.21	100	CC53118

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-103 4ft-6ft
Date Sampled: 03/26/15 10:50
Percent Solids: 100

ESS Laboratory Work Order: 1503482
ESS Laboratory Sample ID: 1503482-28
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (0.95)		7010		5	KJK	04/02/15 6:40	2.62	100	CC53118
Arsenic	**4.58** (1.91)		6010C		1	KJK	03/31/15 20:33	2.62	100	CC53118
Barium	**22.3** (1.91)		6010C		1	KJK	03/31/15 20:33	2.62	100	CC53118
Beryllium	**0.37** (0.08)		6010C		1	KJK	03/31/15 20:33	2.62	100	CC53118
Cadmium	ND (0.38)		6010C		1	KJK	03/31/15 20:33	2.62	100	CC53118
Chromium	**17.8** (0.76)		6010C		1	KJK	03/31/15 20:33	2.62	100	CC53118
Lead	**4.80** (3.82)		6010C		1	KJK	03/31/15 20:33	2.62	100	CC53118
Mercury	ND (0.030)		7471B		1	RLA	04/01/15 18:02	0.65	40	CC53119
Nickel	**11.1** (1.91)		6010C		1	KJK	03/31/15 20:33	2.62	100	CC53118
Selenium	ND (3.82)		6010C		1	KJK	03/31/15 20:33	2.62	100	CC53118
Silver	ND (0.38)		6010C		1	KJK	03/31/15 20:33	2.62	100	CC53118
Thallium	ND (0.31)		7010		4	JP	04/07/15 3:48	2.62	100	CC53118
Vanadium	**23.9** (0.76)		6010C		1	KJK	03/31/15 20:33	2.62	100	CC53118
Zinc	**27.0** (1.91)		6010C		1	KJK	03/31/15 20:33	2.62	100	CC53118

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-104 0ft-0.5ft
Date Sampled: 03/26/15 11:15
Percent Solids: 100

ESS Laboratory Work Order: 1503482
ESS Laboratory Sample ID: 1503482-29
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.22)		7010		5	KJK	04/02/15 6:46	2.05	100	CC53118
Arsenic	**23.1** (2.44)		6010C		1	KJK	03/31/15 20:52	2.05	100	CC53118
Barium	**61.8** (2.44)		6010C		1	KJK	03/31/15 20:52	2.05	100	CC53118
Beryllium	**0.57** (0.11)		6010C		1	KJK	03/31/15 20:52	2.05	100	CC53118
Cadmium	**1.25** (0.49)		6010C		1	KJK	03/31/15 20:52	2.05	100	CC53118
Chromium	**80.3** (0.98)		6010C		1	KJK	03/31/15 20:52	2.05	100	CC53118
Lead	**209** (4.88)		6010C		1	KJK	03/31/15 20:52	2.05	100	CC53118
Mercury	**0.215** (0.029)		7471B		1	RLA	04/01/15 18:04	0.68	40	CC53119
Nickel	**25.1** (2.44)		6010C		1	KJK	03/31/15 20:52	2.05	100	CC53118
Selenium	ND (2.44)		7010		5	KJK	04/02/15 14:51	2.05	100	CC53118
Silver	**1.42** (0.49)		6010C		1	KJK	03/31/15 20:52	2.05	100	CC53118
Thallium	ND (0.39)		7010		4	JP	04/07/15 3:53	2.05	100	CC53118
Vanadium	**76.0** (0.98)		6010C		1	KJK	03/31/15 20:52	2.05	100	CC53118
Zinc	**329** (2.44)		6010C		1	KJK	03/31/15 20:52	2.05	100	CC53118

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-104 0.5ft-2ft
Date Sampled: 03/26/15 11:15
Percent Solids: 100

ESS Laboratory Work Order: 1503482
ESS Laboratory Sample ID: 1503482-30
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.10)		7010		5	KJK	04/02/15 6:51	2.28	100	CC53118
Arsenic	**28.3** (2.19)		6010C		1	KJK	03/31/15 21:43	2.28	100	CC53118
Barium	**63.0** (2.19)		6010C		1	KJK	03/31/15 21:43	2.28	100	CC53118
Beryllium	**0.41** (0.10)		6010C		1	KJK	03/31/15 21:43	2.28	100	CC53118
Cadmium	**8.51** (0.44)		6010C		1	KJK	03/31/15 21:43	2.28	100	CC53118
Chromium	**66.0** (0.88)		6010C		1	KJK	03/31/15 21:43	2.28	100	CC53118
Lead	**220** (4.39)		6010C		1	KJK	03/31/15 21:43	2.28	100	CC53118
Mercury	**0.256** (0.029)		7471B		1	RLA	04/01/15 18:05	0.69	40	CC53119
Nickel	**16.0** (2.19)		6010C		1	KJK	03/31/15 21:43	2.28	100	CC53118
Selenium	ND (2.19)		7010		5	KJK	04/02/15 14:57	2.28	100	CC53118
Silver	**0.83** (0.44)		6010C		1	KJK	03/31/15 21:43	2.28	100	CC53118
Thallium	ND (0.35)		7010		4	JP	04/07/15 4:00	2.28	100	CC53118
Vanadium	**40.4** (0.88)		6010C		1	KJK	03/31/15 21:43	2.28	100	CC53118
Zinc	**293** (2.19)		6010C		1	KJK	03/31/15 21:43	2.28	100	CC53118

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-105 0ft-0.5ft
Date Sampled: 03/26/15 11:45
Percent Solids: 100

ESS Laboratory Work Order: 1503482
ESS Laboratory Sample ID: 1503482-31
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.14)		7010		5	KJK	04/02/15 6:57	2.19	100	CC53118
Arsenic	**19.5** (2.28)		6010C		1	KJK	03/31/15 21:47	2.19	100	CC53118
Barium	**59.1** (2.28)		6010C		1	KJK	03/31/15 21:47	2.19	100	CC53118
Beryllium	**0.57** (0.10)		6010C		1	KJK	03/31/15 21:47	2.19	100	CC53118
Cadmium	**1.18** (0.46)		6010C		1	KJK	03/31/15 21:47	2.19	100	CC53118
Chromium	**76.3** (0.91)		6010C		1	KJK	03/31/15 21:47	2.19	100	CC53118
Lead	**194** (4.57)		6010C		1	KJK	03/31/15 21:47	2.19	100	CC53118
Mercury	**0.095** (0.025)		7471B		1	RLA	04/01/15 18:07	0.79	40	CC53119
Nickel	**23.3** (2.28)		6010C		1	KJK	03/31/15 21:47	2.19	100	CC53118
Selenium	ND (2.28)		7010		5	KJK	04/02/15 15:02	2.19	100	CC53118
Silver	**1.09** (0.46)		6010C		1	KJK	03/31/15 21:47	2.19	100	CC53118
Thallium	ND (0.37)		7010		4	JP	04/07/15 4:06	2.19	100	CC53118
Vanadium	**65.0** (0.91)		6010C		1	KJK	03/31/15 21:47	2.19	100	CC53118
Zinc	**346** (2.28)		6010C		1	KJK	03/31/15 21:47	2.19	100	CC53118

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-105 2ft-4ft
Date Sampled: 03/26/15 11:45
Percent Solids: 100

ESS Laboratory Work Order: 1503482
ESS Laboratory Sample ID: 1503482-32
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.24)		7010		5	KJK	04/02/15 7:02	2.02	100	CC53118
Arsenic	**29.8** (2.48)		6010C		1	KJK	03/31/15 21:52	2.02	100	CC53118
Barium	**83.5** (2.48)		6010C		1	KJK	03/31/15 21:52	2.02	100	CC53118
Beryllium	**0.84** (0.11)		6010C		1	KJK	03/31/15 21:52	2.02	100	CC53118
Cadmium	**1.65** (0.50)		6010C		1	KJK	03/31/15 21:52	2.02	100	CC53118
Chromium	**80.8** (0.99)		6010C		1	KJK	03/31/15 21:52	2.02	100	CC53118
Lead	**160** (4.95)		6010C		1	KJK	03/31/15 21:52	2.02	100	CC53118
Mercury	**0.336** (0.024)		7471B		1	RLA	04/01/15 18:12	0.84	40	CC53119
Nickel	**26.4** (2.48)		6010C		1	KJK	03/31/15 21:52	2.02	100	CC53118
Selenium	ND (2.48)		7010		5	KJK	04/02/15 15:08	2.02	100	CC53118
Silver	**0.51** (0.50)		6010C		1	KJK	03/31/15 21:52	2.02	100	CC53118
Thallium	ND (0.40)		7010		4	JP	04/07/15 4:12	2.02	100	CC53118
Vanadium	**65.2** (0.99)		6010C		1	KJK	03/31/15 21:52	2.02	100	CC53118
Zinc	**277** (2.48)		6010C		1	KJK	03/31/15 21:52	2.02	100	CC53118

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-105 4ft-6ft
Date Sampled: 03/26/15 11:45
Percent Solids: 100

ESS Laboratory Work Order: 1503482
ESS Laboratory Sample ID: 1503482-33
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.07)		7010		5	KJK	04/02/15 7:08	2.34	100	CC53118
Arsenic	**10.5** (2.14)		6010C		1	KJK	03/31/15 21:58	2.34	100	CC53118
Barium	**66.9** (2.14)		6010C		1	KJK	03/31/15 21:58	2.34	100	CC53118
Beryllium	**0.69** (0.09)		6010C		1	KJK	03/31/15 21:58	2.34	100	CC53118
Cadmium	ND (0.43)		6010C		1	KJK	03/31/15 21:58	2.34	100	CC53118
Chromium	**33.6** (0.85)		6010C		1	KJK	03/31/15 21:58	2.34	100	CC53118
Lead	**10.4** (4.27)		6010C		1	KJK	03/31/15 21:58	2.34	100	CC53118
Mercury	ND (0.024)		7471B		1	RLA	04/01/15 18:14	0.82	40	CC53119
Nickel	**24.2** (2.14)		6010C		1	KJK	03/31/15 21:58	2.34	100	CC53118
Selenium	ND (2.14)		7010		5	KJK	04/02/15 15:14	2.34	100	CC53118
Silver	ND (0.43)		6010C		1	KJK	03/31/15 21:58	2.34	100	CC53118
Thallium	ND (0.34)		7010		4	JP	04/07/15 4:35	2.34	100	CC53118
Vanadium	**46.1** (0.85)		6010C		1	KJK	03/31/15 21:58	2.34	100	CC53118
Zinc	**55.3** (2.14)		6010C		1	KJK	03/31/15 21:58	2.34	100	CC53118

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-109 0ft-0.5ft
Date Sampled: 03/26/15 11:45
Percent Solids: 100

ESS Laboratory Work Order: 1503482
ESS Laboratory Sample ID: 1503482-34
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.21)		7010		5	KJK	04/02/15 7:14	2.06	100	CC53118
Arsenic	**22.0** (2.43)		6010C		1	KJK	03/31/15 22:03	2.06	100	CC53118
Barium	**59.9** (2.43)		6010C		1	KJK	03/31/15 22:03	2.06	100	CC53118
Beryllium	**0.54** (0.11)		6010C		1	KJK	03/31/15 22:03	2.06	100	CC53118
Cadmium	**1.00** (0.49)		6010C		1	KJK	03/31/15 22:03	2.06	100	CC53118
Chromium	**75.5** (0.97)		6010C		1	KJK	03/31/15 22:03	2.06	100	CC53118
Lead	**194** (4.85)		6010C		1	KJK	03/31/15 22:03	2.06	100	CC53118
Mercury	**0.346** (0.033)		7471B		1	RLA	04/01/15 18:15	0.6	40	CC53119
Nickel	**25.8** (2.43)		6010C		1	KJK	03/31/15 22:03	2.06	100	CC53118
Selenium	ND (2.43)		7010		5	KJK	04/02/15 15:35	2.06	100	CC53118
Silver	**1.16** (0.49)		6010C		1	KJK	03/31/15 22:03	2.06	100	CC53118
Thallium	ND (0.39)		7010		4	JP	04/07/15 4:40	2.06	100	CC53118
Vanadium	**69.1** (0.97)		6010C		1	KJK	03/31/15 22:03	2.06	100	CC53118
Zinc	**334** (2.43)		6010C		1	KJK	03/31/15 22:03	2.06	100	CC53118

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-109 4ft-6ft
Date Sampled: 03/26/15 11:45
Percent Solids: 100

ESS Laboratory Work Order: 1503482
ESS Laboratory Sample ID: 1503482-35
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.03)		7010		5	KJK	04/02/15 7:36	2.42	100	CC53118
Arsenic	**33.6** (2.07)		6010C		1	KJK	03/31/15 22:09	2.42	100	CC53118
Barium	**97.7** (2.07)		6010C		1	KJK	03/31/15 22:09	2.42	100	CC53118
Beryllium	**0.56** (0.09)		6010C		1	KJK	03/31/15 22:09	2.42	100	CC53118
Cadmium	**3.70** (0.41)		6010C		1	KJK	03/31/15 22:09	2.42	100	CC53118
Chromium	**54.3** (0.83)		6010C		1	KJK	03/31/15 22:09	2.42	100	CC53118
Lead	**336** (4.13)		6010C		1	KJK	03/31/15 22:09	2.42	100	CC53118
Mercury	**0.455** (0.024)		7471B		1	RLA	04/01/15 18:17	0.81	40	CC53119
Nickel	**18.6** (2.07)		6010C		1	KJK	03/31/15 22:09	2.42	100	CC53118
Selenium	**3.63** (2.07)		7010		5	KJK	04/02/15 15:40	2.42	100	CC53118
Silver	**0.61** (0.41)		6010C		1	KJK	03/31/15 22:09	2.42	100	CC53118
Thallium	ND (0.33)		7010		4	JP	04/07/15 4:46	2.42	100	CC53118
Vanadium	**43.2** (0.83)		6010C		1	KJK	03/31/15 22:09	2.42	100	CC53118
Zinc	**309** (2.07)		6010C		1	KJK	03/31/15 22:09	2.42	100	CC53118

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-108 0ft-0.5ft
Date Sampled: 03/26/15 14:00
Percent Solids: 100

ESS Laboratory Work Order: 1503482
ESS Laboratory Sample ID: 1503482-36
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.08)		7010		5	KJK	04/02/15 7:42	2.32	100	CC53118
Arsenic	**21.2** (2.16)		6010C		1	KJK	03/31/15 22:14	2.32	100	CC53118
Barium	**58.9** (2.16)		6010C		1	KJK	03/31/15 22:14	2.32	100	CC53118
Beryllium	**0.57** (0.09)		6010C		1	KJK	03/31/15 22:14	2.32	100	CC53118
Cadmium	**0.99** (0.43)		6010C		1	KJK	03/31/15 22:14	2.32	100	CC53118
Chromium	**75.3** (0.86)		6010C		1	KJK	03/31/15 22:14	2.32	100	CC53118
Lead	**193** (4.31)		6010C		1	KJK	03/31/15 22:14	2.32	100	CC53118
Mercury	**0.221** (0.028)		7471B		1	RLA	04/01/15 18:19	0.7	40	CC53119
Nickel	**23.7** (2.16)		6010C		1	KJK	03/31/15 22:14	2.32	100	CC53118
Selenium	ND (2.16)		7010		5	KJK	04/02/15 15:46	2.32	100	CC53118
Silver	**1.14** (0.43)		6010C		1	KJK	03/31/15 22:14	2.32	100	CC53118
Thallium	ND (0.34)		7010		4	JP	04/07/15 4:51	2.32	100	CC53118
Vanadium	**68.9** (0.86)		6010C		1	KJK	03/31/15 22:14	2.32	100	CC53118
Zinc	**344** (2.16)		6010C		1	KJK	03/31/15 22:14	2.32	100	CC53118

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-108 0.5ft-2ft
Date Sampled: 03/26/15 14:00
Percent Solids: 100

ESS Laboratory Work Order: 1503482
ESS Laboratory Sample ID: 1503482-37
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	**2.01** (1.24)		7010		5	KJK	04/02/15 7:48	2.02	100	CC53118
Arsenic	**28.4** (2.48)		6010C		1	KJK	03/31/15 22:20	2.02	100	CC53118
Barium	**83.5** (2.48)		6010C		1	KJK	03/31/15 22:20	2.02	100	CC53118
Beryllium	**0.65** (0.11)		6010C		1	KJK	03/31/15 22:20	2.02	100	CC53118
Cadmium	**3.52** (0.50)		6010C		1	KJK	03/31/15 22:20	2.02	100	CC53118
Chromium	**128** (0.99)		6010C		1	KJK	03/31/15 22:20	2.02	100	CC53118
Lead	**423** (4.95)		6010C		1	KJK	03/31/15 22:20	2.02	100	CC53118
Mercury	**0.373** (0.028)		7471B		1	RLA	04/01/15 18:20	0.71	40	CC53119
Nickel	**44.7** (2.48)		6010C		1	KJK	03/31/15 22:20	2.02	100	CC53118
Selenium	ND (2.48)		7010		5	KJK	04/02/15 15:52	2.02	100	CC53118
Silver	**3.09** (0.50)		6010C		1	KJK	03/31/15 22:20	2.02	100	CC53118
Thallium	ND (0.40)		7010		4	JP	04/07/15 4:57	2.02	100	CC53118
Vanadium	**198** (0.99)		6010C		1	KJK	03/31/15 22:20	2.02	100	CC53118
Zinc	**498** (2.48)		6010C		1	KJK	03/31/15 22:20	2.02	100	CC53118

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-108 4ft-6ft
Date Sampled: 03/26/15 14:00
Percent Solids: 100

ESS Laboratory Work Order: 1503482
ESS Laboratory Sample ID: 1503482-38
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.06)		7010		5	KJK	04/02/15 7:54	2.36	100	CC53118
Arsenic	**33.5** (2.12)		6010C		1	KJK	03/31/15 22:25	2.36	100	CC53118
Barium	**62.1** (2.12)		6010C		1	KJK	03/31/15 22:25	2.36	100	CC53118
Beryllium	**0.70** (0.09)		6010C		1	KJK	03/31/15 22:25	2.36	100	CC53118
Cadmium	**4.50** (0.42)		6010C		1	KJK	03/31/15 22:25	2.36	100	CC53118
Chromium	**40.4** (0.85)		6010C		1	KJK	03/31/15 22:25	2.36	100	CC53118
Lead	**103** (4.24)		6010C		1	KJK	03/31/15 22:25	2.36	100	CC53118
Mercury	**0.134** (0.029)		7471B		1	RLA	04/01/15 18:22	0.69	40	CC53119
Nickel	**18.5** (2.12)		6010C		1	KJK	03/31/15 22:25	2.36	100	CC53118
Selenium	ND (2.12)		7010		5	KJK	04/02/15 15:58	2.36	100	CC53118
Silver	ND (0.42)		6010C		1	KJK	03/31/15 22:25	2.36	100	CC53118
Thallium	ND (0.34)		7010		4	JP	04/07/15 5:02	2.36	100	CC53118
Vanadium	**40.8** (0.85)		6010C		1	KJK	03/31/15 22:25	2.36	100	CC53118
Zinc	**144** (2.12)		6010C		1	KJK	03/31/15 22:25	2.36	100	CC53118

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-107 0ft-0.5ft
Date Sampled: 03/26/15 15:15
Percent Solids: 100

ESS Laboratory Work Order: 1503482
ESS Laboratory Sample ID: 1503482-39
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.07)		7010		5	KJK	04/02/15 7:59	2.34	100	CC53118
Arsenic	**15.2** (2.14)		6010C		1	KJK	03/31/15 22:44	2.34	100	CC53118
Barium	**201** (2.14)		6010C		1	KJK	03/31/15 22:44	2.34	100	CC53118
Beryllium	**0.56** (0.09)		6010C		1	KJK	03/31/15 22:44	2.34	100	CC53118
Cadmium	**1.54** (0.43)		6010C		1	KJK	03/31/15 22:44	2.34	100	CC53118
Chromium	**75.5** (0.85)		6010C		1	KJK	03/31/15 22:44	2.34	100	CC53118
Lead	**355** (4.27)		6010C		1	KJK	03/31/15 22:44	2.34	100	CC53118
Mercury	**0.147** (0.032)		7471B		1	RLA	04/01/15 18:24	0.62	40	CC53119
Nickel	**24.6** (2.14)		6010C		1	KJK	03/31/15 22:44	2.34	100	CC53118
Selenium	ND (2.14)		7010		5	KJK	04/02/15 16:10	2.34	100	CC53118
Silver	**1.07** (0.43)		6010C		1	KJK	03/31/15 22:44	2.34	100	CC53118
Thallium	ND (0.34)		7010		4	JP	04/07/15 5:09	2.34	100	CC53118
Vanadium	**66.4** (0.85)		6010C		1	KJK	03/31/15 22:44	2.34	100	CC53118
Zinc	**557** (2.14)		6010C		1	KJK	03/31/15 22:44	2.34	100	CC53118

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-107 2ft-4ft
Date Sampled: 03/26/15 15:15
Percent Solids: 100

ESS Laboratory Work Order: 1503482
ESS Laboratory Sample ID: 1503482-40
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (1.10)		7010		5	KJK	04/02/15 8:04	2.27	100	CC53118
Arsenic	**19.9** (2.20)		6010C		1	KJK	03/31/15 22:50	2.27	100	CC53118
Barium	**46.5** (2.20)		6010C		1	KJK	03/31/15 22:50	2.27	100	CC53118
Beryllium	**0.37** (0.10)		6010C		1	KJK	03/31/15 22:50	2.27	100	CC53118
Cadmium	**2.32** (0.44)		6010C		1	KJK	03/31/15 22:50	2.27	100	CC53118
Chromium	**92.3** (0.88)		6010C		1	KJK	03/31/15 22:50	2.27	100	CC53118
Lead	**258** (4.41)		6010C		1	KJK	03/31/15 22:50	2.27	100	CC53118
Mercury	**0.245** (0.030)		7471B		1	RLA	04/01/15 18:25	0.66	40	CC53119
Nickel	**28.9** (2.20)		6010C		1	KJK	03/31/15 22:50	2.27	100	CC53118
Selenium	ND (2.20)		7010		5	KJK	04/02/15 16:15	2.27	100	CC53118
Silver	**1.20** (0.44)		6010C		1	KJK	03/31/15 22:50	2.27	100	CC53118
Thallium	ND (0.35)		7010		4	JP	04/07/15 5:15	2.27	100	CC53118
Vanadium	**131** (0.88)		6010C		1	KJK	03/31/15 22:50	2.27	100	CC53118
Zinc	**354** (2.20)		6010C		1	KJK	03/31/15 22:50	2.27	100	CC53118

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-101 0ft-0.5ft
Date Sampled: 03/26/15 10:05
Percent Solids: 100
Initial Volume: 25.3
Final Volume: 2
Extraction Method: 3540

ESS Laboratory Work Order: 1503482
ESS Laboratory Sample ID: 1503482-41
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 4/1/15 18:00
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0079)		8082A		1	04/02/15 15:22		CD50161
Aroclor 1221	ND (0.0079)		8082A		1	04/02/15 15:22		CD50161
Aroclor 1232	ND (0.0079)		8082A		1	04/02/15 15:22		CD50161
Aroclor 1242	ND (0.0079)		8082A		1	04/02/15 15:22		CD50161
Aroclor 1248	**P 0.217** (0.0396)		8082A		5	04/02/15 17:34		CD50161
Aroclor 1254	**P 0.395** (0.0396)		8082A		5	04/02/15 17:34		CD50161
Aroclor 1260	**0.191** (0.0396)		8082A		5	04/02/15 17:34		CD50161
Aroclor 1262	ND (0.0079)		8082A		1	04/02/15 15:22		CD50161
Aroclor 1268	ND (0.0079)		8082A		1	04/02/15 15:22		CD50161

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*90 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*94 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*56 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*39 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-102 0ft-0.5ft
Date Sampled: 03/26/15 10:30
Percent Solids: 75
Initial Volume: 3.2
Final Volume: 2
Extraction Method: 3540C

ESS Laboratory Work Order: 1503482
ESS Laboratory Sample ID: 1503482-42
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 4/3/15 17:00
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0837)		8082A		1	04/06/15 12:22		CD50221
Aroclor 1221	ND (0.0837)		8082A		1	04/06/15 12:22		CD50221
Aroclor 1232	ND (0.0837)		8082A		1	04/06/15 12:22		CD50221
Aroclor 1242	ND (0.0837)		8082A		1	04/06/15 12:22		CD50221
Aroclor 1248	**P 0.461** (0.0837)		8082A		1	04/06/15 12:22		CD50221
Aroclor 1254	**0.869** (0.0837)		8082A		1	04/06/15 12:22		CD50221
Aroclor 1260	**0.428** (0.0837)		8082A		1	04/06/15 12:22		CD50221
Aroclor 1262	ND (0.0837)		8082A		1	04/06/15 12:22		CD50221
Aroclor 1268	ND (0.0837)		8082A		1	04/06/15 12:22		CD50221

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*73 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*70 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*71 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*57 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-102 0.5ft-2ft
Date Sampled: 03/26/15 10:30
Percent Solids: 84
Initial Volume: 25.4
Final Volume: 2
Extraction Method: 3540

ESS Laboratory Work Order: 1503482
ESS Laboratory Sample ID: 1503482-43
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 4/1/15 18:00
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.469)		8082A		50	04/02/15 18:10		CD50161
Aroclor 1221	ND (0.469)		8082A		50	04/02/15 18:10		CD50161
Aroclor 1232	ND (0.469)		8082A		50	04/02/15 18:10		CD50161
Aroclor 1242	ND (0.469)		8082A		50	04/02/15 18:10		CD50161
Aroclor 1248	**P 6.83** (0.469)		8082A		50	04/02/15 18:10		CD50161
Aroclor 1254	**8.39** (0.469)		8082A		50	04/02/15 18:10		CD50161
Aroclor 1260	ND (0.469)		8082A		50	04/02/15 18:10		CD50161
Aroclor 1262	ND (0.469)		8082A		50	04/02/15 18:10		CD50161
Aroclor 1268	ND (0.469)		8082A		50	04/02/15 18:10		CD50161

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-103 0ft-0.5ft
Date Sampled: 03/26/15 10:50
Percent Solids: 87
Initial Volume: 25.7
Final Volume: 2
Extraction Method: 3540

ESS Laboratory Work Order: 1503482
ESS Laboratory Sample ID: 1503482-44
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 4/1/15 18:00
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0089)		8082A		1	04/02/15 16:17		CD50161
Aroclor 1221	ND (0.0089)		8082A		1	04/02/15 16:17		CD50161
Aroclor 1232	ND (0.0089)		8082A		1	04/02/15 16:17		CD50161
Aroclor 1242	ND (0.0089)		8082A		1	04/02/15 16:17		CD50161
Aroclor 1248	**P 0.281** (0.0445)		8082A		5	04/02/15 18:29		CD50161
Aroclor 1254	**0.519** (0.0445)		8082A		5	04/02/15 18:29		CD50161
Aroclor 1260	**0.232** (0.0445)		8082A		5	04/02/15 18:29		CD50161
Aroclor 1262	ND (0.0089)		8082A		1	04/02/15 16:17		CD50161
Aroclor 1268	ND (0.0089)		8082A		1	04/02/15 16:17		CD50161

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*68 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*74 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*46 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*32 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-104 0ft-0.5ft
Date Sampled: 03/26/15 11:15
Percent Solids: 75
Initial Volume: 25.4
Final Volume: 2
Extraction Method: 3540

ESS Laboratory Work Order: 1503482
ESS Laboratory Sample ID: 1503482-45
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 4/1/15 18:00
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0104)		8082A		1	04/02/15 16:36		CD50161
Aroclor 1221	ND (0.0104)		8082A		1	04/02/15 16:36		CD50161
Aroclor 1232	ND (0.0104)		8082A		1	04/02/15 16:36		CD50161
Aroclor 1242	ND (0.0104)		8082A		1	04/02/15 16:36		CD50161
Aroclor 1248	**P 0.391** (0.0522)		8082A		5	04/02/15 18:49		CD50161
Aroclor 1254	**0.701** (0.0522)		8082A		5	04/02/15 18:49		CD50161
Aroclor 1260	**P 0.319** (0.0522)		8082A		5	04/02/15 18:49		CD50161
Aroclor 1262	ND (0.0104)		8082A		1	04/02/15 16:36		CD50161
Aroclor 1268	ND (0.0104)		8082A		1	04/02/15 16:36		CD50161

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*90 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*95 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*58 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*37 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-105 0ft-0.5ft
Date Sampled: 03/26/15 11:45
Percent Solids: 89
Initial Volume: 25
Final Volume: 2
Extraction Method: 3540

ESS Laboratory Work Order: 1503482
ESS Laboratory Sample ID: 1503482-46
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 4/1/15 18:00
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0090)		8082A		1	04/02/15 16:55		CD50161
Aroclor 1221	ND (0.0090)		8082A		1	04/02/15 16:55		CD50161
Aroclor 1232	ND (0.0090)		8082A		1	04/02/15 16:55		CD50161
Aroclor 1242	ND (0.0090)		8082A		1	04/02/15 16:55		CD50161
Aroclor 1248	**0.179** (0.0090)		8082A		1	04/02/15 16:55		CD50161
Aroclor 1254	**0.511** (0.0451)		8082A		5	04/02/15 19:07		CD50161
Aroclor 1260	**0.243** (0.0451)		8082A		5	04/02/15 19:07		CD50161
Aroclor 1262	ND (0.0090)		8082A		1	04/02/15 16:55		CD50161
Aroclor 1268	ND (0.0090)		8082A		1	04/02/15 16:55		CD50161

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*74 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*87 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*56 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*38 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-105 4ft-6ft
Date Sampled: 03/26/15 11:45
Percent Solids: 99
Initial Volume: 25.7
Final Volume: 2
Extraction Method: 3540

ESS Laboratory Work Order: 1503482
ESS Laboratory Sample ID: 1503482-47
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 4/1/15 18:00
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0079)		8082A		1	04/02/15 15:23		CD50161
Aroclor 1221	ND (0.0079)		8082A		1	04/02/15 15:23		CD50161
Aroclor 1232	ND (0.0079)		8082A		1	04/02/15 15:23		CD50161
Aroclor 1242	ND (0.0079)		8082A		1	04/02/15 15:23		CD50161
Aroclor 1248	ND (0.0079)		8082A		1	04/02/15 15:23		CD50161
Aroclor 1254	**0.0086** (0.0079)		8082A		1	04/02/15 15:23		CD50161
Aroclor 1260	ND (0.0079)		8082A		1	04/02/15 15:23		CD50161
Aroclor 1262	ND (0.0079)		8082A		1	04/02/15 15:23		CD50161
Aroclor 1268	ND (0.0079)		8082A		1	04/02/15 15:23		CD50161

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*78 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*84 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*79 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*69 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-109 0ft-0.5ft
Date Sampled: 03/26/15 11:45
Percent Solids: 88
Initial Volume: 5.9
Final Volume: 2
Extraction Method: 3540C

ESS Laboratory Work Order: 1503482
ESS Laboratory Sample ID: 1503482-48
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 4/3/15 17:00
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0385)		8082A		1	04/06/15 12:04		CD50221
Aroclor 1221	ND (0.0385)		8082A		1	04/06/15 12:04		CD50221
Aroclor 1232	ND (0.0385)		8082A		1	04/06/15 12:04		CD50221
Aroclor 1242	ND (0.0385)		8082A		1	04/06/15 12:04		CD50221
Aroclor 1248	**P 0.342** (0.0385)		8082A		1	04/06/15 12:04		CD50221
Aroclor 1254	**0.597** (0.0385)		8082A		1	04/06/15 12:04		CD50221
Aroclor 1260	**0.299** (0.0385)		8082A		1	04/06/15 12:04		CD50221
Aroclor 1262	ND (0.0385)		8082A		1	04/06/15 12:04		CD50221
Aroclor 1268	ND (0.0385)		8082A		1	04/06/15 12:04		CD50221

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*63 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*70 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*64 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*51 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-108 0ft-0.5ft
Date Sampled: 03/26/15 14:00
Percent Solids: 82
Initial Volume: 25.3
Final Volume: 2
Extraction Method: 3540

ESS Laboratory Work Order: 1503482
ESS Laboratory Sample ID: 1503482-49
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 4/1/15 18:00
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0096)		8082A		1	04/02/15 16:00		CD50161
Aroclor 1221	ND (0.0096)		8082A		1	04/02/15 16:00		CD50161
Aroclor 1232	ND (0.0096)		8082A		1	04/02/15 16:00		CD50161
Aroclor 1242	ND (0.0096)		8082A		1	04/02/15 16:00		CD50161
Aroclor 1248	**0.275** (0.0480)		8082A		5	04/02/15 18:50		CD50161
Aroclor 1254	**0.411** (0.0480)		8082A		5	04/02/15 18:50		CD50161
Aroclor 1260	**0.187** (0.0096)		8082A		1	04/02/15 16:00		CD50161
Aroclor 1262	ND (0.0096)		8082A		1	04/02/15 16:00		CD50161
Aroclor 1268	ND (0.0096)		8082A		1	04/02/15 16:00		CD50161

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*126 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*52 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*40 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*40 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-108 4ft-6ft
Date Sampled: 03/26/15 14:00
Percent Solids: 99
Initial Volume: 5.6
Final Volume: 2
Extraction Method: 3540C

ESS Laboratory Work Order: 1503482
ESS Laboratory Sample ID: 1503482-50
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 4/3/15 17:00
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0361)		8082A		1	04/06/15 12:41		CD50221
Aroclor 1221	ND (0.0361)		8082A		1	04/06/15 12:41		CD50221
Aroclor 1232	ND (0.0361)		8082A		1	04/06/15 12:41		CD50221
Aroclor 1242	ND (0.0361)		8082A		1	04/06/15 12:41		CD50221
Aroclor 1248	**LC, P 0.0672** (0.0361)		8082A		1	04/06/15 12:41		CD50221
Aroclor 1254	**0.234** (0.0361)		8082A		1	04/06/15 12:41		CD50221
Aroclor 1260	**0.158** (0.0361)		8082A		1	04/06/15 12:41		CD50221
Aroclor 1262	ND (0.0361)		8082A		1	04/06/15 12:41		CD50221
Aroclor 1268	ND (0.0361)		8082A		1	04/06/15 12:41		CD50221

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*76 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*70 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*55 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*41 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-107 0ft-0.5ft
Date Sampled: 03/26/15 15:15
Percent Solids: 95
Initial Volume: 7.1
Final Volume: 2
Extraction Method: 3540C

ESS Laboratory Work Order: 1503482
ESS Laboratory Sample ID: 1503482-51
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 4/6/15 18:00
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0295)		8082A		1	04/07/15 15:43		CD50616
Aroclor 1221	ND (0.0295)		8082A		1	04/07/15 15:43		CD50616
Aroclor 1232	ND (0.0295)		8082A		1	04/07/15 15:43		CD50616
Aroclor 1242	ND (0.0295)		8082A		1	04/07/15 15:43		CD50616
Aroclor 1248	**0.158** (0.0295)		8082A		1	04/07/15 15:43		CD50616
Aroclor 1254	**0.258** (0.0295)		8082A		1	04/07/15 15:43		CD50616
Aroclor 1260	**0.190** (0.0295)		8082A		1	04/07/15 15:43		CD50616
Aroclor 1262	ND (0.0295)		8082A		1	04/07/15 15:43		CD50616
Aroclor 1268	ND (0.0295)		8082A		1	04/07/15 15:43		CD50616

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*47 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*29 %*	*SC*	*30-150*
Surrogate: Tetrachloro-m-xylene	*31 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*30 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-107 0ft-0.5ft
Date Sampled: 03/26/15 15:15
Percent Solids: 95
Initial Volume: 25.5
Final Volume: 2
Extraction Method: 3540

ESS Laboratory Work Order: 1503482
ESS Laboratory Sample ID: 1503482-51RE1
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 4/1/15 18:00
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0082)		8082A		1	04/02/15 16:37		CD50161
Aroclor 1221	ND (0.0082)		8082A		1	04/02/15 16:37		CD50161
Aroclor 1232	ND (0.0082)		8082A		1	04/02/15 16:37		CD50161
Aroclor 1242	ND (0.0082)		8082A		1	04/02/15 16:37		CD50161
Aroclor 1248	**0.0928** (0.0082)		8082A		1	04/02/15 16:37		CD50161
Aroclor 1254	**0.143** (0.0082)		8082A		1	04/02/15 16:37		CD50161
Aroclor 1260	**0.0840** (0.0082)		8082A		1	04/02/15 16:37		CD50161
Aroclor 1262	ND (0.0082)		8082A		1	04/02/15 16:37		CD50161
Aroclor 1268	ND (0.0082)		8082A		1	04/02/15 16:37		CD50161

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*71 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*25 %*	*SC*	*30-150*
Surrogate: Tetrachloro-m-xylene	*18 %*	*SC*	*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*17 %*	*SC*	*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-107 2ft-4ft
Date Sampled: 03/26/15 15:15
Percent Solids: 99
Initial Volume: 25.2
Final Volume: 2
Extraction Method: 3540

ESS Laboratory Work Order: 1503482
ESS Laboratory Sample ID: 1503482-52
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 4/1/15 18:00
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.399)		8082A		50	04/02/15 19:09		CD50161
Aroclor 1221	ND (0.399)		8082A		50	04/02/15 19:09		CD50161
Aroclor 1232	ND (0.399)		8082A		50	04/02/15 19:09		CD50161
Aroclor 1242	ND (0.399)		8082A		50	04/02/15 19:09		CD50161
Aroclor 1248	**4.83** (0.399)		8082A		50	04/02/15 19:09		CD50161
Aroclor 1254	**4.52** (0.399)		8082A		50	04/02/15 19:09		CD50161
Aroclor 1260	ND (0.399)		8082A		50	04/02/15 19:09		CD50161
Aroclor 1262	ND (0.399)		8082A		50	04/02/15 19:09		CD50161
Aroclor 1268	ND (0.399)		8082A		50	04/02/15 19:09		CD50161

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503482

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Total Metals										
Batch CC53118 - 3050B										
Blank										
Antimony	ND	0.25	mg/kg wet							
Antimony	ND	5.00	mg/kg wet							
Arsenic	ND	2.50	mg/kg wet							
Barium	ND	2.50	mg/kg wet							
Beryllium	ND	0.11	mg/kg wet							
Cadmium	ND	0.50	mg/kg wet							
Chromium	ND	1.00	mg/kg wet							
Lead	ND	5.00	mg/kg wet							
Nickel	ND	2.50	mg/kg wet							
Selenium	ND	5.00	mg/kg wet							
Selenium	ND	0.50	mg/kg wet							
Silver	ND	0.50	mg/kg wet							
Thallium	ND	0.25	mg/kg wet							
Vanadium	ND	1.00	mg/kg wet							
Zinc	ND	2.50	mg/kg wet							
LCS										
Antimony	57.4	8.93	mg/kg wet	49.70		115	24-282			
Antimony	50.5	17.9	mg/kg wet	49.70		102	80-120			
Arsenic	121	8.93	mg/kg wet	133.0		91	80-120			
Barium	197	8.93	mg/kg wet	229.0		86	80-120			
Beryllium	88.1	0.39	mg/kg wet	95.80		92	80-120			
Cadmium	104	1.79	mg/kg wet	123.0		84	80-120			
Chromium	53.4	3.57	mg/kg wet	63.20		84	80-120			
Lead	100	17.9	mg/kg wet	108.0		93	80-120			
Nickel	259	8.93	mg/kg wet	285.0		91	80-120			
Selenium	84.2	17.9	mg/kg wet	81.40		103	80-120			
Selenium	71.8	17.9	mg/kg wet	81.40		88	80-120			
Silver	69.1	1.79	mg/kg wet	74.80		92	80-120			
Thallium	53.8	26.8	mg/kg wet	50.10		107	80-120			
Vanadium	138	3.57	mg/kg wet	148.0		93	80-120			
Zinc	174	8.93	mg/kg wet	203.0		86	80-120			
LCS Dup										
Antimony	51.6	17.9	mg/kg wet	49.70		104	80-120	2	20	
Antimony	64.1	8.93	mg/kg wet	49.70		129	24-282	11	20	
Arsenic	119	8.93	mg/kg wet	133.0		90	80-120	1	20	
Barium	198	8.93	mg/kg wet	229.0		86	80-120	0.6	20	
Beryllium	88.1	0.39	mg/kg wet	95.80		92	80-120	0.01	20	
Cadmium	103	1.79	mg/kg wet	123.0		84	80-120	0.3	20	
Chromium	53.3	3.57	mg/kg wet	63.20		84	80-120	0.2	20	
Lead	100	17.9	mg/kg wet	108.0		93	80-120	0.09	20	
Nickel	260	8.93	mg/kg wet	285.0		91	80-120	0.3	20	
Selenium	69.4	17.9	mg/kg wet	81.40		85	80-120	3	20	
Selenium	91.1	17.9	mg/kg wet	81.40		112	80-120	8	20	
Silver	68.6	1.79	mg/kg wet	74.80		92	80-120	0.8	20	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503482

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Total Metals										
Batch CC53118 - 3050B										
Thallium	54.2	26.8	mg/kg wet	50.10		108	80-120	0.8	20	
Vanadium	138	3.57	mg/kg wet	148.0		93	80-120	0.6	20	
Zinc	178	8.93	mg/kg wet	203.0		87	80-120	2	20	
Batch CC53119 - 7471A										
Blank										
Mercury	ND	0.033	mg/kg wet							
LCS										
Mercury	29.3	3.00	mg/kg wet	24.90		118	80-120			
LCS Dup										
Mercury	27.7	3.36	mg/kg wet	24.90		111	80-120	6	20	
8082A Polychlorinated Biphenyls (PCB)										
Batch CD50161 - 3540										
Blank										
Aroclor 1016	ND	0.0080	mg/kg wet							
Aroclor 1221	ND	0.0080	mg/kg wet							
Aroclor 1232	ND	0.0080	mg/kg wet							
Aroclor 1242	ND	0.0080	mg/kg wet							
Aroclor 1248	ND	0.0080	mg/kg wet							
Aroclor 1254	ND	0.0080	mg/kg wet							
Aroclor 1260	ND	0.0080	mg/kg wet							
Aroclor 1262	ND	0.0080	mg/kg wet							
Aroclor 1268	ND	0.0080	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.00430*		mg/kg wet	*0.004000*		*108*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.00363*		mg/kg wet	*0.004000*		*91*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.00268*		mg/kg wet	*0.004000*		*67*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.00255*		mg/kg wet	*0.004000*		*64*	*30-150*			
LCS										
Aroclor 1016	0.0769	0.0080	mg/kg wet	0.08000		96	40-140			
Aroclor 1260	0.0771	0.0080	mg/kg wet	0.08000		96	40-140			
Surrogate: Decachlorobiphenyl	*0.00335*		mg/kg wet	*0.004000*		*84*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.00387*		mg/kg wet	*0.004000*		*97*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.00283*		mg/kg wet	*0.004000*		*71*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.00283*		mg/kg wet	*0.004000*		*71*	*30-150*			
LCS Dup										
Aroclor 1016	0.0751	0.0080	mg/kg wet	0.08000		94	40-140	2	30	
Aroclor 1260	0.0773	0.0080	mg/kg wet	0.08000		97	40-140	0.3	30	
Surrogate: Decachlorobiphenyl	*0.00325*		mg/kg wet	*0.004000*		*81*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.00377*		mg/kg wet	*0.004000*		*94*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.00279*		mg/kg wet	*0.004000*		*70*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.00270*		mg/kg wet	*0.004000*		*67*	*30-150*			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503482

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch CD50221 - 3540C										
Blank										
Aroclor 1016	ND	0.0100	mg/kg wet							
Aroclor 1221	ND	0.0100	mg/kg wet							
Aroclor 1232	ND	0.0100	mg/kg wet							
Aroclor 1242	ND	0.0100	mg/kg wet							
Aroclor 1248	ND	0.0100	mg/kg wet							
Aroclor 1254	ND	0.0100	mg/kg wet							
Aroclor 1260	ND	0.0100	mg/kg wet							
Aroclor 1262	ND	0.0100	mg/kg wet							
Aroclor 1268	ND	0.0100	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.00433*		mg/kg wet	*0.005000*		*87*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.00465*		mg/kg wet	*0.005000*		*93*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.00387*		mg/kg wet	*0.005000*		*77*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.00364*		mg/kg wet	*0.005000*		*73*	*30-150*			
LCS										
Aroclor 1016	0.121	0.0100	mg/kg wet	0.1000		121	40-140			
Aroclor 1260	0.109	0.0100	mg/kg wet	0.1000		109	40-140			
Surrogate: Decachlorobiphenyl	*0.00454*		mg/kg wet	*0.005000*		*91*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.00512*		mg/kg wet	*0.005000*		*102*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.00475*		mg/kg wet	*0.005000*		*95*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.00489*		mg/kg wet	*0.005000*		*98*	*30-150*			
LCS Dup										
Aroclor 1016	0.114	0.0100	mg/kg wet	0.1000		114	40-140	6	30	
Aroclor 1260	0.106	0.0100	mg/kg wet	0.1000		106	40-140	3	30	
Surrogate: Decachlorobiphenyl	*0.00423*		mg/kg wet	*0.005000*		*85*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.00517*		mg/kg wet	*0.005000*		*103*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.00414*		mg/kg wet	*0.005000*		*83*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.00420*		mg/kg wet	*0.005000*		*84*	*30-150*			
Batch CD50616 - 3540C										
Blank										
Aroclor 1016	ND	0.0100	mg/kg wet							
Aroclor 1221	ND	0.0100	mg/kg wet							
Aroclor 1232	ND	0.0100	mg/kg wet							
Aroclor 1242	ND	0.0100	mg/kg wet							
Aroclor 1248	ND	0.0100	mg/kg wet							
Aroclor 1254	ND	0.0100	mg/kg wet							
Aroclor 1260	ND	0.0100	mg/kg wet							
Aroclor 1262	ND	0.0100	mg/kg wet							
Aroclor 1268	ND	0.0100	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.00429*		mg/kg wet	*0.005000*		*86*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.00467*		mg/kg wet	*0.005000*		*93*	*30-150*			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503482

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch CD50616 - 3540C										
Surrogate: Tetrachloro-m-xylene	*0.00393*		mg/kg wet	*0.005000*		*79*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.00365*		mg/kg wet	*0.005000*		*73*	*30-150*			
LCS										
Aroclor 1016	0.126	0.0100	mg/kg wet	0.1000		126	40-140			
Aroclor 1260	0.118	0.0100	mg/kg wet	0.1000		118	40-140			
Surrogate: Decachlorobiphenyl	*0.00426*		mg/kg wet	*0.005000*		*85*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.00497*		mg/kg wet	*0.005000*		*99*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.00393*		mg/kg wet	*0.005000*		*79*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.00396*		mg/kg wet	*0.005000*		*79*	*30-150*			
LCS Dup										
Aroclor 1016	0.139	0.0100	mg/kg wet	0.1000		139	40-140	9	30	
Aroclor 1260	0.130	0.0100	mg/kg wet	0.1000		130	40-140	10	30	
Surrogate: Decachlorobiphenyl	*0.00441*		mg/kg wet	*0.005000*		*88*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.00506*		mg/kg wet	*0.005000*		*101*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.00411*		mg/kg wet	*0.005000*		*82*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.00414*		mg/kg wet	*0.005000*		*83*	*30-150*			
8270D Semi-Volatile Organic Compounds										
Batch CD50329 - 3546										
Blank										
1,2,4-Trichlorobenzene	ND	0.333	mg/kg wet							
1,2-Dichlorobenzene	ND	0.333	mg/kg wet							
1,3-Dichlorobenzene	ND	0.333	mg/kg wet							
1,4-Dichlorobenzene	ND	0.333	mg/kg wet							
2,4,5-Trichlorophenol	ND	0.333	mg/kg wet							
2,4,6-Trichlorophenol	ND	0.333	mg/kg wet							
2,4-Dichlorophenol	ND	0.333	mg/kg wet							
2,4-Dimethylphenol	ND	0.333	mg/kg wet							
2,4-Dinitrophenol	ND	1.67	mg/kg wet							
2,4-Dinitrotoluene	ND	0.333	mg/kg wet							
2,6-Dinitrotoluene	ND	0.333	mg/kg wet							
2-Chloronaphthalene	ND	0.333	mg/kg wet							
2-Chlorophenol	ND	0.333	mg/kg wet							
2-Methylphenol	ND	0.333	mg/kg wet							
2-Nitrophenol	ND	0.333	mg/kg wet							
3,3´-Dichlorobenzidine	ND	0.667	mg/kg wet							
3+4-Methylphenol	ND	0.667	mg/kg wet							
4-Bromophenyl-phenylether	ND	0.333	mg/kg wet							
4-Chloroaniline	ND	0.667	mg/kg wet							
4-Nitrophenol	ND	1.67	mg/kg wet							
Acetophenone	ND	0.667	mg/kg wet							
Aniline	ND	1.67	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503482

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch CD50329 - 3546										
Azobenzene	ND	0.333	mg/kg wet							
bis(2-Chloroethoxy)methane	ND	0.333	mg/kg wet							
bis(2-Chloroethyl)ether	ND	0.333	mg/kg wet							
bis(2-chloroisopropyl)Ether	ND	0.333	mg/kg wet							
bis(2-Ethylhexyl)phthalate	ND	0.333	mg/kg wet							
Butylbenzylphthalate	ND	0.333	mg/kg wet							
Dibenzofuran	ND	0.333	mg/kg wet							
Diethylphthalate	ND	0.333	mg/kg wet							
Dimethylphthalate	ND	0.333	mg/kg wet							
Di-n-butylphthalate	ND	0.333	mg/kg wet							
Di-n-octylphthalate	ND	0.333	mg/kg wet							
Hexachlorobutadiene	ND	0.333	mg/kg wet							
Hexachloroethane	ND	0.333	mg/kg wet							
Isophorone	ND	0.333	mg/kg wet							
Nitrobenzene	ND	0.333	mg/kg wet							
N-Nitrosodimethylamine	ND	0.333	mg/kg wet							
Pentachlorophenol	ND	1.67	mg/kg wet							
Phenol	ND	0.333	mg/kg wet							
Surrogate: 1,2-Dichlorobenzene-d4	*2.56*		mg/kg wet	*3.333*		*77*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*5.62*		mg/kg wet	*5.000*		*112*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*3.86*		mg/kg wet	*5.000*		*77*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*2.84*		mg/kg wet	*3.333*		*85*	*30-130*			
Surrogate: 2-Fluorophenol	*3.59*		mg/kg wet	*5.000*		*72*	*30-130*			
Surrogate: Nitrobenzene-d5	*2.43*		mg/kg wet	*3.333*		*73*	*30-130*			
Surrogate: Phenol-d6	*3.70*		mg/kg wet	*5.000*		*74*	*30-130*			
Surrogate: p-Terphenyl-d14	*3.36*		mg/kg wet	*3.333*		*101*	*30-130*			
LCS										
1,2,4-Trichlorobenzene	2.43	0.333	mg/kg wet	3.333		73	40-140			
1,2-Dichlorobenzene	2.05	0.333	mg/kg wet	3.333		62	40-140			
1,3-Dichlorobenzene	2.06	0.333	mg/kg wet	3.333		62	40-140			
1,4-Dichlorobenzene	2.07	0.333	mg/kg wet	3.333		62	40-140			
2,4,5-Trichlorophenol	3.01	0.333	mg/kg wet	3.333		90	30-130			
2,4,6-Trichlorophenol	3.06	0.333	mg/kg wet	3.333		92	30-130			
2,4-Dichlorophenol	2.68	0.333	mg/kg wet	3.333		80	30-130			
2,4-Dimethylphenol	2.76	0.333	mg/kg wet	3.333		83	30-130			
2,4-Dinitrophenol	2.51	1.67	mg/kg wet	3.333		75	30-130			
2,4-Dinitrotoluene	2.65	0.333	mg/kg wet	3.333		80	40-140			
2,6-Dinitrotoluene	2.60	0.333	mg/kg wet	3.333		78	40-140			
2-Chloronaphthalene	2.26	0.333	mg/kg wet	3.333		68	40-140			
2-Chlorophenol	2.12	0.333	mg/kg wet	3.333		64	30-130			
2-Methylphenol	2.16	0.333	mg/kg wet	3.333		65	30-130			
2-Nitrophenol	2.54	0.333	mg/kg wet	3.333		76	30-130			
3,3´-Dichlorobenzidine	2.23	0.667	mg/kg wet	3.333		67	40-140			
3+4-Methylphenol	5.48	0.667	mg/kg wet	6.667		82	30-130			
4-Bromophenyl-phenylether	3.22	0.333	mg/kg wet	3.333		97	40-140			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503482

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch CD50329 - 3546										
4-Chloroaniline	1.89	0.667	mg/kg wet	3.333		57	40-140			
4-Nitrophenol	3.70	1.67	mg/kg wet	3.333		111	30-130			
Acetophenone	2.27	0.667	mg/kg wet	3.333		68	40-140			
Aniline	0.990	1.67	mg/kg wet	3.333		30	40-140			B-
Azobenzene	2.73	0.333	mg/kg wet	3.333		82	40-140			
bis(2-Chloroethoxy)methane	2.33	0.333	mg/kg wet	3.333		70	40-140			
bis(2-Chloroethyl)ether	1.83	0.333	mg/kg wet	3.333		55	40-140			
bis(2-chloroisopropyl)Ether	1.61	0.333	mg/kg wet	3.333		48	40-140			
bis(2-Ethylhexyl)phthalate	2.89	0.333	mg/kg wet	3.333		87	40-140			
Butylbenzylphthalate	2.95	0.333	mg/kg wet	3.333		89	40-140			
Dibenzofuran	2.71	0.333	mg/kg wet	3.333		81	40-140			
Diethylphthalate	2.90	0.333	mg/kg wet	3.333		87	40-140			
Dimethylphthalate	2.63	0.333	mg/kg wet	3.333		79	40-140			
Di-n-butylphthalate	2.80	0.333	mg/kg wet	3.333		84	40-140			
Di-n-octylphthalate	2.97	0.333	mg/kg wet	3.333		89	40-140			
Hexachlorobutadiene	2.68	0.333	mg/kg wet	3.333		80	40-140			
Hexachloroethane	2.22	0.333	mg/kg wet	3.333		67	40-140			
Isophorone	2.26	0.333	mg/kg wet	3.333		68	40-140			
Nitrobenzene	2.33	0.333	mg/kg wet	3.333		70	40-140			
N-Nitrosodimethylamine	2.01	0.333	mg/kg wet	3.333		60	40-140			
Pentachlorophenol	3.57	1.67	mg/kg wet	3.333		107	30-130			
Phenol	3.80	0.333	mg/kg wet	3.333		114	30-130			
Surrogate: 1,2-Dichlorobenzene-d4	*2.35*		mg/kg wet	*3.333*		*71*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*6.25*		mg/kg wet	*5.000*		*125*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*3.57*		mg/kg wet	*5.000*		*71*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*2.94*		mg/kg wet	*3.333*		*88*	*30-130*			
Surrogate: 2-Fluorophenol	*3.42*		mg/kg wet	*5.000*		*68*	*30-130*			
Surrogate: Nitrobenzene-d5	*2.43*		mg/kg wet	*3.333*		*73*	*30-130*			
Surrogate: Phenol-d6	*3.48*		mg/kg wet	*5.000*		*70*	*30-130*			
Surrogate: p-Terphenyl-d14	*3.66*		mg/kg wet	*3.333*		*110*	*30-130*			
LCS Dup										
1,2,4-Trichlorobenzene	2.29	0.333	mg/kg wet	3.333		69	40-140	6	30	
1,2-Dichlorobenzene	2.01	0.333	mg/kg wet	3.333		60	40-140	2	30	
1,3-Dichlorobenzene	2.03	0.333	mg/kg wet	3.333		61	40-140	2	30	
1,4-Dichlorobenzene	2.04	0.333	mg/kg wet	3.333		61	40-140	2	30	
2,4,5-Trichlorophenol	2.79	0.333	mg/kg wet	3.333		84	30-130	8	30	
2,4,6-Trichlorophenol	2.92	0.333	mg/kg wet	3.333		88	30-130	5	30	
2,4-Dichlorophenol	2.51	0.333	mg/kg wet	3.333		75	30-130	6	30	
2,4-Dimethylphenol	2.55	0.333	mg/kg wet	3.333		77	30-130	8	30	
2,4-Dinitrophenol	2.40	1.67	mg/kg wet	3.333		72	30-130	4	30	
2,4-Dinitrotoluene	2.51	0.333	mg/kg wet	3.333		75	40-140	6	30	
2,6-Dinitrotoluene	2.47	0.333	mg/kg wet	3.333		74	40-140	5	30	
2-Chloronaphthalene	2.13	0.333	mg/kg wet	3.333		64	40-140	6	30	
2-Chlorophenol	2.07	0.333	mg/kg wet	3.333		62	30-130	2	30	
2-Methylphenol	2.11	0.333	mg/kg wet	3.333		63	30-130	2	30	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503482

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch CD50329 - 3546										
2-Nitrophenol	2.34	0.333	mg/kg wet	3.333		70	30-130	8	30	
3,3´-Dichlorobenzidine	2.09	0.667	mg/kg wet	3.333		63	40-140	7	30	
3+4-Methylphenol	4.40	0.667	mg/kg wet	6.667		66	30-130	22	30	
4-Bromophenyl-phenylether	2.96	0.333	mg/kg wet	3.333		89	40-140	8	30	
4-Chloroaniline	1.81	0.667	mg/kg wet	3.333		54	40-140	4	30	
4-Nitrophenol	3.54	1.67	mg/kg wet	3.333		106	30-130	5	30	
Acetophenone	2.20	0.667	mg/kg wet	3.333		66	40-140	3	30	
Aniline	1.45	1.67	mg/kg wet	3.333		43	40-140	37	30	D+
Azobenzene	2.47	0.333	mg/kg wet	3.333		74	40-140	10	30	
bis(2-Chloroethoxy)methane	2.19	0.333	mg/kg wet	3.333		66	40-140	6	30	
bis(2-Chloroethyl)ether	1.82	0.333	mg/kg wet	3.333		55	40-140	0.6	30	
bis(2-chloroisopropyl)Ether	1.60	0.333	mg/kg wet	3.333		48	40-140	0.9	30	
bis(2-Ethylhexyl)phthalate	2.70	0.333	mg/kg wet	3.333		81	40-140	7	30	
Butylbenzylphthalate	2.79	0.333	mg/kg wet	3.333		84	40-140	6	30	
Dibenzofuran	2.57	0.333	mg/kg wet	3.333		77	40-140	5	30	
Diethylphthalate	2.73	0.333	mg/kg wet	3.333		82	40-140	6	30	
Dimethylphthalate	2.53	0.333	mg/kg wet	3.333		76	40-140	4	30	
Di-n-butylphthalate	2.62	0.333	mg/kg wet	3.333		79	40-140	7	30	
Di-n-octylphthalate	2.82	0.333	mg/kg wet	3.333		85	40-140	5	30	
Hexachlorobutadiene	2.50	0.333	mg/kg wet	3.333		75	40-140	7	30	
Hexachloroethane	2.14	0.333	mg/kg wet	3.333		64	40-140	4	30	
Isophorone	2.12	0.333	mg/kg wet	3.333		64	40-140	6	30	
Nitrobenzene	2.20	0.333	mg/kg wet	3.333		66	40-140	6	30	
N-Nitrosodimethylamine	2.06	0.333	mg/kg wet	3.333		62	40-140	2	30	
Pentachlorophenol	3.30	1.67	mg/kg wet	3.333		99	30-130	8	30	
Phenol	3.09	0.333	mg/kg wet	3.333		93	30-130	21	30	
Surrogate: 1,2-Dichlorobenzene-d4	*2.23*		mg/kg wet	*3.333*		*67*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*5.59*		mg/kg wet	*5.000*		*112*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*3.37*		mg/kg wet	*5.000*		*67*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*2.64*		mg/kg wet	*3.333*		*79*	*30-130*			
Surrogate: 2-Fluorophenol	*3.18*		mg/kg wet	*5.000*		*64*	*30-130*			
Surrogate: Nitrobenzene-d5	*2.19*		mg/kg wet	*3.333*		*66*	*30-130*			
Surrogate: Phenol-d6	*3.26*		mg/kg wet	*5.000*		*65*	*30-130*			
Surrogate: p-Terphenyl-d14	*3.33*		mg/kg wet	*3.333*		*100*	*30-130*			
8270D(SIM) Polynuclear Aromatic Hydrocarbons										
Batch CC53111 - 3546										
Blank										
2-Methylnaphthalene	ND	0.017	mg/kg wet							
Acenaphthene	ND	0.017	mg/kg wet							
Acenaphthylene	ND	0.017	mg/kg wet							
Anthracene	ND	0.017	mg/kg wet							
Benzo(a)anthracene	ND	0.017	mg/kg wet							
Benzo(a)pyrene	ND	0.017	mg/kg wet							
Benzo(b)fluoranthene	ND	0.017	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503482

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D(SIM) Polynuclear Aromatic Hydrocarbons										
Batch CC53111 - 3546										
Benzo(g,h,i)perylene	ND	0.017	mg/kg wet							
Benzo(k)fluoranthene	ND	0.017	mg/kg wet							
Chrysene	ND	0.017	mg/kg wet							
Dibenzo(a,h)Anthracene	ND	0.017	mg/kg wet							
Fluoranthene	ND	0.017	mg/kg wet							
Fluorene	ND	0.017	mg/kg wet							
Hexachlorobenzene	ND	0.017	mg/kg wet							
Indeno(1,2,3-cd)Pyrene	ND	0.017	mg/kg wet							
Naphthalene	ND	0.017	mg/kg wet							
Phenanthrene	ND	0.017	mg/kg wet							
Pyrene	ND	0.017	mg/kg wet							
Surrogate: 1,2-Dichlorobenzene-d4	*0.215*		mg/kg wet	*0.3333*		*65*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*0.267*		mg/kg wet	*0.3333*		*80*	*30-130*			
Surrogate: Nitrobenzene-d5	*0.267*		mg/kg wet	*0.3333*		*80*	*30-130*			
Surrogate: p-Terphenyl-d14	*0.294*		mg/kg wet	*0.3333*		*88*	*30-130*			
LCS										
2-Methylnaphthalene	0.189	0.017	mg/kg wet	0.2667		71	40-140			
Acenaphthene	0.205	0.017	mg/kg wet	0.2667		77	40-140			
Acenaphthylene	0.207	0.017	mg/kg wet	0.2667		78	40-140			
Anthracene	0.204	0.017	mg/kg wet	0.2667		76	40-140			
Benzo(a)anthracene	0.201	0.017	mg/kg wet	0.2667		75	40-140			
Benzo(a)pyrene	0.215	0.017	mg/kg wet	0.2667		81	40-140			
Benzo(b)fluoranthene	0.224	0.017	mg/kg wet	0.2667		84	40-140			
Benzo(g,h,i)perylene	0.153	0.017	mg/kg wet	0.2667		57	40-140			
Benzo(k)fluoranthene	0.235	0.017	mg/kg wet	0.2667		88	40-140			
Chrysene	0.224	0.017	mg/kg wet	0.2667		84	40-140			
Dibenzo(a,h)Anthracene	0.179	0.017	mg/kg wet	0.2667		67	40-140			
Fluoranthene	0.214	0.017	mg/kg wet	0.2667		80	40-140			
Fluorene	0.213	0.017	mg/kg wet	0.2667		80	40-140			
Hexachlorobenzene	0.146	0.017	mg/kg wet	0.2667		55	40-140			
Indeno(1,2,3-cd)Pyrene	0.162	0.017	mg/kg wet	0.2667		61	40-140			
Naphthalene	0.177	0.017	mg/kg wet	0.2667		66	40-140			
Phenanthrene	0.190	0.017	mg/kg wet	0.2667		71	40-140			
Pyrene	0.211	0.017	mg/kg wet	0.2667		79	40-140			
Surrogate: 1,2-Dichlorobenzene-d4	*0.240*		mg/kg wet	*0.3333*		*72*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*0.284*		mg/kg wet	*0.3333*		*85*	*30-130*			
Surrogate: Nitrobenzene-d5	*0.285*		mg/kg wet	*0.3333*		*85*	*30-130*			
Surrogate: p-Terphenyl-d14	*0.317*		mg/kg wet	*0.3333*		*95*	*30-130*			
LCS Dup										
2-Methylnaphthalene	0.224	0.017	mg/kg wet	0.2667		84	40-140	17	30	
Acenaphthene	0.230	0.017	mg/kg wet	0.2667		86	40-140	11	30	
Acenaphthylene	0.139	0.017	mg/kg wet	0.2667		52	40-140	40	30	D+
Anthracene	0.171	0.017	mg/kg wet	0.2667		64	40-140	18	30	
Benzo(a)anthracene	0.197	0.017	mg/kg wet	0.2667		74	40-140	2	30	
Benzo(a)pyrene	0.155	0.017	mg/kg wet	0.2667		58	40-140	33	30	D+

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503482

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D(SIM) Polynuclear Aromatic Hydrocarbons										
Batch CC53111 - 3546										
Benzo(b)fluoranthene	0.243	0.017	mg/kg wet	0.2667		91	40-140	8	30	
Benzo(g,h,i)perylene	0.153	0.017	mg/kg wet	0.2667		57	40-140	0.2	30	
Benzo(k)fluoranthene	0.249	0.017	mg/kg wet	0.2667		93	40-140	6	30	
Chrysene	0.224	0.017	mg/kg wet	0.2667		84	40-140	0.2	30	
Dibenzo(a,h)Anthracene	0.177	0.017	mg/kg wet	0.2667		66	40-140	1	30	
Fluoranthene	0.221	0.017	mg/kg wet	0.2667		83	40-140	3	30	
Fluorene	0.239	0.017	mg/kg wet	0.2667		90	40-140	12	30	
Hexachlorobenzene	0.152	0.017	mg/kg wet	0.2667		57	40-140	4	30	
Indeno(1,2,3-cd)Pyrene	0.162	0.017	mg/kg wet	0.2667		61	40-140	0.2	30	
Naphthalene	0.200	0.017	mg/kg wet	0.2667		75	40-140	12	30	
Phenanthrene	0.213	0.017	mg/kg wet	0.2667		80	40-140	11	30	
Pyrene	0.218	0.017	mg/kg wet	0.2667		82	40-140	3	30	
Surrogate: 1,2-Dichlorobenzene-d4	*0.277*		mg/kg wet	*0.3333*		*83*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*0.324*		mg/kg wet	*0.3333*		*97*	*30-130*			
Surrogate: Nitrobenzene-d5	*0.328*		mg/kg wet	*0.3333*		*98*	*30-130*			
Surrogate: p-Terphenyl-d14	*0.331*		mg/kg wet	*0.3333*		*99*	*30-130*			
MADEP-EPH Extractable Petroleum Hydrocarbons										
Batch CC53008 - 3546										
Blank										
C19-C36 Aliphatics1	ND	15.0	mg/kg wet							
C9-C18 Aliphatics1	ND	15.0	mg/kg wet							
Decane (C10)	ND	0.5	mg/kg wet							
Docosane (C22)	ND	0.5	mg/kg wet							
Dodecane (C12)	ND	0.5	mg/kg wet							
Eicosane (C20)	ND	0.5	mg/kg wet							
Hexacosane (C26)	ND	0.5	mg/kg wet							
Hexadecane (C16)	ND	0.5	mg/kg wet							
Hexatriacontane (C36)	ND	0.5	mg/kg wet							
Nonadecane (C19)	ND	0.5	mg/kg wet							
Nonane (C9)	ND	0.5	mg/kg wet							
Octacosane (C28)	ND	0.5	mg/kg wet							
Octadecane (C18)	ND	0.5	mg/kg wet							
Tetracosane (C24)	ND	0.5	mg/kg wet							
Tetradecane (C14)	ND	0.5	mg/kg wet							
Triacontane (C30)	ND	0.5	mg/kg wet							
Surrogate: 1-Chlorooctadecane	*1.37*		mg/kg wet	*2.000*		*68*	*40-140*			
Blank										
2-Methylnaphthalene	ND	0.20	mg/kg wet							
Acenaphthene	ND	0.40	mg/kg wet							
Acenaphthylene	ND	0.20	mg/kg wet							
Anthracene	ND	0.40	mg/kg wet							
Benzo(a)anthracene	ND	0.40	mg/kg wet							
Benzo(a)pyrene	ND	0.40	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503482

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
MADEP-EPH Extractable Petroleum Hydrocarbons										
Batch CC53008 - 3546										
Benzo(b)fluoranthene	ND	0.40	mg/kg wet							
Benzo(g,h,i)perylene	ND	0.40	mg/kg wet							
Benzo(k)fluoranthene	ND	0.40	mg/kg wet							
C11-C22 Unadjusted Aromatics1	ND	15.0	mg/kg wet							
Chrysene	ND	0.40	mg/kg wet							
Dibenzo(a,h)Anthracene	ND	0.20	mg/kg wet							
Fluoranthene	ND	0.40	mg/kg wet							
Fluorene	ND	0.40	mg/kg wet							
Indeno(1,2,3-cd)Pyrene	ND	0.40	mg/kg wet							
Naphthalene	ND	0.40	mg/kg wet							
Phenanthrene	ND	0.40	mg/kg wet							
Pyrene	ND	0.40	mg/kg wet							
Surrogate: 2-Bromonaphthalene	*1.47*		mg/kg wet	*2.000*		*74*	*40-140*			
Surrogate: 2-Fluorobiphenyl	*1.42*		mg/kg wet	*2.000*		*71*	*40-140*			
Surrogate: O-Terphenyl	*1.43*		mg/kg wet	*2.000*		*72*	*40-140*			
LCS										
C19-C36 Aliphatics1	16.9	15.0	mg/kg wet	16.00		106	40-140			
C9-C18 Aliphatics1	10.3	15.0	mg/kg wet	12.00		86	40-140			
Decane (C10)	1.2	0.5	mg/kg wet	2.000		60	40-140			
Docosane (C22)	1.9	0.5	mg/kg wet	2.000		93	40-140			
Dodecane (C12)	1.2	0.5	mg/kg wet	2.000		60	40-140			
Eicosane (C20)	1.8	0.5	mg/kg wet	2.000		90	40-140			
Hexacosane (C26)	1.9	0.5	mg/kg wet	2.000		95	40-140			
Hexadecane (C16)	1.6	0.5	mg/kg wet	2.000		80	40-140			
Hexatriacontane (C36)	1.9	0.5	mg/kg wet	2.000		93	40-140			
Nonadecane (C19)	1.8	0.5	mg/kg wet	2.000		91	40-140			
Nonane (C9)	1.0	0.5	mg/kg wet	2.000		48	30-140			
Octacosane (C28)	1.9	0.5	mg/kg wet	2.000		93	40-140			
Octadecane (C18)	1.7	0.5	mg/kg wet	2.000		86	40-140			
Tetracosane (C24)	1.8	0.5	mg/kg wet	2.000		90	40-140			
Tetradecane (C14)	1.4	0.5	mg/kg wet	2.000		71	40-140			
Triacontane (C30)	1.8	0.5	mg/kg wet	2.000		92	40-140			
Surrogate: 1-Chlorooctadecane	*1.47*		mg/kg wet	*2.000*		*73*	*40-140*			
LCS										
2-Methylnaphthalene	1.29	0.20	mg/kg wet	2.000		65	40-140			
Acenaphthene	1.40	0.40	mg/kg wet	2.000		70	40-140			
Acenaphthylene	1.42	0.20	mg/kg wet	2.000		71	40-140			
Anthracene	1.70	0.40	mg/kg wet	2.000		85	40-140			
Benzo(a)anthracene	1.87	0.40	mg/kg wet	2.000		93	40-140			
Benzo(a)pyrene	2.03	0.40	mg/kg wet	2.000		101	40-140			
Benzo(b)fluoranthene	1.90	0.40	mg/kg wet	2.000		95	40-140			
Benzo(g,h,i)perylene	1.96	0.40	mg/kg wet	2.000		98	40-140			
Benzo(k)fluoranthene	1.80	0.40	mg/kg wet	2.000		90	40-140			
C11-C22 Unadjusted Aromatics1	29.7	15.0	mg/kg wet	34.00		87	40-140			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503482

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
MADEP-EPH Extractable Petroleum Hydrocarbons										
Batch CC53008 - 3546										
Chrysene	1.92	0.40	mg/kg wet	2.000		96	40-140			
Dibenzo(a,h)Anthracene	1.84	0.20	mg/kg wet	2.000		92	40-140			
Fluoranthene	1.80	0.40	mg/kg wet	2.000		90	40-140			
Fluorene	1.50	0.40	mg/kg wet	2.000		75	40-140			
Indeno(1,2,3-cd)Pyrene	1.92	0.40	mg/kg wet	2.000		96	40-140			
Naphthalene	1.19	0.40	mg/kg wet	2.000		60	40-140			
Phenanthrene	1.67	0.40	mg/kg wet	2.000		84	40-140			
Pyrene	1.80	0.40	mg/kg wet	2.000		90	40-140			
Surrogate: 2-Bromonaphthalene	*1.57*		mg/kg wet	*2.000*		*78*	*40-140*			
Surrogate: 2-Fluorobiphenyl	*1.56*		mg/kg wet	*2.000*		*78*	*40-140*			
Surrogate: O-Terphenyl	*1.52*		mg/kg wet	*2.000*		*76*	*40-140*			
LCS										
2-Methylnaphthalene Breakthrough	0.0		%				0-5			
Naphthalene Breakthrough	0.0		%				0-5			
LCS Dup										
C19-C36 Aliphatics1	16.0	15.0	mg/kg wet	16.00		100	40-140	5	25	
C9-C18 Aliphatics1	9.1	15.0	mg/kg wet	12.00		76	40-140	12	25	
Decane (C10)	1.0	0.5	mg/kg wet	2.000		52	40-140	14	25	
Docosane (C22)	1.8	0.5	mg/kg wet	2.000		89	40-140	5	25	
Dodecane (C12)	1.0	0.5	mg/kg wet	2.000		52	40-140	14	25	
Eicosane (C20)	1.7	0.5	mg/kg wet	2.000		86	40-140	5	25	
Hexacosane (C26)	1.8	0.5	mg/kg wet	2.000		91	40-140	4	25	
Hexadecane (C16)	1.5	0.5	mg/kg wet	2.000		73	40-140	9	25	
Hexatriacontane (C36)	1.8	0.5	mg/kg wet	2.000		89	40-140	5	25	
Nonadecane (C19)	1.7	0.5	mg/kg wet	2.000		87	40-140	5	25	
Nonane (C9)	0.8	0.5	mg/kg wet	2.000		42	30-140	13	25	
Octacosane (C28)	1.8	0.5	mg/kg wet	2.000		89	40-140	5	25	
Octadecane (C18)	1.6	0.5	mg/kg wet	2.000		82	40-140	5	25	
Tetracosane (C24)	1.7	0.5	mg/kg wet	2.000		86	40-140	5	25	
Tetradecane (C14)	1.3	0.5	mg/kg wet	2.000		63	40-140	13	25	
Triacontane (C30)	1.7	0.5	mg/kg wet	2.000		87	40-140	5	25	
Surrogate: 1-Chlorooctadecane	*1.36*		mg/kg wet	*2.000*		*68*	*40-140*			
LCS Dup										
2-Methylnaphthalene	1.27	0.20	mg/kg wet	2.000		64	40-140	2	20	
Acenaphthene	1.40	0.40	mg/kg wet	2.000		70	40-140	0.03	20	
Acenaphthylene	1.37	0.20	mg/kg wet	2.000		68	40-140	4	20	
Anthracene	1.68	0.40	mg/kg wet	2.000		84	40-140	0.9	20	
Benzo(a)anthracene	1.88	0.40	mg/kg wet	2.000		94	40-140	0.6	20	
Benzo(a)pyrene	2.00	0.40	mg/kg wet	2.000		100	40-140	1	20	
Benzo(b)fluoranthene	1.83	0.40	mg/kg wet	2.000		91	40-140	4	20	
Benzo(g,h,i)perylene	1.97	0.40	mg/kg wet	2.000		98	40-140	0.4	20	
Benzo(k)fluoranthene	1.90	0.40	mg/kg wet	2.000		95	40-140	5	20	
C11-C22 Unadjusted Aromatics1	30.0	15.0	mg/kg wet	34.00		88	40-140	1	25	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503482

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
MADEP-EPH Extractable Petroleum Hydrocarbons										
Batch CC53008 - 3546										
Chrysene	1.91	0.40	mg/kg wet	2.000		96	40-140	0.2	20	
Dibenzo(a,h)Anthracene	1.91	0.20	mg/kg wet	2.000		96	40-140	4	20	
Fluoranthene	1.79	0.40	mg/kg wet	2.000		89	40-140	0.6	20	
Fluorene	1.48	0.40	mg/kg wet	2.000		74	40-140	2	20	
Indeno(1,2,3-cd)Pyrene	1.93	0.40	mg/kg wet	2.000		96	40-140	0.6	20	
Naphthalene	1.19	0.40	mg/kg wet	2.000		60	40-140	0.1	20	
Phenanthrene	1.69	0.40	mg/kg wet	2.000		85	40-140	1	20	
Pyrene	1.80	0.40	mg/kg wet	2.000		90	40-140	0.2	20	
Surrogate: 2-Bromonaphthalene	*1.52*		mg/kg wet	*2.000*		*76*	*40-140*			
Surrogate: 2-Fluorobiphenyl	*1.53*		mg/kg wet	*2.000*		*77*	*40-140*			
Surrogate: O-Terphenyl	*1.55*		mg/kg wet	*2.000*		*78*	*40-140*			
LCS Dup										
2-Methylnaphthalene Breakthrough	0.0		%				0-5		200	
Naphthalene Breakthrough	0.0		%				0-5		200	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase ESS Laboratory Work Order: 1503482

Notes and Definitions

U	Analyte included in the analysis, but not detected
SD	Surrogate recovery(ies) diluted below the MRL (SD).
SC	Surrogate recovery(ies) outside of criteria. Reextraction/Reanalysis confirms results (SC).
PT	Pentachlorophenol tailing factor > 2.
P	Percent difference between primary and confirmation results exceeds 40% (P).
LC	Lower value is used due to matrix interferences (LC).
IM	Internal Standard(s) outside of criteria due to matrix (UCM/coelution is present) (IM).
EL	Elevated Method Reporting Limits due to sample matrix (EL).
D+	Relative percent difference for duplicate is outside of criteria (D+).
D	Diluted.
C+	Continuing Calibration recovery is above upper control limit (C+).
C-	Continuing Calibration recovery is below lower control limit (C-).
B-	Blank Spike recovery is below lower control limit (B-).
ND	Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
I/V	Initial Volume
F/V	Final Volume
§	Subcontracted analysis; see attached report
1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of target analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.
Avg	Results reported as a mathematical average.
NR	No Recovery
[CALC]	Calculated Analyte
SUB	Subcontracted analysis; see attached report
[2C]	Result was taken from the second column. Dual column analysis.

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503482

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Department of Defense (DoD) Environmental Laboratory Accreditation Program (ELAP)
A2LA Accredited: Testing Cert# 2864.01
http://www.a2la.org/scopepdf/2864-01.pdf

Rhode Island Potable and Non Potable Water: LAI00179
http://www.health.ri.gov/find/labs/analytical/ESS.pdf

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750
http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutofStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI0002
http://www.maine.gov/dhhs/mecdc/environmental-health/water/dwp-services/labcert/documents/AllLabs.xls

Massachusetts Potable and Non Potable Water: M-RI002
http://public.dep.state.ma.us/Labcert/Labcert.aspx

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424
http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313
http://www.wadsworth.org/labcert/elap/comm.html

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006
http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752
http://www.depweb.state.pa.us/portal/server.pt/community/labs/13780/laboratory_accreditation_program/590095

CHEMISTRY

A2LA Accredited: Testing Cert # 2864.01
Lead in Paint, Phthalates, Lead in Children's Metals Products (Including Jewelry)
http://www.A2LA.org/dirsearchnew/newsearch.cfm

CPSC ID# 1141
Lead Paint, Lead in Children's Metals Jewelry
http://www.cpsc.gov/cgi-bin/labapplist.aspx

Sample and Cooler Receipt Checklist

Client: GZA GeoEnvironmental, Inc.
Client Project ID: _____
Shipped/Delivered Via: ESS Courier

ESS Project ID: 15030482
Date Project Due: 4/3/15
Days For Project: 5 Day

Items to be checked upon receipt:

1. Air Bill Manifest Present?	* No	10. Are the samples properly preserved?	Yes
Air No.:		11. Proper sample containers used?	Yes
2. Were Custody Seals Present?	No	12. Any air bubbles in the VOA vials?	N/A
3. Were Custody Seals Intact?	N/A	13. Holding times exceeded?	No
4. Is Radiation count < 100 CPM?	Yes	14. Sufficient sample volumes?	Yes
5. Is a cooler present?	Yes	15. Any Subcontracting needed?	No
Cooler Temp: **3.0**		16. Are ESS labels on correct containers?	**Yes|No**
Iced With: **Ice**		17. Were samples received intact?	**(Yes)|No**
6. Was COC included with samples?	Yes	ESS Sample IDs: _____	
7. Was COC signed and dated by client?	Yes	Sub Lab: _____	
8. Does the COC match the sample	Yes	Analysis: _____	
9. Is COC complete and correct?	Yes	TAT: _____	

18. Was there need to call project manager to discuss status? If yes, please explain.

_____

_____

_____

Who was called?:_____ By whom? _____

Sample Number	Properly Preserved	Container Type	# of Containers	Preservative
1	Yes	8 oz Soil Jar	2	NP
2	Yes	2 oz Soil Jar	1	NP
2	Yes	8 oz Soil Jar	2	NP
3	Yes	2 oz Soil Jar	1	NP
3	Yes	8 oz Soil Jar	2	NP
4	Yes	8 oz Soil Jar	2	NP
5	Yes	8 oz Soil Jar	2	NP
6	Yes	8 oz Soil Jar	2	NP
7	Yes	2 oz Soil Jar	1	NP
7	Yes	8 oz Soil Jar	2	NP
8	Yes	2 oz Soil Jar	1	NP
8	Yes	8 oz Soil Jar	2	NP
9	Yes	8 oz Soil Jar	2	NP
10	Yes	2 oz Soil Jar	1	NP
10	Yes	8 oz Soil Jar	2	NP
11	Yes	8 oz Soil Jar	2	NP
12	Yes	2 oz Soil Jar	1	NP
12	Yes	8 oz Soil Jar	2	NP
13	Yes	8 oz Soil Jar	2	NP
14	Yes	8 oz Soil Jar	2	NP
15	Yes	2 oz Soil Jar	1	NP
15	Yes	8 oz Soil Jar	2	NP
16	Yes	8 oz Soil Jar	2	NP
17	Yes	2 oz Soil Jar	1	NP
17	Yes	8 oz Soil Jar	2	NP

Sample and Cooler Receipt Checklist

Client: GZA GeoEnvironmental, Inc. ESS Project ID: 15030482

18	Yes	8 oz Soil Jar	2	NP
19	Yes	8 oz Soil Jar	2	NP
20	Yes	8 oz Soil Jar	2	NP
21	Yes	8 oz Soil Jar	1	NP
22	Yes	8 oz Soil Jar	1	NP
23	Yes	8 oz Soil Jar	1	NP
24	Yes	8 oz Soil Jar	1	NP
25	Yes	8 oz Soil Jar	1	NP
26	Yes	8 oz Soil Jar	1	NP
27	Yes	8 oz Soil Jar	1	NP
28	Yes	8 oz Soil Jar	1	NP
29	Yes	8 oz Soil Jar	1	NP
30	Yes	8 oz Soil Jar	1	NP
31	Yes	8 oz Soil Jar	1	NP
32	Yes	8 oz Soil Jar	1	NP
33	Yes	8 oz Soil Jar	1	NP
34	Yes	8 oz Soil Jar	1	NP
35	Yes	8 oz Soil Jar	1	NP
36	Yes	8 oz Soil Jar	1	NP
37	Yes	8 oz Soil Jar	1	NP
38	Yes	8 oz Soil Jar	1	NP
39	Yes	8 oz Soil Jar	1	NP
40	Yes	8 oz Soil Jar	1	NP
41	Yes	8 oz Soil Jar	1	NP
42	Yes	8 oz Soil Jar	1	NP
43	Yes	8 oz Soil Jar	1	NP
44	Yes	8 oz Soil Jar	1	NP
45	Yes	8 oz Soil Jar	1	NP
46	Yes	8 oz Soil Jar	1	NP
47	Yes	8 oz Soil Jar	1	NP
48	Yes	8 oz Soil Jar	1	NP
49	Yes	8 oz Soil Jar	1	NP
50	Yes	8 oz Soil Jar	1	NP
51	Yes	8 oz Soil Jar	1	NP
52	Yes	8 oz Soil Jar	1	NP

Completed By: _____ Date/Time: 3/27/15 1046

Reviewed By: _____ Date/Time: 3/27/15 1124

ESS Laboratory

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS LAB PROJECT ID: 1503482

Turn Time ___X___Standard Rush_____ Approved By: _____

Reporting Limits -

State where samples were collected: **MA** RI CT NH NJ NY ME Other_____

Is this project for any of the following: (please circle)
MA-MCP CT-RCP NJ-DKQP RGP DOD Other____

Electonic Deliverable Yes ✓ No____
Format: Excel ✓ Access___ PDF ✓ Other_____

GZA Project Manager: David E. Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Ave
Norwood, MA 02062
(781) 278-3700

Project No.: 01.0171521.13 Task 001
Project Name: Wynn - Everett
Contract Pricing ____
Special Pricing WO#: _____

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	Analysis: MCP-14 Metals	PAHs by SIM	TOC	SVOCs	PCBs (Aroclors)	EPH	Hexavalent Chromium	Reactivity (Sulfide and Cyanide)	VOCs	% water	Grain Size Analysis	Comment #
1 21 41	3-26-15	1005	G	S	LC-101 (0'-0.5')		X	X	X	X	X	X						
					LC-101 (0.5'-2')		HOLD			AND			FREEZE					
2 22					LC-101 (2'-4')		X	X										
3					LC-101 (4'-6')		HOLD			AND			FREEZE					
5 23		↓			LC-101 (6'-8')		X	X										
4 24 42		1030			LC-102 (0'-0.5')		X	X	X	X	X	X						
5 25 43					LC-102 (0.5'-2')		X	X	X	X	X	X						
					LC-102 (2'-4')		HOLD			AND			FREEZE					
					LC-102 (4'-6')		HOLD			AND			FREEZE					
	↓	↓	↓	↓	LC-102 (6'-8')		HOLD			AND			FREEZE					

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-_____

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present _____Yes _____No

Seals Intact _____Yes _____No NA: _____

Cooler Temperature: 3.0°C ICE Mum 3/27/15

Sampled by : Daniel Scanlon (Daniel.Scanlon@gza.com)

Comments: (1) TCLP 20X Rule Applies ONLY IF NOTED IN COMMENT COLUMN

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
	3/26/15 @ 1730	3/27/15 0700		3/27/15 0920	3/27/15 0924

ESS Laboratory

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CHAIN OF CUSTODY

ESS LAB PROJECT ID

Turn Time ___X___Standard Rush_____ Approved By: _____

Reporting Limits -

State where samples were collected: **MA** RI CT NH NJ NY ME Other_____

Is this project for any of the following: (please circle)
MA-MCP CT-RCP NJ-DKQP RGP DOD Other____

Electonic Deliverable Yes ✓ No___
Format: Excel X Access___ PDF X Other_____

GZA Project Manager: David E. Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Ave
Norwood, MA 02062
(781) 278-3700

Project No.: 01.0171521.13 Task 001
Project Name: Wynn - Everett
Contract Pricing ____
Special Pricing WO#: _____

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	Analysis: MCP-14 Metals	PAHs by SIM	TOC	SVOCs	PCBs (Aroclors)	EPH	Hexavalent Chromium	Reactivity (Sulfide and Cyanide)	VOCs	% water	Grain Size Analysis	Comment #
~~43 33 44~~	3/26/15	10:50	G	S	LC-103 (0'-0.5')		X	X	X	X	X	X						
6 26 44					LC-103 (0.5'-2')		HOLD AND FREEZE											
7 27					LC-103 (2'-4')		X	X										
8 28		↓			LC-103 (4'-6')		X	X										
9 29 45		1115			LC-104 (0'-0.5')		X	X	X	X	X	X						
10 30					LC-104 (0.5'-2')		X	X										
					LC-104 (2'-4')		HOLD AND FREEZE											
11 31 46		~~1145~~			LC-105 (0'-0.5')		X	X	X	X	X	X						
					LC-105 (0.5'-2')		HOLD AND FREEZE											
12 32	↓	↓	↓	↓	LC-105 (2'-4')		X	X										

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-_____

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present ✓Yes _____No
Seals Intact _____Yes _____No NA: ✓
Cooler Temperature: 3.6°C 3/27/15

Sampled by : Daniel Scanlon (Daniel.Scanlon@gza.com)

Comments: (1) TCLP 20X Rule Applies ONLY if noted in comments column

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
	3/26/15 @ 1730	3/27/15 0700		3/27/15 0920	3/27/15 0924

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CHAIN OF CUSTODY

ESS LAB PROJECT ID

Turn Time ___X___ Standard Rush_____ Approved By: _____

Reporting Limits -

State where samples were collected: **MA** RI CT NH NJ NY ME Other_____

Is this project for any of the following: (please circle)
MA-MCP CT-RCP NJ-DKQP RGP DOD Other____

Electonic Deliverable Yes ✓ No___
Format: Excel ✓ Access___ PDF ✓ Other_____

GZA Project Manager: David E. Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Ave
Norwood, MA 02062
(781) 278-3700

Project No.: 01.0171521.13 Task 001

Project Name: Wynn - Everett

Contract Pricing _____
Special Pricing WO#: _____

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	MCP-14 Metals	PAHs by SIM	TOC	SVOCs	PCBs (Aroclors)	EPH	Hexavalent Chromium	Reactivity (Sulfide and Cyanide)	VOCs	% water	Grain Size Analysis	Comment #
13 33 47	3/26/15	1145	G	S	LC-105 (4'-6')		X	X	X	X	X	X						
14 34 48					LC-109 (0'-0.5')		X	X	X	X	X	X						
					LC-109 (0.5'-2')		HOLD AND FREEZE											
					LC-109 (2'-4')		HOLD AND FREEZE											
15 35		↓			LC-109 (4'-6')		X	X										
16 36 49		1400			LC-108 (0'-0.5')		X	X	X	X	X	X						
17 37					LC-108 (0.5'-2')		X	X										
					LC-108 (2'-4')		HOLD AND FREEZE											
18 38 50		↓			LC-108 (4'-6')		X	X	X	X	X	X						
19 39 51	↓	1515	↓	↓	LC-107 (0'-0.5')		X	X	X	X	X	X						

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-_____

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present ✓ Yes _____ No

Seals Intact _____ Yes _____ No NA: ✓

Cooler Temperature: 3.0°C IR Gun 3/27/15

Sampled by : Daniel Scanlon (Daniel.Scanlon@gza.com)

Comments: (1) TCLP 20X Rule Applies ONLY if noted in coments column.

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
	3/26/15 C 1730	3/26/15 0700		3/27/15 0920	3/27/15 0924

ESS Laboratory

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CHAIN OF CUSTODY

ESS LAB PROJECT ID

Turn Time ___X___Standard Rush_____ Approved By: _____

Reporting Limits -

State where samples were collected: **MA** RI CT NH NJ NY ME Other_____

Is this project for any of the following: (please circle)
MA-MCP CT-RCP NJ-DKQP RGP DOD Other____

Electonic Deliverable Yes____ No____
Format: Excel___ Access___ PDF___ Other_____

GZA Project Manager: David E. Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Ave
Norwood, MA 02062
(781) 278-3700

Project No.: 01.0171521.13 Task 001

Project Name: Wynn - Everett

Contract Pricing _____
Special Pricing WO#: _____

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	Analysis: MCP-14 Metals	PAHs by SIM	TOC	SVOCs	PCBs (Aroclors)	EPH	Hexavalent Chromium	Reactivity (Sulfide and Cyanide)	VOCs	% water	Grain Size Analysis	Comment #
	3/26/15	1515	G	S	LC-107 (0.5'-2')		HOLD AND FREEZE											
20 40 52	3/26/15	1515	G	S	LC-107 (2'-4')		X	X	X	X	X	X						

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-_____

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present ✓ Yes ____No

Seals Intact ____ Yes ____No NA✓

Cooler Temperature: 3.0°C Ice Pack 3/27/15

Sampled by : Daniel Scanlon (Daniel.Scanlon@gza.com)

Comments: (1) TCLP 20X Rule Applies ONLY if noted in ~~column~~ Section Comments column

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
[signature]	3/26/15 @ 1730	[signature] 3/27/15	[signature] 3/27/15	0420	[signature] 3/27/15 0924

CERTIFICATE OF ANALYSIS

David E Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Avenue
Norwood, MA 02062

RE: Wynn Everett Sediment Phase (01.0171521.13 Task 001)
ESS Laboratory Work Order Number: 1503510

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director

REVIEWED
By ESS Laboratory at 1:06 pm, Apr 08, 2015

Analytical Summary
The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with NELAC Standards, A2LA and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.

Subcontracted Analyses

TestAmerica Laboratories, Inc. - Burlington, VT	Total Organic Carbon

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503510

SAMPLE RECEIPT

The following samples were received on March 27, 2015 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has performed and reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Data Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

For EPH soil samples, the aromatic range results have been corrected for identified cartridge contaminant in accordance with the CAM protocol.

Lab Number	Sample Name	Matrix	Analysis
1503510-01	GZ-225 0ft-0.5ft	Soil	TOC-LK
1503510-02	GZ-225 0ft-3ft	Soil	TOC-LK
1503510-03	GZ-201 0ft-0.5ft	Soil	TOC-LK
1503510-04	GZ-201 0ft-3ft	Soil	TOC-LK
1503510-05	LC-106 0ft-0.5ft	Soil	TOC-LK
1503510-06	LC-106 0.5ft-2ft	Soil	TOC-LK
1503510-07	LC-110 0ft-0.5ft	Soil	TOC-LK
1503510-08	LC-111 0ft-0.5ft	Soil	TOC-LK
1503510-09	LC-112 0ft-0.5ft	Soil	TOC-LK
1503510-10	LC-112 4ft-6ft	Soil	TOC-LK

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503510

PROJECT NARRATIVE

No unusual observations noted.

End of Project Narrative.

DATA USABILITY LINKS

Definitions of Quality Control Parameters

Semivolatile Organics Internal Standard Information

Semivolatile Organics Surrogate Information

Volatile Organics Internal Standard Information

Volatile Organics Surrogate Information

EPH and VPH Alkane Lists

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503510

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

1010A - Flashpoint
6010C - ICP
6020A - ICP MS
7010 - Graphite Furnace
7196A - Hexavalent Chromium
7470A - Aqueous Mercury
7471B - Solid Mercury
8011 - EDB/DBCP/TCP
8015D - GRO/DRO
8081B - Pesticides
8082A - PCB
8100M - TPH
8151A - Herbicides
8260B - VOA
8270D - SVOA
8270D SIM - SVOA Low Level
9014 - Cyanide
9038 - Sulfate
9040C - Aqueous pH
9045D - Solid pH (Corrosivity)
9050A - Specific Conductance
9056A - Anions (IC)
9060A - TOC
9095B - Paint Filter
MADEP 04-1.1 - EPH / VPH

Prep Methods

3005A - Aqueous ICP and Graphite Furnace Digestion
3020A - Aqueous ICP MS Digestion
3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
3060A - Solid Hexavalent Chromium Digestion
3510C - Separatory Funnel Extraction
3520C - Liquid / Liquid Extraction
3540C - Manual Soxhlet Extraction
3541 - Automated Soxhlet Extraction
3546 - Microwave Extraction
3580A - Waste Dilution
5030B - Aqueous Purge and Trap
5030C - Aqueous Purge and Trap
5035 - Solid Purge and Trap

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-225 0ft-0.5ft
Date Sampled: 03/27/15 08:49
Percent Solids: N/A

ESS Laboratory Work Order: 1503510
ESS Laboratory Sample ID: 1503510-01
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**48400** (1000)		TOC-LK		1	SUB	03/31/15 23:04	mg/kg	CD50801

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-225 0ft-3ft
Date Sampled: 03/27/15 08:49
Percent Solids: N/A

ESS Laboratory Work Order: 1503510
ESS Laboratory Sample ID: 1503510-02
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**17000** (1000)		TOC-LK		1	SUB	03/31/15 23:11	mg/kg	CD50801

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-201 0ft-0.5ft
Date Sampled: 03/27/15 09:24
Percent Solids: N/A

ESS Laboratory Work Order: 1503510
ESS Laboratory Sample ID: 1503510-03
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**67200** (1000)		TOC-LK		1	SUB	03/31/15 23:17	mg/kg	CD50801

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-201 0ft-3ft
Date Sampled: 03/27/15 09:24
Percent Solids: N/A

ESS Laboratory Work Order: 1503510
ESS Laboratory Sample ID: 1503510-04
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**45500** (1000)		TOC-LK		1	SUB	03/31/15 23:24	mg/kg	CD50801

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-106 0ft-0.5ft
Date Sampled: 03/27/15 09:24
Percent Solids: N/A

ESS Laboratory Work Order: 1503510
ESS Laboratory Sample ID: 1503510-05
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**75300** (1000)		TOC-LK		1	SUB	03/31/15 23:30	mg/kg	CD50801

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-106 0.5ft-2ft
Date Sampled: 03/27/15 09:24
Percent Solids: N/A

ESS Laboratory Work Order: 1503510
ESS Laboratory Sample ID: 1503510-06
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**62700** (1000)		TOC-LK		1	SUB	03/31/15 23:37	mg/kg	CD50801

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-110 0ft-0.5ft
Date Sampled: 03/27/15 10:27
Percent Solids: N/A

ESS Laboratory Work Order: 1503510
ESS Laboratory Sample ID: 1503510-07
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**81900** (1000)		TOC-LK		1	SUB	03/31/15 23:43	mg/kg	CD50801

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-111 0ft-0.5ft
Date Sampled: 03/27/15 10:46
Percent Solids: N/A

ESS Laboratory Work Order: 1503510
ESS Laboratory Sample ID: 1503510-08
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**61000** (1000)		TOC-LK		1	SUB	03/31/15 23:50	mg/kg	CD50801

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-112 0ft-0.5ft
Date Sampled: 03/27/15 11:16
Percent Solids: N/A

ESS Laboratory Work Order: 1503510
ESS Laboratory Sample ID: 1503510-09
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**59900** (1000)		TOC-LK		1	SUB	04/01/15 0:09	mg/kg	CD50801

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-112 4ft-6ft
Date Sampled: 03/27/15 11:16
Percent Solids: N/A

ESS Laboratory Work Order: 1503510
ESS Laboratory Sample ID: 1503510-10
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**3880** (1000)		TOC-LK		1	SUB	04/01/15 0:15	mg/kg	CD50801

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase ESS Laboratory Work Order: 1503510

Notes and Definitions

ND	Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
I/V	Initial Volume
F/V	Final Volume
§	Subcontracted analysis; see attached report
1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of target analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.
Avg	Results reported as a mathematical average.
NR	No Recovery
[CALC]	Calculated Analyte
SUB	Subcontracted analysis; see attached report
[2C]	Result was taken from the second column. Dual column analysis.

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503510

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Department of Defense (DoD) Environmental Laboratory Accreditation Program (ELAP)
A2LA Accredited: Testing Cert# 2864.01
http://www.a2la.org/scopepdf/2864-01.pdf

Rhode Island Potable and Non Potable Water: LAI00179
http://www.health.ri.gov/find/labs/analytical/ESS.pdf

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750
http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutofStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI0002
http://www.maine.gov/dhhs/mecdc/environmental-health/water/dwp-services/labcert/documents/AllLabs.xls

Massachusetts Potable and Non Potable Water: M-RI002
http://public.dep.state.ma.us/Labcert/Labcert.aspx

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424
http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313
http://www.wadsworth.org/labcert/elap/comm.html

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006
http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752
http://www.depweb.state.pa.us/portal/server.pt/community/labs/13780/laboratory_accreditation_program/590095

CHEMISTRY

A2LA Accredited: Testing Cert # 2864.01
Lead in Paint, Phthalates, Lead in Children's Metals Products (Including Jewelry)
http://www.A2LA.org/dirsearchnew/newsearch.cfm

CPSC ID# 1141
Lead Paint, Lead in Children's Metals Jewelry
http://www.cpsc.gov/cgi-bin/labapplist.aspx

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING



ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Burlington
30 Community Drive
Suite 11
South Burlington, VT 05403
Tel: (802)660-1990

TestAmerica Job ID: 200-27316-1
TestAmerica Sample Delivery Group: 1503510
Client Project/Site: 1503510

For:
ESS Laboratory
185 Frances Ave.
Cranston, Rhode Island 02910

Attn: Ms. Elizabeth Ouk

Authorized for release by:
4/7/2015 4:51:19 PM

Kathryn Kelly, Project Manager I
(802)660-1990
kathryn.kelly@testamericainc.com

LINKS
Review your project results through TotalAccess
Have a Question? Ask The Expert
Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Qualifiers

General Chemistry

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Job ID: 200-27316-1

Laboratory: TestAmerica Burlington

Narrative

CASE NARRATIVE

Client: ESS Laboratory

Project: 1503510

Report Number: 200-27316-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The samples were received on 03/31/2015; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 1.4° C.

TOTAL ORGANIC CARBON

Samples 1503510-01, 1503510-02, 1503510-03, 1503510-04, 1503510-05, 1503510-06, 1503510-07, 1503510-08, 1503510-09 and 1503510-10 were analyzed for total organic carbon in accordance with Lloyd Kahn Method. The samples were analyzed on 03/31/2015 and 04/01/2015.

Total Organic Carbon was detected in method blank MB 200-86321/13 at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. Refer to the QC report for details.

The concentration of total organic carbon (TOC) associated with the following sample(s) exceeded the instrument calibration range: 1503510-07. Due to the low sample mass used for this procedure, further dilution of the sample is not practical and would adversely impact the confidence level for the results. The analyte has been qualified and the peak did not saturate the instrument detector.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: ESS Laboratory
Project/Site: 1503510

TestAmerica Job ID: 200-27316-1
SDG: 1503510

Client Sample ID: 1503510-01 — Lab Sample ID: 200-27316-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	48400	B	1000	120	mg/Kg	1		Lloyd Kahn	Total/NA

Client Sample ID: 1503510-02 — Lab Sample ID: 200-27316-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	17000	B	1000	120	mg/Kg	1		Lloyd Kahn	Total/NA

Client Sample ID: 1503510-03 — Lab Sample ID: 200-27316-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	67200	B	1000	120	mg/Kg	1		Lloyd Kahn	Total/NA

Client Sample ID: 1503510-04 — Lab Sample ID: 200-27316-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	45500	B	1000	120	mg/Kg	1		Lloyd Kahn	Total/NA

Client Sample ID: 1503510-05 — Lab Sample ID: 200-27316-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	75300	B	1000	120	mg/Kg	1		Lloyd Kahn	Total/NA

Client Sample ID: 1503510-06 — Lab Sample ID: 200-27316-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	62700	B	1000	120	mg/Kg	1		Lloyd Kahn	Total/NA

Client Sample ID: 1503510-07 — Lab Sample ID: 200-27316-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	81900		1000	120	mg/Kg	1		Lloyd Kahn	Total/NA

Client Sample ID: 1503510-08 — Lab Sample ID: 200-27316-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	61000	B	1000	120	mg/Kg	1		Lloyd Kahn	Total/NA

Client Sample ID: 1503510-09 — Lab Sample ID: 200-27316-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	59900	B	1000	120	mg/Kg	1		Lloyd Kahn	Total/NA

Client Sample ID: 1503510-10 — Lab Sample ID: 200-27316-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	3880	B	1000	120	mg/Kg	1		Lloyd Kahn	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: 1503510-01 — **Lab Sample ID: 200-27316-1**
Date Collected: 03/27/15 08:49 — **Matrix: Sediment**
Date Received: 03/31/15 10:20

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	48400	B	1000	120	mg/Kg			03/31/15 23:04	1

Client Sample ID: 1503510-02 — **Lab Sample ID: 200-27316-2**
Date Collected: 03/27/15 08:49 — **Matrix: Sediment**
Date Received: 03/31/15 10:20

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	17000	B	1000	120	mg/Kg			03/31/15 23:11	1

Client Sample ID: 1503510-03 — **Lab Sample ID: 200-27316-3**
Date Collected: 03/27/15 09:24 — **Matrix: Sediment**
Date Received: 03/31/15 10:20

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	67200	B	1000	120	mg/Kg			03/31/15 23:17	1

Client Sample ID: 1503510-04 — **Lab Sample ID: 200-27316-4**
Date Collected: 03/27/15 09:24 — **Matrix: Sediment**
Date Received: 03/31/15 10:20

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	45500	B	1000	120	mg/Kg			03/31/15 23:24	1

Client Sample ID: 1503510-05 — **Lab Sample ID: 200-27316-5**
Date Collected: 03/27/15 09:24 — **Matrix: Sediment**
Date Received: 03/31/15 10:20

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	75300	B	1000	120	mg/Kg			03/31/15 23:30	1

Client Sample ID: 1503510-06 — **Lab Sample ID: 200-27316-6**
Date Collected: 03/27/15 09:24 — **Matrix: Sediment**
Date Received: 03/31/15 10:20

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	62700	B	1000	120	mg/Kg			03/31/15 23:37	1

Client Sample ID: 1503510-07 — **Lab Sample ID: 200-27316-7**
Date Collected: 03/27/15 10:27 — **Matrix: Sediment**
Date Received: 03/31/15 10:20

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	81900		1000	120	mg/Kg			03/31/15 23:43	1

Client: ESS Laboratory
Project/Site: 1503510

TestAmerica Job ID: 200-27316-1
SDG: 1503510

Client Sample ID: 1503510-08 — **Lab Sample ID: 200-27316-8**
Date Collected: 03/27/15 10:46 — **Matrix: Sediment**
Date Received: 03/31/15 10:20

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	61000	B	1000	120	mg/Kg			03/31/15 23:50	1

Client Sample ID: 1503510-09 — **Lab Sample ID: 200-27316-9**
Date Collected: 03/27/15 11:16 — **Matrix: Sediment**
Date Received: 03/31/15 10:20

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	59900	B	1000	120	mg/Kg			04/01/15 00:09	1

Client Sample ID: 1503510-10 — **Lab Sample ID: 200-27316-10**
Date Collected: 03/27/15 11:16 — **Matrix: Sediment**
Date Received: 03/31/15 10:20

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	3880	B	1000	120	mg/Kg			04/01/15 00:15	1

QC Sample Results

Client: ESS Laboratory
Project/Site: 1503510

TestAmerica Job ID: 200-27316-1
SDG: 1503510

Method: Lloyd Kahn - Organic Carbon, Total (TOC)

Lab Sample ID: MB 200-86321/13
Matrix: Sediment
Analysis Batch: 86321

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	125.0	J	1000	120	mg/Kg			03/31/15 21:54	1

Lab Sample ID: LCS 200-86321/14
Matrix: Sediment
Analysis Batch: 86321

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Organic Carbon			20100	19920		mg/Kg		99	75 - 125		

QC Association Summary

Client: ESS Laboratory
Project/Site: 1503510

TestAmerica Job ID: 200-27316-1
SDG: 1503510

General Chemistry

Analysis Batch: 86321

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
200-27316-1	1503510-01	Total/NA	Sediment	Lloyd Kahn	
200-27316-2	1503510-02	Total/NA	Sediment	Lloyd Kahn	
200-27316-3	1503510-03	Total/NA	Sediment	Lloyd Kahn	
200-27316-4	1503510-04	Total/NA	Sediment	Lloyd Kahn	
200-27316-5	1503510-05	Total/NA	Sediment	Lloyd Kahn	
200-27316-6	1503510-06	Total/NA	Sediment	Lloyd Kahn	
200-27316-7	1503510-07	Total/NA	Sediment	Lloyd Kahn	
200-27316-8	1503510-08	Total/NA	Sediment	Lloyd Kahn	
200-27316-9	1503510-09	Total/NA	Sediment	Lloyd Kahn	
200-27316-10	1503510-10	Total/NA	Sediment	Lloyd Kahn	
LCS 200-86321/14	Lab Control Sample	Total/NA	Sediment	Lloyd Kahn	
MB 200-86321/13	Method Blank	Total/NA	Sediment	Lloyd Kahn	

Lab Chronicle

Client: ESS Laboratory
Project/Site: 1503510

TestAmerica Job ID: 200-27316-1
SDG: 1503510

Client Sample ID: 1503510-01 — Lab Sample ID: 200-27316-1

Date Collected: 03/27/15 08:49 — **Matrix: Sediment**
Date Received: 03/31/15 10:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Lloyd Kahn		1	86321	03/31/15 23:04	MDK	TAL BUR

Client Sample ID: 1503510-02 — Lab Sample ID: 200-27316-2

Date Collected: 03/27/15 08:49 — **Matrix: Sediment**
Date Received: 03/31/15 10:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Lloyd Kahn		1	86321	03/31/15 23:11	MDK	TAL BUR

Client Sample ID: 1503510-03 — Lab Sample ID: 200-27316-3

Date Collected: 03/27/15 09:24 — **Matrix: Sediment**
Date Received: 03/31/15 10:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Lloyd Kahn		1	86321	03/31/15 23:17	MDK	TAL BUR

Client Sample ID: 1503510-04 — Lab Sample ID: 200-27316-4

Date Collected: 03/27/15 09:24 — **Matrix: Sediment**
Date Received: 03/31/15 10:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Lloyd Kahn		1	86321	03/31/15 23:24	MDK	TAL BUR

Client Sample ID: 1503510-05 — Lab Sample ID: 200-27316-5

Date Collected: 03/27/15 09:24 — **Matrix: Sediment**
Date Received: 03/31/15 10:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Lloyd Kahn		1	86321	03/31/15 23:30	MDK	TAL BUR

Client Sample ID: 1503510-06 — Lab Sample ID: 200-27316-6

Date Collected: 03/27/15 09:24 — **Matrix: Sediment**
Date Received: 03/31/15 10:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Lloyd Kahn		1	86321	03/31/15 23:37	MDK	TAL BUR

Lab Chronicle

Client: ESS Laboratory
Project/Site: 1503510

TestAmerica Job ID: 200-27316-1
SDG: 1503510

Client Sample ID: 1503510-07
Date Collected: 03/27/15 10:27
Date Received: 03/31/15 10:20

Lab Sample ID: 200-27316-7
Matrix: Sediment

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Lloyd Kahn		1	86321	03/31/15 23:43	MDK	TAL BUR

Client Sample ID: 1503510-08
Date Collected: 03/27/15 10:46
Date Received: 03/31/15 10:20

Lab Sample ID: 200-27316-8
Matrix: Sediment

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Lloyd Kahn		1	86321	03/31/15 23:50	MDK	TAL BUR

Client Sample ID: 1503510-09
Date Collected: 03/27/15 11:16
Date Received: 03/31/15 10:20

Lab Sample ID: 200-27316-9
Matrix: Sediment

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Lloyd Kahn		1	86321	04/01/15 00:09	MDK	TAL BUR

Client Sample ID: 1503510-10
Date Collected: 03/27/15 11:16
Date Received: 03/31/15 10:20

Lab Sample ID: 200-27316-10
Matrix: Sediment

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Lloyd Kahn		1	86321	04/01/15 00:15	MDK	TAL BUR

Laboratory References:

TAL BUR = TestAmerica Burlington, 30 Community Drive, Suite 11, South Burlington, VT 05403, TEL (802)660-1990

Certification Summary

Client: ESS Laboratory
Project/Site: 1503510

TestAmerica Job ID: 200-27316-1
SDG: 1503510

Laboratory: TestAmerica Burlington

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Connecticut	State Program	1	PH-0751	09-30-15
DE Haz. Subst. Cleanup Act (HSCA)	State Program	3	NA	02-13-16
Florida	NELAP	4	E87467	06-30-15
L-A-B	DoD ELAP		L2336	02-26-17
Maine	State Program	1	VT00008	04-17-15 *
Minnesota	NELAP	5	050-999-436	12-31-15
New Hampshire	NELAP	1	2006	12-18-15
New Jersey	NELAP	2	VT972	06-30-15
New York	NELAP	2	10391	03-31-16
Pennsylvania	NELAP	3	68-00489	04-30-15 *
Rhode Island	State Program	1	LAO00298	12-30-15
US Fish & Wildlife	Federal		LE-058448-0	02-28-16
USDA	Federal		P330-11-00093	10-28-16
Vermont	State Program	1	VT-4000	12-31-15
Virginia	NELAP	3	460209	12-14-15

* Certification renewal pending - certification considered valid.

Method Summary

Client: ESS Laboratory
Project/Site: 1503510

TestAmerica Job ID: 200-27316-1
SDG: 1503510

Method	Method Description	Protocol	Laboratory
Lloyd Kahn	Organic Carbon, Total (TOC)	EPA	TAL BUR

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

TAL BUR = TestAmerica Burlington, 30 Community Drive, Suite 11, South Burlington, VT 05403, TEL (802)660-1990

Sample Summary

Client: ESS Laboratory
Project/Site: 1503510

TestAmerica Job ID: 200-27316-1
SDG: 1503510

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
200-27316-1	1503510-01	Sediment	03/27/15 08:49	03/31/15 10:20
200-27316-2	1503510-02	Sediment	03/27/15 08:49	03/31/15 10:20
200-27316-3	1503510-03	Sediment	03/27/15 09:24	03/31/15 10:20
200-27316-4	1503510-04	Sediment	03/27/15 09:24	03/31/15 10:20
200-27316-5	1503510-05	Sediment	03/27/15 09:24	03/31/15 10:20
200-27316-6	1503510-06	Sediment	03/27/15 09:24	03/31/15 10:20
200-27316-7	1503510-07	Sediment	03/27/15 10:27	03/31/15 10:20
200-27316-8	1503510-08	Sediment	03/27/15 10:46	03/31/15 10:20
200-27316-9	1503510-09	Sediment	03/27/15 11:16	03/31/15 10:20
200-27316-10	1503510-10	Sediment	03/27/15 11:16	03/31/15 10:20

ESS Laboratory — T. America — CHAIN OF CUSTODY

ESS Lab # 1503510

Division of Thielsch Engineering, Inc.

185 Frances Avenue,Cranston RI 02910-2211
Tel. (401)461-7181 Fax (401)461-4486
www.esslaboratory.com

Turn Time _____Standard Other **5 DAY**

Regulatory State: **MA** RI CT NH NJ NY ME Other_____

Is this project for any of the following:(please circle)
MA-MCP Navy USACE CT DEP Other_____

Reporting Limits - _____

Electonic Deliverables **Excel** Access **PDF** *

Co. Name: **ESS Laboratory**	Project #:	Project Name: **1503510**	
Contact Person: **Christine Taylor**	Proj. Location:		
Address:	City , State:	Zip:	PO #: B02192
Tel: ext. 3039	email: ctaylor@thielsch.com	email: smorrell@thielsch.com	

Analysis: TOC Lloyd Kahn

ESS Lab ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample ID	Pres Code	# of Containers	Type of Container	Vol of Container	TOC Lloyd Kahn
	3/27/15	0849	G	SED	1503510-01	1	1	G	2oz	X
	3/27/15	0849	G	SED	1503510-02	1	1	G	2oz	X
	3/27/15	0924	G	SED	1503510-03	1	1	G	2oz	X
	3/27/15	0924	G	SED	1503510-04	1	1	G	2oz	X
	3/27/15	0924	G	SED	1503510-05	1	1	G	2oz	X
	3/27/15	0924	G	SED	1503510-06	1	1	G	2oz	X
	3/27/15	1027	G	SED	1503510-07	1	1	G	2oz	X
	3/27/15	1046	G	SED	1503510-08	1	1	G	2oz	
	3/27/15	1116	G	SED	1503510-09	1	1	G	2oz	
	3/27/15	1116	G	SED	1503510-10	1	1	G	2oz	

200-27316 Chain of Custody

Container Type P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present _____Yes _____No

Seals Intact ____ Yes _____No NA:____

Cooler Temperature: _____

Internal Use Only

[ ] Pickup

[ ] Technician____

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-_____

Sampled by :

Comments:

Relinquished by: (Signature, Date & Time)	Received by: (Signature, Date & Time)	Relinquished by (Signature, Date & Time)	Received by: (Signature, Date & Time)
3/30/15 1528		3/30/15 1200	
Relinquished by: (Signature, Date & Time)	Received by (Signature, Date & Time)	Relinquished by (Signature, Date & Time)	Received by: (Signature, Date & Time)
	TABIV 3/31/15 1030		

* By circling MA-MCP, client acknowledges samples were collected in accordance with MADEP CAM VIIA

Please fax to the laboratory all changes to Chain of Custody

Report Method Blank & Laboratory Control Sample Results


ORIGIN ID:BXCA (781) 466-6900
PAUL HOBART
TESTAMERICA
240 BEAR HILL ROAD
SUITE 104
WALTHAM, MA 02451
UNITED STATES US
SHIP DATE: 30MAR15
ACTWGT: 17.9 LB
CAD: 590687/CAFE2807
BILL RECIPIENT
TO SAMPLE RECEIVING
TESTAMERICA BURLINGTON
30 COMMUNITY DRIVE
SUITE 11
SOUTH BURLINGTON VT 05403
(802) 660-1990
INV:
PO:
REF:
DEPT:
Express
TUE - 31 MAR AA
STANDARD OVERNIGHT
TRK# 0201 4258 8388 7820
EK BTVA
05403
VT-US BTV

Login Sample Receipt Checklist

Client: ESS Laboratory

Job Number: 200-27316-1
SDG Number: 1503510

Login Number: 27316
List Number: 1
Creator: Young, Joseph W

List Source: TestAmerica Burlington

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.4ºC
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	N/A	
Residual Chlorine Checked.	N/A	

Sample and Cooler Receipt Checklist

Client: GZA GeoEnvironmental, Inc.
Client Project ID: _____
Shipped/Delivered Via: ESS Courier

ESS Project ID: 15030510
Date Project Due: 4/3/15
Days For Project: 5 Day

Items to be checked upon receipt:

1. Air Bill Manifest Present?	* No	10. Are the samples properly preserved?	Yes
Air No.:		11. Proper sample containers used?	Yes
2. Were Custody Seals Present?	No	12. Any air bubbles in the VOA vials?	N/A
3. Were Custody Seals Intact?	N/A	13. Holding times exceeded?	No
4. Is Radiation count < 100 CPM?	Yes	14. Sufficient sample volumes?	Yes
5. Is a cooler present?	Yes	15. Any Subcontracting needed?	* Yes
Cooler Temp: **3.5**		16. Are ESS labels on correct containers?	**Yes|No**
Iced With: **Ice**		17. Were samples received intact?	**Yes|No**
6. Was COC included with samples?	Yes	ESS Sample IDs:	01-10
7. Was COC signed and dated by client?	Yes	Sub Lab:	Test America
8. Does the COC match the sample	Yes	Analysis:	TOC - LK
9. Is COC complete and correct?	Yes	TAT:	5 DAY

18. Was there need to call project manager to discuss status? If yes, please explain.

_____

_____

_____

Who was called?:_____ By whom? _____

Sample Number	Properly Preserved	Container Type	# of Containers	Preservative
1	Yes	2 oz Soil Jar	1	NP
2	Yes	2 oz Soil Jar	1	NP
3	Yes	2 oz Soil Jar	1	NP
4	Yes	2 oz Soil Jar	1	NP
5	Yes	2 oz Soil Jar	1	NP
6	Yes	2 oz Soil Jar	1	NP
7	Yes	2 oz Soil Jar	1	NP
8	Yes	2 oz Soil Jar	1	NP
9	Yes	2 oz Soil Jar	1	NP
10	Yes	2 oz Soil Jar	1	NP

Completed By: _____ Date/Time: 3/27/15 1925

Reviewed By: Monica Rose Date/Time: 3/27/15 1930

ESS Laboratory

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS LAB PROJECT ID: 1503510

Turn Time ___X___ Standard Rush_____ Approved By: _____

Reporting Limits -

State where samples were collected: **MA** RI CT NH NJ NY ME Other_____

Is this project for any of the following: (please circle)
MA-MCP CT-RCP NJ-DKQP RGP DOD Other____

Electonic Deliverable Yes✓ No____
Format: Excel__ Access___ PDF✓ Other_____

GZA Project Manager: David E. Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Ave
Norwood, MA 02062
(781) 278-3700

Project No.: 01.0171521.13 Task 001
Project Name: Wynn - Everett
Contract Pricing _____
Special Pricing WO#: _____

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	MCP-14 Metals	PAHs by SIM	TOC	SVOCs	PCBs (Aroclors)	EPH	Hexavalent Chromium	Reactivity (Sulfide and Cyanide)	VOCs	% water	Grain Size Analysis	Comment #
1	3/27/15	0849	G	S	GZ-225 (0'-0.5')		X	X	X	X	X	X						
					GZ-225 (0.5'-2')		HOLD AND FREEZE											
					GZ-225 (2'-4')		HOLD AND FREEZE											
					GZ-225 (4'-6')		X	X										
					GZ-225 (6'-7'2")		X	X										
2		↓			GZ-225 (0'-3')		X		X	X	X	X	X	X	X	X	X	(1)
3		09:24			GZ-201 (0'-0.5')		X	X	X	X	X	X						
					GZ-201 (0.5'-2')		HOLD AND FREEZE											
					GZ-201 (2'-4')		HOLD AND FREEZE											
	↓	↓	↓	↓	GZ-201 (4'-5')		X	X										

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-_____

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present ___Yes ___No
Seals Intact ___Yes ___No NA: ✓
Cooler Temperature: 3.5 & 2.8 ice

Sampled by : Daniel Scanlon (Daniel.Scanlon@gza.com)

Comments: (1) TCLP 20X Rule Applies ONLY if noted in the comment column
TOC only are reported with this WO - cmt 4/1/15

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
	3/27/15 @1430	3/27/15 1447	3/27/15	1643	3/27/15 1816

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ESS Laboratory
Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS LAB PROJECT ID: 1503510

Turn Time ___X___ Standard Rush_____ Approved By: _____

Reporting Limits -

State where samples were collected: **MA** RI CT NH NJ NY ME Other_____

Is this project for any of the following: (please circle)
MA-MCP CT-RCP NJ-DKQP RGP DOD Other____

Electonic Deliverable Yes ✓ No____
Format: Excel ✓ Access___ PDF ✓ Other_____

GZA Project Manager: David E. Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Ave
Norwood, MA 02062
(781) 278-3700

Project No.: 01.0171521.13 Task 001
Project Name: Wynn - Everett
Contract Pricing ____
Special Pricing WO#: _____

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	Analysis: MCP 14 Metals	PAHs by SIM	TOC	SVOCs	PCBs (Aroclors)	EPH	Hexavalent Chromium	Reactivity (Sulfide and Cyanide)	VOCs	% water	Grain Size Analysis	Comment #
4	3-27-15	09:24	G	S	GZ-201 (0'-3')		X		X	X	X	X	X	X	X	X	X	(1)
5					LC-106 (0'-0.5')		X	X	X	X	X	X						
6					LC-106 (0.5'-2')		X	X	X	X	X	X						
					LC-~~102~~ 106 (2'-4')		HOLD AND FREEZE											
					LC-106 (4'-6')		X	X										
		↓			LC-106 (6'-7')		HOLD AND FREEZE											
7		1027			LC-110 (0'-0.5')		X	X	X	X	X	X						
					LC-110 (0.5'-2')		HOLD AND FREEZE											
					LC-110 (2'-4')		X	X										
	↓	↓	↓	↓	LC-110 (4'-6')		HOLD AND FREEZE											

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-_____
Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA
Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present _____Yes _____No
Seals Intact _____Yes _____No NA: ✓
Cooler Temperature: 3.5 + 2.8 in van

Sampled by : Daniel Scanlon (Daniel.Scanlon@gza.com)
Comments: (1) TCLP 20X Rule Applies ONLY if noted in comments column

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
[signature]	3/27/15 @ 1430	[signature] 3/27/15 1447	[signature] 3/27/15	1643	[signature] 3/27/15 1816

Page 2 of 3

ESS Laboratory

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS LAB PROJECT ID: 1503510

Turn Time ___X___ Standard Rush_____ Approved By: _____

Reporting Limits -

State where samples were collected: **MA** RI CT NH NJ NY ME Other_____

Is this project for any of the following: (please circle)
MA-MCP CT-RCP NJ-DKQP RGP DOD Other____

Electonic Deliverable Yes ✓ No____
Format: Excel ✓ Access___ PDF ✓ Other_____

GZA Project Manager: David E. Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Ave
Norwood, MA 02062
(781) 278-3700

Project No.: 01.0171521.13 Task 001
Project Name: Wynn - Everett
Contract Pricing ____
Special Pricing WO#: _____

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	Analysis: MCP 14 Metals	PAHs by SIM	TOC	SVOCs	PCBs (Aroclors)	EPH	Hexavalent Chromium	Reactivity (Sulfide and Cyanide)	VOCs	% water	Grain Size Analysis	Comment #
	3-27-15	1027	G	S	LC-110 (6'-8')		HOLD AND FREEZE											
8		1046			LC-111 (0'-0.5')		X	X	X	X	X	X						
					LC-111 (0.5'-2')		X	X										
					LC-111 (2'-4')		HOLD AND FREEZE											
					LC-111 (4'-6')		X	X										
		↓			LC-111 (6'-7½')		HOLD AND FREEZE											
9		1116			LC-112 (0'-0.5')		X	X	X	X	X	X						
					LC-112 (0.5'-2')		HOLD AND FREEZE											
					LC-112 (2'-4')		HOLD AND FREEZE											
10	↓	↓	↓	↓	LC-112 (4'-6')		X	X	X	X	X	X						

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-_____

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present _____Yes _____No

Seals Intact _____ Yes _____No NA: _____

Cooler Temperature: 3.5 + 2.8

Sampled by : Daniel Scanlon (Daniel.Scanlon@gza.com)

Comments: (1) TCLP 20X Rule Applies ONLY as noted in comments column

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
[signature]	3/27/15 @ 1430	[signature] 3/27/15 1447	[signature] 3/27/15	1643	[signature] 3/27/15 1816

ESS Laboratory
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www.esslaboratory.com

CHAIN OF CUSTODY

ESS LAB PROJECT ID: 1503510

Turn Time ___X___ Standard Rush_____ Approved By: _____

Reporting Limits -

State where samples were collected: **MA** RI CT NH NJ NY ME Other_____

Is this project for any of the following: (please circle)
MA-MCP CT-RCP NJ-DKQP RGP DOD Other____

Electonic Deliverable Yes✓ No____
Format: Excel✓ Access___ PDF✓ Other_____

GZA Project Manager: David E. Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Ave
Norwood, MA 02062
(781) 278-3700

Project No.: 01.0171521.13 Task 001
Project Name: Wynn - Everett
Contract Pricing _____
Special Pricing WO#: _____

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	Analysis: MCP-14 Metals	PAHs by SIM	TOC	SVOCs	PCBs (Aroclors)	EPH	Hexavalent Chromium	Reactivity (Sulfide and Cyanide)	VOCs	% water	Grain Size Analysis	Comment #
1	3/27/15	0849	G	S	GZ-225 (0'-0.5')		X	X	X	X	X	X						
					GZ-225 (0.5'-2')		HOLD AND FREEZE											
					GZ-225 (2'-4')		HOLD AND FREEZE											
					GZ-225 (4'-6')		X	X										
					GZ-225 (6'-7'2")		X	X										
2		↓			GZ-225 (0'-3')		X		X	X	X	X	X	X	X	X	X	(1)
3		09:24			GZ-201 (0'-0.5')		X	X	X	X	X	X						
					GZ-201 (0.5'-2')		HOLD AND FREEZE											
					GZ-201 (2'-4')		HOLD AND FREEZE											
	↓	↓	↓	↓	GZ-201 (4'-5')		X	X										

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-_____

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present ~~Yes~~ _____No
Seals Intact _____Yes _____No NA: ✓
Cooler Temperature: 3.5 & 2.8 ice

Sampled by : Daniel Scanlon (Daniel.Scanlon@gza.com)

Comments: (1) TCLP 20X Rule Applies ONLY if noted in the comment column

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
[signature]	3/27/15 @1430	[signature] 3/27/15 1447	[signature] 3/27/15	1643	[signature] 3/27/15 1816

ESS Laboratory
Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS LAB PROJECT ID: 1503510

Turn Time ___X___ Standard Rush_____ Approved By: _____

Reporting Limits -

State where samples were collected: **MA** RI CT NH NJ NY ME Other_____

Is this project for any of the following: (please circle)
MA-MCP CT-RCP NJ-DKQP RGP DOD Other___

Electonic Deliverable Yes ✓ No___
Format: Excel ✓ Access___ PDF ✓ Other_____

GZA Project Manager: David E. Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Ave
Norwood, MA 02062
(781) 278-3700

Project No.: 01.0171521.13 Task 001
Project Name: Wynn - Everett
Contract Pricing ____
Special Pricing WO#: _____

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	Analysis: MCP-14 Metals	PAHs by SIM	TOC	SVOCs	PCBs (Aroclors)	EPH	Hexavalent Chromium	Reactivity (Sulfide and Cyanide)	VOCs	% water	Grain Size Analysis	Comment #
4	3-27-15	09:24	G	S	GZ-201 (0'-3')		X		X	X	X	X	X	X	X	X	X	(1)
5					LC-106 (0'-0.5')		X	X	X	X	X	X						
6					LC-106 (0.5'-2')		X	X	X	X	X	X						
					LC-~~102~~ 106 (2'-4')		HOLD AND FREEZE											
					LC-106 (4'-6')		X	X										
		↓			LC-106 (6'-7')		HOLD AND FREEZE											
7		10:27			LC-110 (0'-0.5')		X	X	X	X	X	X						
					LC-110 (0.5'-2')		HOLD AND FREEZE											
					LC-110 (2'-4')		X	X										
	↓	↓	↓	↓	LC-110 (4'-6')		HOLD AND FREEZE											

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-_____

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present ✓ Yes ____No

Seals Intact ____Yes ____No NA: ✓

Cooler Temperature: 3.5 + 2.8 in ice

Sampled by : Daniel Scanlon (Daniel.Scanlon@gza.com)

Comments: (1) TCLP 20X Rule Applies ONLY if noted in comments column

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
[signature]	3/27/15 @ 1430	[signature] 3/27/15 1447	[signature] 3/27/15	1643	[signature] 3/27/15 1816

Page 2 of 3

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CHAIN OF CUSTODY

ESS LAB PROJECT ID 1503510

Turn Time ___X___ Standard Rush_____ Approved By: _____

Reporting Limits -

State where samples were collected: **MA** RI CT NH NJ NY ME Other_____

Is this project for any of the following: (please circle)
MA-MCP CT-RCP NJ-DKQP RGP DOD Other____

Electonic Deliverable Yes ✓ No____
Format: Excel ✓ Access___ PDF ✓ Other_____

GZA Project Manager: David E. Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Ave
Norwood, MA 02062
(781) 278-3700

Project No.: 01.0171521.13 Task 001
Project Name: Wynn - Everett
Contract Pricing ____
Special Pricing WO#: _____

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	Analysis: MCP-14 Metals	PAHs by SIM	TOC	SVOCs	PCBs (Aroclors)	EPH	Hexavalent Chromium	Reactivity (Sulfide and Cyanide)	VOCs	% water	Grain Size Analysis	Comment #
	3-27-15	1027	G	S	LC-110 (6'-8')		HOLD AND FREEZE											
8		1046			LC-111 (0'-0.5')		X	X	X	X	X	X						
					LC-111 (0.5'-2')		X	X										
					LC-111 (2'-4')		HOLD AND FREEZE											
					LC-111 (4'-6')		X	X										
		↓			LC-111 (6'-7½')		HOLD AND FREEZE											
9		1116			LC-112 (0'-0.5')		X	X	X	X	X	X						
					LC-112 (0.5'-2')		HOLD AND FREEZE											
					LC-112 (2'-4')		HOLD AND FREEZE											
10	↓	↓	↓	↓	LC-112 (4'-6')		X	X	X	X	X	X						

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-_____

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present _____Yes _____No
Seals Intact _____ Yes _____No NA: _____
Cooler Temperature: 3.5 + 2.8

Sampled by : Daniel Scanlon (Daniel.Scanlon@gza.com)

Comments: (1) TCLP 20X Rule Applies ONLY as noted in comments column

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
[signature]	3/27/15 @1430	[signature] 3/27/15 1447	[signature] 3/27/15	1643	[signature] 3/27/15 1816

CERTIFICATE OF ANALYSIS

David E Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Avenue
Norwood, MA 02062

RE: Wynn Everett Sediment Phase (01.0171521.13 Task 001)
ESS Laboratory Work Order Number: 1503512

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director

REVIEWED
By ESS Laboratory at 5:26 pm, Apr 10, 2015

Analytical Summary
The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with NELAC Standards, A2LA and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.

Subcontracted Analyses
CTS - Cranston, RI — Grain Size Analysis, Percent Water

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503512

SAMPLE RECEIPT

The following samples were received on March 27, 2015 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has performed and reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Data Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

For EPH soil samples, the aromatic range results have been corrected for identified cartridge contaminant in accordance with the CAM protocol.

Low Level VOA vials were frozen by ESS Laboratory on March 27, 2015 at 19:54.

Question I: Samples GZ-225 4ft-6ft, GZ-225 6ft-7ft 2in, GZ-201 4ft-5ft, LC-106 4ft-6ft, LC-110 2ft-4ft, LC-111 0.5ft-2ft and LC-111 4ft-6ft (1503512-02, 1503512-03, 1503512-06, 1503512-10, 1503512-12, 1503512-14 and 1503512-15) for SVOA were analyzed for a subset of the required MCP list per the client's request.

Samples were decanted, per client request, upon reciept by ESS.

Lab Number	Sample Name	Matrix	Analysis
1503512-01	GZ-225 0ft-0.5ft	Soil	8270D, EPH8270, MADEP-EPH
1503512-02	GZ-225 4ft-6ft	Soil	8270D
1503512-03	GZ-225 6ft-7ft 2in	Soil	8270D
1503512-04	GZ-225 0ft-3ft	Soil	§, 2580, 7.3.3.2, 7.3.4.1, 7196A, 8260B Low, 8270D, 9045, EPH8270, MADEP-EPH
1503512-05	GZ-201 0ft-0.5ft	Soil	8270D, EPH8270, MADEP-EPH
1503512-06	GZ-201 4ft-5ft	Soil	8270D
1503512-07	GZ-201 0ft-3ft	Soil	§, 2580, 7.3.3.2, 7.3.4.1, 7196A, 8260B, 8260B Low, 8270D, 9045, EPH8270, MADEP-EPH
1503512-08	LC-106 0ft-0.5ft	Soil	8270D, EPH8270, MADEP-EPH
1503512-09	LC-106 0.5ft-2ft	Soil	8270D, EPH8270, MADEP-EPH
1503512-10	LC-106 4ft-6ft	Soil	8270D
1503512-11	LC-110 0.5ft-2ft	Soil	8270D, EPH8270, MADEP-EPH
1503512-12	LC-110 2ft-4ft	Soil	8270D

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase ESS Laboratory Work Order: 1503512

1503512-13	LC-111 0ft-0.5ft	Soil	8270D, EPH8270, MADEP-EPH
1503512-14	LC-111 0.5ft-2ft	Soil	8270D
1503512-15	LC-111 4ft-6ft	Soil	8270D
1503512-16	LC-112 0ft-0.5ft	Soil	8270D, EPH8270, MADEP-EPH
1503512-17	LC-112 4ft-6ft	Soil	8270D, EPH8270, MADEP-EPH
1503512-18	GZ-225 0ft-0.5ft	Soil	6010C, 6020A, 7010, 7471B
1503512-19	GZ-225 4ft-6ft	Soil	6010C, 7010, 7471B
1503512-20	GZ-225 6ft-7ft 2in	Soil	6010C, 6020A, 7010, 7471B
1503512-21	GZ-225 0ft-3ft	Soil	6010C, 6020A, 7010, 7471B
1503512-22	GZ-201 0ft-0.5ft	Soil	6010C, 6020A, 7010, 7471B
1503512-23	GZ-201 4ft-5ft	Soil	6010C, 6020A, 7010, 7471B
1503512-24	GZ-201 0ft-3ft	Soil	6010C, 6020A, 7010, 7471B
1503512-25	LC-106 0ft-0.5ft	Soil	6010C, 6020A, 7010, 7471B
1503512-26	LC-106 0.5ft-2ft	Soil	6010C, 6020A, 7010, 7471B
1503512-27	LC-106 4ft-6ft	Soil	6010C, 6020A, 7010, 7471B
1503512-28	LC-110 0.5ft-2ft	Soil	6010C, 6020A, 7010, 7471B
1503512-29	LC-110 2ft-4ft	Soil	6010C, 7010, 7471B
1503512-30	LC-111 0ft-0.5ft	Soil	6010C, 6020A, 7010, 7471B
1503512-31	LC-111 0.5ft-2ft	Soil	6010C, 6020A, 7010, 7471B
1503512-32	LC-111 4ft-6ft	Soil	6010C, 6020A, 7010, 7471B
1503512-33	LC-112 0ft-0.5ft	Soil	6010C, 6020A, 7010, 7471B
1503512-34	LC-112 4ft-6ft	Soil	6010C, 7010, 7471B
1503512-35	GZ-225 0ft-0.5ft	Soil	8082A
1503512-36	GZ-225 0ft-3ft	Soil	8082A
1503512-37	GZ-201 0ft-0.5ft	Soil	8082A
1503512-38	GZ-201 0ft-3ft	Soil	8082A
1503512-39	LC-106 0ft-0.5ft	Soil	8082A
1503512-40	LC-106 0.5ft-2ft	Soil	8082A
1503512-41	LC-110 0.5ft-2ft	Soil	8082A
1503512-42	LC-111 0ft-0.5ft	Soil	8082A
1503512-43	LC-112 0ft-0.5ft	Soil	8082A
1503512-44	LC-112 4ft-6ft	Soil	8082A

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503512

PROJECT NARRATIVE

5035/8260B Volatile Organic Compounds / Low Level

1503512-07	**Internal Standard(s) outside of criteria (I).**
	1,4-Dichlorobenzene-D4 (37% @ 50-200%), Chlorobenzene-d5 (47% @ 50-200%), Pentafluorobenzene (42% @ 50-200%)
CC53022-BS1	**Blank Spike recovery is above upper control limit (B+).**
	Bromomethane (182% @ 70-130%)
CC53022-BSD1	**Blank Spike recovery is above upper control limit (B+).**
	1,2-Dibromo-3-Chloropropane (245% @ 70-130%), Bromomethane (154% @ 70-130%)
CC53022-BSD1	**Relative percent difference for duplicate is outside of criteria (D+).**
	1,2-Dibromo-3-Chloropropane (75% @ 25%)
CC53120-BS1	**Blank Spike recovery is above upper control limit (B+).**
	Bromomethane (167% @ 70-130%)
CC53120-BSD1	**Blank Spike recovery is above upper control limit (B+).**
	1,2-Dibromo-3-Chloropropane (197% @ 70-130%), Bromomethane (161% @ 70-130%)
CC53120-BSD1	**Relative percent difference for duplicate is outside of criteria (D+).**
	1,2-Dibromo-3-Chloropropane (64% @ 25%)
CYC0353-CCV1	**Continuing Calibration recovery is above upper control limit (C+).**
	Bromomethane (145% @ 70-130%)
CYC0360-CCV1	**Continuing Calibration recovery is above upper control limit (C+).**
	Bromomethane (173% @ 70-130%)

5035/8260B Volatile Organic Compounds / Methanol

CD50244-BS1	**Blank Spike recovery is above upper control limit (B+).**
	2-Butanone (166% @ 70-130%), 2-Hexanone (134% @ 70-130%), Acetone (228% @ 70-130%)
CD50244-BSD1	**Blank Spike recovery is above upper control limit (B+).**
	2-Butanone (185% @ 70-130%), 2-Hexanone (152% @ 70-130%), Acetone (264% @ 70-130%)

8082A Polychlorinated Biphenyls (PCB)

1503512-35	**Percent difference between primary and confirmation results exceeds 40% (P).**
	Aroclor 1248 , Aroclor 1254
1503512-36	**Percent difference between primary and confirmation results exceeds 40% (P).**
	Aroclor 1248
1503512-37	**Percent difference between primary and confirmation results exceeds 40% (P).**
	Aroclor 1248
1503512-38	**Surrogate recovery(ies) outside of criteria. Reextraction/Reanalysis confirms results (SC).**
	Tetrachloro-m-xylene [2C] (24% @ 30-150%)
1503512-38RE1	**Surrogate recovery(ies) outside of criteria. Reextraction/Reanalysis confirms results (SC).**
	Tetrachloro-m-xylene [2C] (23% @ 30-150%)
1503512-40	**Percent difference between primary and confirmation results exceeds 40% (P).**
	Aroclor 1248
1503512-40	**Surrogate recovery(ies) diluted below the MRL (SD).**

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase ESS Laboratory Work Order: 1503512

Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

1503512-41 **Percent difference between primary and confirmation results exceeds 40% (P).**
Aroclor 1248 , Aroclor 1254

8270D Semi-Volatile Organic Compounds

CD50642-BS1 **Blank Spike recovery is below lower control limit (B-).**
3,3´-Dichlorobenzidine (24% @ 40-140%), 4-Chloroaniline (38% @ 40-140%), Aniline (39% @ 40-140%)

CD50642-BSD1 **Blank Spike recovery is below lower control limit (B-).**
4-Chloroaniline (38% @ 40-140%), Aniline (37% @ 40-140%)

CD50642-BSD1 **Relative percent difference for duplicate is outside of criteria (D+).**
3,3´-Dichlorobenzidine (48% @ 30%)

CYD0019-CCV1 **Continuing Calibration recovery is above upper control limit (C+).**
Azobenzene (124% @ 80-120%)

CYD0021-CCV1 **Continuing Calibration recovery is above upper control limit (C+).**
Di-n-octylphthalate (123% @ 80-120%)

CYD0021-CCV1 **Continuing Calibration recovery is below lower control limit (C-).**
3+4-Methylphenol (55% @ 80-120%)

CYD0023-CCV1 **Calibration required quadratic regression (Q).**
Aniline (106% @ 80-120%)

CYD0033-CCV1 **Calibration required quadratic regression (Q).**
Aniline (106% @ 80-120%)

8270D(SIM) Polynuclear Aromatic Hydrocarbons

CYD0062-CCV1 **Continuing Calibration recovery is above upper control limit (C+).**
2-Methylnaphthalene (144% @ 70-130%)

Classical Chemistry

1503512-04 **Estimated value. Sample hold times were exceeded (H).**
Corrosivity (pH) , Eh (ORP)

1503512-07 **Estimated value. Sample hold times were exceeded (H).**
Corrosivity (pH) , Eh (ORP)

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

Definitions of Quality Control Parameters

Semivolatile Organics Internal Standard Information

Semivolatile Organics Surrogate Information

Volatile Organics Internal Standard Information

Volatile Organics Surrogate Information

EPH and VPH Alkane Lists

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503512

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

1010A - Flashpoint
6010C - ICP
6020A - ICP MS
7010 - Graphite Furnace
7196A - Hexavalent Chromium
7470A - Aqueous Mercury
7471B - Solid Mercury
8011 - EDB/DBCP/TCP
8015D - GRO/DRO
8081B - Pesticides
8082A - PCB
8100M - TPH
8151A - Herbicides
8260B - VOA
8270D - SVOA
8270D SIM - SVOA Low Level
9014 - Cyanide
9038 - Sulfate
9040C - Aqueous pH
9045D - Solid pH (Corrosivity)
9050A - Specific Conductance
9056A - Anions (IC)
9060A - TOC
9095B - Paint Filter
MADEP 04-1.1 - EPH / VPH

Prep Methods

3005A - Aqueous ICP and Graphite Furnace Digestion
3020A - Aqueous ICP MS Digestion
3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
3060A - Solid Hexavalent Chromium Digestion
3510C - Separatory Funnel Extraction
3520C - Liquid / Liquid Extraction
3540C - Manual Soxhlet Extraction
3541 - Automated Soxhlet Extraction
3546 - Microwave Extraction
3580A - Waste Dilution
5030B - Aqueous Purge and Trap
5030C - Aqueous Purge and Trap
5035 - Solid Purge and Trap

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503512

MassDEP Analytical Protocol Certification Form

MADEP RTN: _____

This form provides certification for the following data set: **1503512-01 through 1503512-44**

Matrices: ( ) Ground Water/Surface Water (X) Soil/Sediment ( ) Drinking Water ( ) Air ( ) Other:_____

CAM Protocol (check all that apply below):

(X) 8260 VOC CAM II A	(X) 7470/7471 Hg CAM III B	( ) MassDEP VPH CAM IV A	( ) 8081 Pesticides CAM V B	(X) 7196 Hex Cr CAM VI B	( ) MassDEP APH CAM IX A
(X) 8270 SVOC CAM II B	(X) 7010 Metals CAM III C	(X) MassDEP EPH CAM IV B	( ) 8151 Herbicides CAM V C	( ) 8330 Explosives CAM VIII A	( ) TO-15 VOC CAM IX B
(X) 6010 Metals CAM III A	(X) 6020 Metals CAM III D	(X) 8082 PCB CAM V A	( ) 6860 Perchlorate CAM VIII B	( ) 9014 Total Cyanide/PAC CAM VI A	

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	Yes ( ) No (X)
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	Yes (X) No ( )
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	Yes (X) No ( )
D	Does the laboratory report comply with all the reporting requirements specified in the CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	Yes (X) No ( )
E	a. VPH, EPH, APH and TO-15 only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	Yes (X) No ( )
	b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	Yes ( ) No ( )
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	Yes (X) No ( )

Responses to Questions G, H and I below are required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocols(s)?	Yes (X) No ( )*
	***Data User Note:* Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.**	
H	Were **all** QC performance standards specified in the CAM protocol(s) achieved?	Yes ( ) No (X)*
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	Yes ( ) No (X)*

All negative responses must be addressed in an attached laboratory narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: _____ Date: April 10, 2015

Printed Name: Laurel Stoddard Position: Laboratory Director

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-225 0ft-0.5ft
Date Sampled: 03/27/15 08:49
Percent Solids: 49
Initial Volume: 30.2
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503512
ESS Laboratory Sample ID: 1503512-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 4/1/15 13:22

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.335)		8270D		1	04/02/15 17:46	CYD0021	CD50643
1,2-Dichlorobenzene	ND (0.335)		8270D		1	04/02/15 17:46	CYD0021	CD50643
1,3-Dichlorobenzene	ND (0.335)		8270D		1	04/02/15 17:46	CYD0021	CD50643
1,4-Dichlorobenzene	ND (0.335)		8270D		1	04/02/15 17:46	CYD0021	CD50643
2,4,5-Trichlorophenol	ND (0.335)		8270D		1	04/02/15 17:46	CYD0021	CD50643
2,4,6-Trichlorophenol	ND (0.335)		8270D		1	04/02/15 17:46	CYD0021	CD50643
2,4-Dichlorophenol	ND (0.335)		8270D		1	04/02/15 17:46	CYD0021	CD50643
2,4-Dimethylphenol	ND (0.335)		8270D		1	04/02/15 17:46	CYD0021	CD50643
2,4-Dinitrophenol	ND (1.68)		8270D		1	04/02/15 17:46	CYD0021	CD50643
2,4-Dinitrotoluene	ND (0.335)		8270D		1	04/02/15 17:46	CYD0021	CD50643
2,6-Dinitrotoluene	ND (0.335)		8270D		1	04/02/15 17:46	CYD0021	CD50643
2-Chloronaphthalene	ND (0.335)		8270D		1	04/02/15 17:46	CYD0021	CD50643
2-Chlorophenol	ND (0.335)		8270D		1	04/02/15 17:46	CYD0021	CD50643
2-Methylphenol	ND (0.335)		8270D		1	04/02/15 17:46	CYD0021	CD50643
2-Nitrophenol	ND (0.335)		8270D		1	04/02/15 17:46	CYD0021	CD50643
3,3´-Dichlorobenzidine	ND (0.670)		8270D		1	04/02/15 17:46	CYD0021	CD50643
3+4-Methylphenol	ND (0.670)		8270D		1	04/02/15 17:46	CYD0021	CD50643
4-Bromophenyl-phenylether	ND (0.335)		8270D		1	04/02/15 17:46	CYD0021	CD50643
4-Chloroaniline	ND (0.670)		8270D		1	04/02/15 17:46	CYD0021	CD50643
4-Nitrophenol	ND (1.68)		8270D		1	04/02/15 17:46	CYD0021	CD50643
Acetophenone	ND (0.670)		8270D		1	04/02/15 17:46	CYD0021	CD50643
Aniline	ND (1.68)		8270D		1	04/02/15 17:46	CYD0021	CD50643
Azobenzene	ND (0.335)		8270D		1	04/02/15 17:46	CYD0021	CD50643
bis(2-Chloroethoxy)methane	ND (0.335)		8270D		1	04/02/15 17:46	CYD0021	CD50643
bis(2-Chloroethyl)ether	ND (0.335)		8270D		1	04/02/15 17:46	CYD0021	CD50643
bis(2-chloroisopropyl)Ether	ND (0.335)		8270D		1	04/02/15 17:46	CYD0021	CD50643
bis(2-Ethylhexyl)phthalate	**1.01** (0.335)		8270D		1	04/02/15 17:46	CYD0021	CD50643
Butylbenzylphthalate	ND (0.335)		8270D		1	04/02/15 17:46	CYD0021	CD50643
Dibenzofuran	ND (0.335)		8270D		1	04/02/15 17:46	CYD0021	CD50643
Diethylphthalate	ND (0.335)		8270D		1	04/02/15 17:46	CYD0021	CD50643
Dimethylphthalate	ND (0.335)		8270D		1	04/02/15 17:46	CYD0021	CD50643
Di-n-butylphthalate	ND (0.335)		8270D		1	04/02/15 17:46	CYD0021	CD50643

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-225 0ft-0.5ft
Date Sampled: 03/27/15 08:49
Percent Solids: 49
Initial Volume: 30.2
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503512
ESS Laboratory Sample ID: 1503512-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 4/1/15 13:22

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Di-n-octylphthalate	ND (0.335)		8270D		1	04/02/15 17:46	CYD0021	CD50643
Hexachlorobutadiene	ND (0.335)		8270D		1	04/02/15 17:46	CYD0021	CD50643
Hexachloroethane	ND (0.335)		8270D		1	04/02/15 17:46	CYD0021	CD50643
Isophorone	ND (0.335)		8270D		1	04/02/15 17:46	CYD0021	CD50643
Nitrobenzene	ND (0.335)		8270D		1	04/02/15 17:46	CYD0021	CD50643
N-Nitrosodimethylamine	ND (0.335)		8270D		1	04/02/15 17:46	CYD0021	CD50643
Pentachlorophenol	ND (1.68)		8270D		1	04/02/15 17:46	CYD0021	CD50643
Phenol	ND (0.335)		8270D		1	04/02/15 17:46	CYD0021	CD50643

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*71 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*86 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*76 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*77 %*		*30-130*
Surrogate: 2-Fluorophenol	*72 %*		*30-130*
Surrogate: Nitrobenzene-d5	*75 %*		*30-130*
Surrogate: Phenol-d6	*78 %*		*30-130*
Surrogate: p-Terphenyl-d14	*83 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-225 0ft-0.5ft
Date Sampled: 03/27/15 08:49
Percent Solids: 49
Initial Volume: 20.3
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503512
ESS Laboratory Sample ID: 1503512-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 4/1/15 15:30

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.025)		8270D		1	04/04/15 15:26	CYD0062	CD50136
Acenaphthene	ND (0.025)		8270D		1	04/04/15 15:26	CYD0062	CD50136
Acenaphthylene	**0.055** (0.025)		8270D		1	04/04/15 15:26	CYD0062	CD50136
Anthracene	**0.089** (0.025)		8270D		1	04/04/15 15:26	CYD0062	CD50136
Benzo(a)anthracene	**0.195** (0.025)		8270D		1	04/04/15 15:26	CYD0062	CD50136
Benzo(a)pyrene	**0.237** (0.025)		8270D		1	04/04/15 15:26	CYD0062	CD50136
Benzo(b)fluoranthene	**0.365** (0.025)		8270D		1	04/04/15 15:26	CYD0062	CD50136
Benzo(g,h,i)perylene	**0.102** (0.025)		8270D		1	04/04/15 15:26	CYD0062	CD50136
Benzo(k)fluoranthene	**0.132** (0.025)		8270D		1	04/04/15 15:26	CYD0062	CD50136
Chrysene	**0.256** (0.025)		8270D		1	04/04/15 15:26	CYD0062	CD50136
Dibenzo(a,h)Anthracene	**0.032** (0.025)		8270D		1	04/04/15 15:26	CYD0062	CD50136
Fluoranthene	**0.401** (0.025)		8270D		1	04/04/15 15:26	CYD0062	CD50136
Fluorene	ND (0.025)		8270D		1	04/04/15 15:26	CYD0062	CD50136
Hexachlorobenzene	ND (0.025)		8270D		1	04/04/15 15:26	CYD0062	CD50136
Indeno(1,2,3-cd)Pyrene	**0.126** (0.025)		8270D		1	04/04/15 15:26	CYD0062	CD50136
Naphthalene	**0.045** (0.025)		8270D		1	04/04/15 15:26	CYD0062	CD50136
Phenanthrene	**0.138** (0.025)		8270D		1	04/04/15 15:26	CYD0062	CD50136
Pyrene	**0.355** (0.025)		8270D		1	04/04/15 15:26	CYD0062	CD50136

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*37 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*60 %*		*30-130*
Surrogate: Nitrobenzene-d5	*48 %*		*30-130*
Surrogate: p-Terphenyl-d14	*71 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-225 0ft-0.5ft
Date Sampled: 03/27/15 08:49
Percent Solids: 49
Initial Volume: 30
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1503512
ESS Laboratory Sample ID: 1503512-01
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 3/31/15 18:19

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	ND (25.3)		MADEP-EPH		1	JXS	04/02/15 3:43	CYC0382	CC53112
C19-C36 Aliphatics1	**80.9** (25.3)		MADEP-EPH		1	JXS	04/02/15 3:43	CYC0382	CC53112
C11-C22 Unadjusted Aromatics1	**31.9** (25.3)		EPH8270		1	VSC	04/03/15 6:38	CYD0036	CC53112
C11-C22 Aromatics1,2	**25.9** (25.3)		EPH8270			VSC	04/03/15 6:38		[CALC]

	%Recovery	*Qualifier*	*Limits*
Surrogate: 1-Chlorooctadecane	*59 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*85 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*81 %*		*40-140*
Surrogate: O-Terphenyl	*72 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-225 4ft-6ft
Date Sampled: 03/27/15 08:49
Percent Solids: 58
Initial Volume: 20
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503512
ESS Laboratory Sample ID: 1503512-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 4/1/15 15:30

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.022)		8270D		1	04/04/15 16:14	CYD0062	CD50136
Acenaphthene	ND (0.022)		8270D		1	04/04/15 16:14	CYD0062	CD50136
Acenaphthylene	**0.072** (0.022)		8270D		1	04/04/15 16:14	CYD0062	CD50136
Anthracene	**0.056** (0.022)		8270D		1	04/04/15 16:14	CYD0062	CD50136
Benzo(a)anthracene	**0.144** (0.022)		8270D		1	04/04/15 16:14	CYD0062	CD50136
Benzo(a)pyrene	**0.143** (0.022)		8270D		1	04/04/15 16:14	CYD0062	CD50136
Benzo(b)fluoranthene	**0.155** (0.022)		8270D		1	04/04/15 16:14	CYD0062	CD50136
Benzo(g,h,i)perylene	**0.048** (0.022)		8270D		1	04/04/15 16:14	CYD0062	CD50136
Benzo(k)fluoranthene	**0.050** (0.022)		8270D		1	04/04/15 16:14	CYD0062	CD50136
Chrysene	**0.167** (0.022)		8270D		1	04/04/15 16:14	CYD0062	CD50136
Dibenzo(a,h)Anthracene	ND (0.022)		8270D		1	04/04/15 16:14	CYD0062	CD50136
Fluoranthene	**0.256** (0.022)		8270D		1	04/04/15 16:14	CYD0062	CD50136
Fluorene	ND (0.022)		8270D		1	04/04/15 16:14	CYD0062	CD50136
Hexachlorobenzene	ND (0.022)		8270D		1	04/04/15 16:14	CYD0062	CD50136
Indeno(1,2,3-cd)Pyrene	**0.057** (0.022)		8270D		1	04/04/15 16:14	CYD0062	CD50136
Naphthalene	ND (0.022)		8270D		1	04/04/15 16:14	CYD0062	CD50136
Phenanthrene	**0.053** (0.022)		8270D		1	04/04/15 16:14	CYD0062	CD50136
Pyrene	**0.265** (0.022)		8270D		1	04/04/15 16:14	CYD0062	CD50136

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*47 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*65 %*		*30-130*
Surrogate: Nitrobenzene-d5	*56 %*		*30-130*
Surrogate: p-Terphenyl-d14	*78 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-225 6ft-7ft 2in
Date Sampled: 03/27/15 08:49
Percent Solids: 76
Initial Volume: 20.1
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503512
ESS Laboratory Sample ID: 1503512-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 4/1/15 15:30

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.016)		8270D		1	04/04/15 17:03	CYD0062	CD50136
Acenaphthene	ND (0.016)		8270D		1	04/04/15 17:03	CYD0062	CD50136
Acenaphthylene	ND (0.016)		8270D		1	04/04/15 17:03	CYD0062	CD50136
Anthracene	ND (0.016)		8270D		1	04/04/15 17:03	CYD0062	CD50136
Benzo(a)anthracene	ND (0.016)		8270D		1	04/04/15 17:03	CYD0062	CD50136
Benzo(a)pyrene	ND (0.016)		8270D		1	04/04/15 17:03	CYD0062	CD50136
Benzo(b)fluoranthene	ND (0.016)		8270D		1	04/04/15 17:03	CYD0062	CD50136
Benzo(g,h,i)perylene	ND (0.016)		8270D		1	04/04/15 17:03	CYD0062	CD50136
Benzo(k)fluoranthene	ND (0.016)		8270D		1	04/04/15 17:03	CYD0062	CD50136
Chrysene	ND (0.016)		8270D		1	04/04/15 17:03	CYD0062	CD50136
Dibenzo(a,h)Anthracene	ND (0.016)		8270D		1	04/04/15 17:03	CYD0062	CD50136
Fluoranthene	ND (0.016)		8270D		1	04/04/15 17:03	CYD0062	CD50136
Fluorene	ND (0.016)		8270D		1	04/04/15 17:03	CYD0062	CD50136
Hexachlorobenzene	ND (0.016)		8270D		1	04/04/15 17:03	CYD0062	CD50136
Indeno(1,2,3-cd)Pyrene	ND (0.016)		8270D		1	04/04/15 17:03	CYD0062	CD50136
Naphthalene	ND (0.016)		8270D		1	04/04/15 17:03	CYD0062	CD50136
Phenanthrene	ND (0.016)		8270D		1	04/04/15 17:03	CYD0062	CD50136
Pyrene	ND (0.016)		8270D		1	04/04/15 17:03	CYD0062	CD50136

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*42 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*57 %*		*30-130*
Surrogate: Nitrobenzene-d5	*51 %*		*30-130*
Surrogate: p-Terphenyl-d14	*80 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-225 0ft-3ft
Date Sampled: 03/27/15 08:49
Percent Solids: 58
Initial Volume: 6.9
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1503512
ESS Laboratory Sample ID: 1503512-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.0062)		8260B Low		1	03/30/15 17:44	CYC0353	CC53022
1,1,1-Trichloroethane	ND (0.0062)		8260B Low		1	03/30/15 17:44	CYC0353	CC53022
1,1,2,2-Tetrachloroethane	ND (0.0025)		8260B Low		1	03/30/15 17:44	CYC0353	CC53022
1,1,2-Trichloroethane	ND (0.0062)		8260B Low		1	03/30/15 17:44	CYC0353	CC53022
1,1-Dichloroethane	ND (0.0062)		8260B Low		1	03/30/15 17:44	CYC0353	CC53022
1,1-Dichloroethene	ND (0.0062)		8260B Low		1	03/30/15 17:44	CYC0353	CC53022
1,1-Dichloropropene	ND (0.0062)		8260B Low		1	03/30/15 17:44	CYC0353	CC53022
1,2,3-Trichlorobenzene	ND (0.0062)		8260B Low		1	03/30/15 17:44	CYC0353	CC53022
1,2,3-Trichloropropane	ND (0.0062)		8260B Low		1	03/30/15 17:44	CYC0353	CC53022
1,2,4-Trichlorobenzene	ND (0.0062)		8260B Low		1	03/30/15 17:44	CYC0353	CC53022
1,2,4-Trimethylbenzene	ND (0.0062)		8260B Low		1	03/30/15 17:44	CYC0353	CC53022
1,2-Dibromo-3-Chloropropane	ND (0.0062)		8260B Low		1	03/30/15 17:44	CYC0353	CC53022
1,2-Dibromoethane	ND (0.0062)		8260B Low		1	03/30/15 17:44	CYC0353	CC53022
1,2-Dichlorobenzene	ND (0.0062)		8260B Low		1	03/30/15 17:44	CYC0353	CC53022
1,2-Dichloroethane	ND (0.0062)		8260B Low		1	03/30/15 17:44	CYC0353	CC53022
1,2-Dichloropropane	ND (0.0062)		8260B Low		1	03/30/15 17:44	CYC0353	CC53022
1,3,5-Trimethylbenzene	ND (0.0062)		8260B Low		1	03/30/15 17:44	CYC0353	CC53022
1,3-Dichlorobenzene	ND (0.0062)		8260B Low		1	03/30/15 17:44	CYC0353	CC53022
1,3-Dichloropropane	ND (0.0062)		8260B Low		1	03/30/15 17:44	CYC0353	CC53022
1,4-Dichlorobenzene	ND (0.0062)		8260B Low		1	03/30/15 17:44	CYC0353	CC53022
1,4-Dioxane	ND (0.124)		8260B Low		1	03/30/15 17:44	CYC0353	CC53022
2,2-Dichloropropane	ND (0.0062)		8260B Low		1	03/30/15 17:44	CYC0353	CC53022
2-Butanone	ND (0.0124)		8260B Low		1	03/30/15 17:44	CYC0353	CC53022
2-Chlorotoluene	ND (0.0062)		8260B Low		1	03/30/15 17:44	CYC0353	CC53022
2-Hexanone	ND (0.0124)		8260B Low		1	03/30/15 17:44	CYC0353	CC53022
4-Chlorotoluene	ND (0.0062)		8260B Low		1	03/30/15 17:44	CYC0353	CC53022
4-Isopropyltoluene	ND (0.0062)		8260B Low		1	03/30/15 17:44	CYC0353	CC53022
4-Methyl-2-Pentanone	ND (0.0124)		8260B Low		1	03/30/15 17:44	CYC0353	CC53022
Acetone	**0.0617** (0.0124)		8260B Low		1	03/30/15 17:44	CYC0353	CC53022
Benzene	ND (0.0062)		8260B Low		1	03/30/15 17:44	CYC0353	CC53022
Bromobenzene	ND (0.0062)		8260B Low		1	03/30/15 17:44	CYC0353	CC53022
Bromochloromethane	ND (0.0062)		8260B Low		1	03/30/15 17:44	CYC0353	CC53022

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-225 0ft-3ft
Date Sampled: 03/27/15 08:49
Percent Solids: 58
Initial Volume: 6.9
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1503512
ESS Laboratory Sample ID: 1503512-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromodichloromethane	ND (0.0062)		8260B Low		1	03/30/15 17:44	CYC0353	CC53022
Bromoform	ND (0.0062)		8260B Low		1	03/30/15 17:44	CYC0353	CC53022
Bromomethane	ND (0.0124)		8260B Low		1	03/30/15 17:44	CYC0353	CC53022
Carbon Disulfide	**0.0142** (0.0062)		8260B Low		1	03/30/15 17:44	CYC0353	CC53022
Carbon Tetrachloride	ND (0.0062)		8260B Low		1	03/30/15 17:44	CYC0353	CC53022
Chlorobenzene	ND (0.0062)		8260B Low		1	03/30/15 17:44	CYC0353	CC53022
Chloroethane	ND (0.0124)		8260B Low		1	03/30/15 17:44	CYC0353	CC53022
Chloroform	ND (0.0062)		8260B Low		1	03/30/15 17:44	CYC0353	CC53022
Chloromethane	ND (0.0124)		8260B Low		1	03/30/15 17:44	CYC0353	CC53022
cis-1,2-Dichloroethene	ND (0.0062)		8260B Low		1	03/30/15 17:44	CYC0353	CC53022
cis-1,3-Dichloropropene	ND (0.0062)		8260B Low		1	03/30/15 17:44	CYC0353	CC53022
Dibromochloromethane	ND (0.0025)		8260B Low		1	03/30/15 17:44	CYC0353	CC53022
Dibromomethane	ND (0.0062)		8260B Low		1	03/30/15 17:44	CYC0353	CC53022
Dichlorodifluoromethane	ND (0.0124)		8260B Low		1	03/30/15 17:44	CYC0353	CC53022
Diethyl Ether	ND (0.0062)		8260B Low		1	03/30/15 17:44	CYC0353	CC53022
Di-isopropyl ether	ND (0.0062)		8260B Low		1	03/30/15 17:44	CYC0353	CC53022
Ethyl tertiary-butyl ether	ND (0.0062)		8260B Low		1	03/30/15 17:44	CYC0353	CC53022
Ethylbenzene	ND (0.0062)		8260B Low		1	03/30/15 17:44	CYC0353	CC53022
Hexachlorobutadiene	ND (0.0062)		8260B Low		1	03/30/15 17:44	CYC0353	CC53022
Isopropylbenzene	ND (0.0062)		8260B Low		1	03/30/15 17:44	CYC0353	CC53022
Methyl tert-Butyl Ether	ND (0.0062)		8260B Low		1	03/30/15 17:44	CYC0353	CC53022
Methylene Chloride	ND (0.0124)		8260B Low		1	03/30/15 17:44	CYC0353	CC53022
Naphthalene	ND (0.0062)		8260B Low		1	03/30/15 17:44	CYC0353	CC53022
n-Butylbenzene	ND (0.0062)		8260B Low		1	03/30/15 17:44	CYC0353	CC53022
n-Propylbenzene	ND (0.0062)		8260B Low		1	03/30/15 17:44	CYC0353	CC53022
sec-Butylbenzene	ND (0.0062)		8260B Low		1	03/30/15 17:44	CYC0353	CC53022
Styrene	ND (0.0062)		8260B Low		1	03/30/15 17:44	CYC0353	CC53022
tert-Butylbenzene	ND (0.0062)		8260B Low		1	03/30/15 17:44	CYC0353	CC53022
Tertiary-amyl methyl ether	ND (0.0062)		8260B Low		1	03/30/15 17:44	CYC0353	CC53022
Tetrachloroethene	ND (0.0062)		8260B Low		1	03/30/15 17:44	CYC0353	CC53022
Tetrahydrofuran	ND (0.0062)		8260B Low		1	03/30/15 17:44	CYC0353	CC53022
Toluene	ND (0.0062)		8260B Low		1	03/30/15 17:44	CYC0353	CC53022

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-225 0ft-3ft
Date Sampled: 03/27/15 08:49
Percent Solids: 58
Initial Volume: 6.9
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1503512
ESS Laboratory Sample ID: 1503512-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
trans-1,2-Dichloroethene	ND (0.0062)		8260B Low		1	03/30/15 17:44	CYC0353	CC53022
trans-1,3-Dichloropropene	ND (0.0062)		8260B Low		1	03/30/15 17:44	CYC0353	CC53022
Trichloroethene	ND (0.0062)		8260B Low		1	03/30/15 17:44	CYC0353	CC53022
Trichlorofluoromethane	ND (0.0062)		8260B Low		1	03/30/15 17:44	CYC0353	CC53022
Vinyl Chloride	ND (0.0124)		8260B Low		1	03/30/15 17:44	CYC0353	CC53022
Xylene O	ND (0.0062)		8260B Low		1	03/30/15 17:44	CYC0353	CC53022
Xylene P,M	ND (0.0124)		8260B Low		1	03/30/15 17:44	CYC0353	CC53022
Xylenes (Total)	ND (0.0124)		8260B Low		1	03/30/15 17:44		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*97 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*89 %*		*70-130*
Surrogate: Dibromofluoromethane	*93 %*		*70-130*
Surrogate: Toluene-d8	*95 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-225 0ft-3ft
Date Sampled: 03/27/15 08:49
Percent Solids: 58
Initial Volume: 30.2
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503512
ESS Laboratory Sample ID: 1503512-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 4/1/15 14:40

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.283)		8270D		1	04/02/15 18:22	CYD0021	CD50642
1,2-Dichlorobenzene	ND (0.283)		8270D		1	04/02/15 18:22	CYD0021	CD50642
1,3-Dichlorobenzene	ND (0.283)		8270D		1	04/02/15 18:22	CYD0021	CD50642
1,4-Dichlorobenzene	ND (0.283)		8270D		1	04/02/15 18:22	CYD0021	CD50642
2,4,5-Trichlorophenol	ND (0.283)		8270D		1	04/02/15 18:22	CYD0021	CD50642
2,4,6-Trichlorophenol	ND (0.283)		8270D		1	04/02/15 18:22	CYD0021	CD50642
2,4-Dichlorophenol	ND (0.283)		8270D		1	04/02/15 18:22	CYD0021	CD50642
2,4-Dimethylphenol	ND (0.283)		8270D		1	04/02/15 18:22	CYD0021	CD50642
2,4-Dinitrophenol	ND (1.42)		8270D		1	04/02/15 18:22	CYD0021	CD50642
2,4-Dinitrotoluene	ND (0.283)		8270D		1	04/02/15 18:22	CYD0021	CD50642
2,6-Dinitrotoluene	ND (0.283)		8270D		1	04/02/15 18:22	CYD0021	CD50642
2-Chloronaphthalene	ND (0.283)		8270D		1	04/02/15 18:22	CYD0021	CD50642
2-Chlorophenol	ND (0.283)		8270D		1	04/02/15 18:22	CYD0021	CD50642
2-Methylphenol	ND (0.283)		8270D		1	04/02/15 18:22	CYD0021	CD50642
2-Nitrophenol	ND (0.283)		8270D		1	04/02/15 18:22	CYD0021	CD50642
3,3´-Dichlorobenzidine	ND (0.568)		8270D		1	04/02/15 18:22	CYD0021	CD50642
3+4-Methylphenol	ND (0.568)		8270D		1	04/02/15 18:22	CYD0021	CD50642
4-Bromophenyl-phenylether	ND (0.283)		8270D		1	04/02/15 18:22	CYD0021	CD50642
4-Chloroaniline	ND (0.568)		8270D		1	04/02/15 18:22	CYD0021	CD50642
4-Nitrophenol	ND (1.42)		8270D		1	04/02/15 18:22	CYD0021	CD50642
Acetophenone	ND (0.568)		8270D		1	04/02/15 18:22	CYD0021	CD50642
Aniline	ND (1.42)		8270D		1	04/02/15 18:22	CYD0021	CD50642
Azobenzene	ND (0.283)		8270D		1	04/02/15 18:22	CYD0021	CD50642
bis(2-Chloroethoxy)methane	ND (0.283)		8270D		1	04/02/15 18:22	CYD0021	CD50642
bis(2-Chloroethyl)ether	ND (0.283)		8270D		1	04/02/15 18:22	CYD0021	CD50642
bis(2-chloroisopropyl)Ether	ND (0.283)		8270D		1	04/02/15 18:22	CYD0021	CD50642
bis(2-Ethylhexyl)phthalate	**3.08** (0.283)		8270D		1	04/02/15 18:22	CYD0021	CD50642
Butylbenzylphthalate	ND (0.283)		8270D		1	04/02/15 18:22	CYD0021	CD50642
Dibenzofuran	ND (0.283)		8270D		1	04/02/15 18:22	CYD0021	CD50642
Diethylphthalate	ND (0.283)		8270D		1	04/02/15 18:22	CYD0021	CD50642
Dimethylphthalate	ND (0.283)		8270D		1	04/02/15 18:22	CYD0021	CD50642
Di-n-butylphthalate	ND (0.283)		8270D		1	04/02/15 18:22	CYD0021	CD50642

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-225 0ft-3ft
Date Sampled: 03/27/15 08:49
Percent Solids: 58
Initial Volume: 30.2
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503512
ESS Laboratory Sample ID: 1503512-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 4/1/15 14:40

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Di-n-octylphthalate	ND (0.283)		8270D		1	04/02/15 18:22	CYD0021	CD50642
Hexachlorobutadiene	ND (0.283)		8270D		1	04/02/15 18:22	CYD0021	CD50642
Hexachloroethane	ND (0.283)		8270D		1	04/02/15 18:22	CYD0021	CD50642
Isophorone	ND (0.283)		8270D		1	04/02/15 18:22	CYD0021	CD50642
Nitrobenzene	ND (0.283)		8270D		1	04/02/15 18:22	CYD0021	CD50642
N-Nitrosodimethylamine	ND (0.283)		8270D		1	04/02/15 18:22	CYD0021	CD50642
Pentachlorophenol	ND (1.42)		8270D		1	04/02/15 18:22	CYD0021	CD50642
Phenol	ND (0.283)		8270D		1	04/02/15 18:22	CYD0021	CD50642

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*40 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*62 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*44 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*53 %*		*30-130*
Surrogate: 2-Fluorophenol	*43 %*		*30-130*
Surrogate: Nitrobenzene-d5	*44 %*		*30-130*
Surrogate: Phenol-d6	*48 %*		*30-130*
Surrogate: p-Terphenyl-d14	*63 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-225 0ft-3ft
Date Sampled: 03/27/15 08:49
Percent Solids: 58

ESS Laboratory Work Order: 1503512
ESS Laboratory Sample ID: 1503512-04
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Corrosivity (pH)	**H 7.36** (N/A)		9045		1	JLK	03/28/15 10:32	S.U.	CC52811
Corrosivity (pH) Sample Temp	**Soil pH measured in water at 15.6 ºC.**								
Eh (ORP)	**H, WL** ND (N/A)		2580		1	JLK	03/28/15 10:32	mv	CC52818
Grain Size	**See Attached** (N/A)								
Hexavalent Chromium	ND (0.7)		7196A		1	JLK	03/28/15 11:00	mg/kg dry	CC52807
Percent Water	**See Attached** (N/A)								
Reactive Cyanide	ND (2.0)		7.3.3.2		1	JLK	03/31/15 10:59	mg/kg	CC53003
Reactive Sulfide	ND (2.0)		7.3.4.1		1	JLK	03/31/15 10:59	mg/kg	CC53003

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-225 0ft-3ft
Date Sampled: 03/27/15 08:49
Percent Solids: 58
Initial Volume: 30.2
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1503512
ESS Laboratory Sample ID: 1503512-04
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 3/31/15 18:19

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	ND (21.3)		MADEP-EPH		1	JXS	04/02/15 4:33	CYC0382	CC53112
C19-C36 Aliphatics1	ND (21.3)		MADEP-EPH		1	JXS	04/02/15 4:33	CYC0382	CC53112
C11-C22 Unadjusted Aromatics1	ND (21.3)		EPH8270		1	VSC	04/03/15 7:13	CYD0036	CC53112
C11-C22 Aromatics1,2	ND (21.3)		EPH8270			VSC	04/03/15 7:13		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*62 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*95 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*93 %*		*40-140*
Surrogate: O-Terphenyl	*80 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-201 0ft-0.5ft
Date Sampled: 03/27/15 09:24
Percent Solids: 28
Initial Volume: 30.3
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503512
ESS Laboratory Sample ID: 1503512-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 4/1/15 14:40

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.596)		8270D		1	04/02/15 18:58	CYD0021	CD50642
1,2-Dichlorobenzene	ND (0.596)		8270D		1	04/02/15 18:58	CYD0021	CD50642
1,3-Dichlorobenzene	ND (0.596)		8270D		1	04/02/15 18:58	CYD0021	CD50642
1,4-Dichlorobenzene	ND (0.596)		8270D		1	04/02/15 18:58	CYD0021	CD50642
2,4,5-Trichlorophenol	ND (0.596)		8270D		1	04/02/15 18:58	CYD0021	CD50642
2,4,6-Trichlorophenol	ND (0.596)		8270D		1	04/02/15 18:58	CYD0021	CD50642
2,4-Dichlorophenol	ND (0.596)		8270D		1	04/02/15 18:58	CYD0021	CD50642
2,4-Dimethylphenol	ND (0.596)		8270D		1	04/02/15 18:58	CYD0021	CD50642
2,4-Dinitrophenol	ND (2.99)		8270D		1	04/02/15 18:58	CYD0021	CD50642
2,4-Dinitrotoluene	ND (0.596)		8270D		1	04/02/15 18:58	CYD0021	CD50642
2,6-Dinitrotoluene	ND (0.596)		8270D		1	04/02/15 18:58	CYD0021	CD50642
2-Chloronaphthalene	ND (0.596)		8270D		1	04/02/15 18:58	CYD0021	CD50642
2-Chlorophenol	ND (0.596)		8270D		1	04/02/15 18:58	CYD0021	CD50642
2-Methylphenol	ND (0.596)		8270D		1	04/02/15 18:58	CYD0021	CD50642
2-Nitrophenol	ND (0.596)		8270D		1	04/02/15 18:58	CYD0021	CD50642
3,3´-Dichlorobenzidine	ND (1.19)		8270D		1	04/02/15 18:58	CYD0021	CD50642
3+4-Methylphenol	ND (1.19)		8270D		1	04/02/15 18:58	CYD0021	CD50642
4-Bromophenyl-phenylether	ND (0.596)		8270D		1	04/02/15 18:58	CYD0021	CD50642
4-Chloroaniline	ND (1.19)		8270D		1	04/02/15 18:58	CYD0021	CD50642
4-Nitrophenol	ND (2.99)		8270D		1	04/02/15 18:58	CYD0021	CD50642
Acetophenone	ND (1.19)		8270D		1	04/02/15 18:58	CYD0021	CD50642
Aniline	ND (2.99)		8270D		1	04/02/15 18:58	CYD0021	CD50642
Azobenzene	ND (0.596)		8270D		1	04/02/15 18:58	CYD0021	CD50642
bis(2-Chloroethoxy)methane	ND (0.596)		8270D		1	04/02/15 18:58	CYD0021	CD50642
bis(2-Chloroethyl)ether	ND (0.596)		8270D		1	04/02/15 18:58	CYD0021	CD50642
bis(2-chloroisopropyl)Ether	ND (0.596)		8270D		1	04/02/15 18:58	CYD0021	CD50642
bis(2-Ethylhexyl)phthalate	**1.14** (0.596)		8270D		1	04/02/15 18:58	CYD0021	CD50642
Butylbenzylphthalate	ND (0.596)		8270D		1	04/02/15 18:58	CYD0021	CD50642
Dibenzofuran	ND (0.596)		8270D		1	04/02/15 18:58	CYD0021	CD50642
Diethylphthalate	ND (0.596)		8270D		1	04/02/15 18:58	CYD0021	CD50642
Dimethylphthalate	ND (0.596)		8270D		1	04/02/15 18:58	CYD0021	CD50642
Di-n-butylphthalate	ND (0.596)		8270D		1	04/02/15 18:58	CYD0021	CD50642

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-201 0ft-0.5ft
Date Sampled: 03/27/15 09:24
Percent Solids: 28
Initial Volume: 30.3
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503512
ESS Laboratory Sample ID: 1503512-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 4/1/15 14:40

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Di-n-octylphthalate	ND (0.596)		8270D		1	04/02/15 18:58	CYD0021	CD50642
Hexachlorobutadiene	ND (0.596)		8270D		1	04/02/15 18:58	CYD0021	CD50642
Hexachloroethane	ND (0.596)		8270D		1	04/02/15 18:58	CYD0021	CD50642
Isophorone	ND (0.596)		8270D		1	04/02/15 18:58	CYD0021	CD50642
Nitrobenzene	ND (0.596)		8270D		1	04/02/15 18:58	CYD0021	CD50642
N-Nitrosodimethylamine	ND (0.596)		8270D		1	04/02/15 18:58	CYD0021	CD50642
Pentachlorophenol	ND (2.99)		8270D		1	04/02/15 18:58	CYD0021	CD50642
Phenol	ND (0.596)		8270D		1	04/02/15 18:58	CYD0021	CD50642

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*46 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*71 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*49 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*50 %*		*30-130*
Surrogate: 2-Fluorophenol	*46 %*		*30-130*
Surrogate: Nitrobenzene-d5	*47 %*		*30-130*
Surrogate: Phenol-d6	*50 %*		*30-130*
Surrogate: p-Terphenyl-d14	*72 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-201 0ft-0.5ft
Date Sampled: 03/27/15 09:24
Percent Solids: 28
Initial Volume: 20.2
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503512
ESS Laboratory Sample ID: 1503512-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 4/1/15 15:30

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.045)		8270D		1	04/04/15 17:52	CYD0062	CD50136
Acenaphthene	**0.021** (0.018)		8270D		1	04/04/15 17:52	CYD0062	CD50136
Acenaphthylene	**0.101** (0.045)		8270D		1	04/04/15 17:52	CYD0062	CD50136
Anthracene	**0.130** (0.045)		8270D		1	04/04/15 17:52	CYD0062	CD50136
Benzo(a)anthracene	**0.276** (0.045)		8270D		1	04/04/15 17:52	CYD0062	CD50136
Benzo(a)pyrene	**0.389** (0.045)		8270D		1	04/04/15 17:52	CYD0062	CD50136
Benzo(b)fluoranthene	**0.594** (0.045)		8270D		1	04/04/15 17:52	CYD0062	CD50136
Benzo(g,h,i)perylene	**0.187** (0.045)		8270D		1	04/04/15 17:52	CYD0062	CD50136
Benzo(k)fluoranthene	**0.190** (0.045)		8270D		1	04/04/15 17:52	CYD0062	CD50136
Chrysene	**0.401** (0.045)		8270D		1	04/04/15 17:52	CYD0062	CD50136
Dibenzo(a,h)Anthracene	**0.055** (0.045)		8270D		1	04/04/15 17:52	CYD0062	CD50136
Fluoranthene	**0.684** (0.045)		8270D		1	04/04/15 17:52	CYD0062	CD50136
Fluorene	**0.033** (0.018)		8270D		1	04/04/15 17:52	CYD0062	CD50136
Hexachlorobenzene	ND (0.018)		8270D		1	04/04/15 17:52	CYD0062	CD50136
Indeno(1,2,3-cd)Pyrene	**0.222** (0.045)		8270D		1	04/04/15 17:52	CYD0062	CD50136
Naphthalene	**0.125** (0.045)		8270D		1	04/04/15 17:52	CYD0062	CD50136
Phenanthrene	**0.230** (0.045)		8270D		1	04/04/15 17:52	CYD0062	CD50136
Pyrene	**0.553** (0.045)		8270D		1	04/04/15 17:52	CYD0062	CD50136

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*41 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*62 %*		*30-130*
Surrogate: Nitrobenzene-d5	*54 %*		*30-130*
Surrogate: p-Terphenyl-d14	*72 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-201 0ft-0.5ft
Date Sampled: 03/27/15 09:24
Percent Solids: 28
Initial Volume: 30.2
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1503512
ESS Laboratory Sample ID: 1503512-05
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 3/31/15 18:19

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	ND (44.9)		MADEP-EPH		1	JXS	04/02/15 5:24	CYC0382	CC53112
C19-C36 Aliphatics1	**141** (44.9)		MADEP-EPH		1	JXS	04/02/15 5:24	CYC0382	CC53112
C11-C22 Unadjusted Aromatics1	**49.0** (44.9)		EPH8270		1	VSC	04/03/15 7:47	CYD0036	CC53112
C11-C22 Aromatics1,2	**49.0** (44.9)		EPH8270			VSC	04/03/15 7:47		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*69 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*79 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*74 %*		*40-140*
Surrogate: O-Terphenyl	*71 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-201 4ft-5ft
Date Sampled: 03/27/15 09:24
Percent Solids: 54
Initial Volume: 20.8
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503512
ESS Laboratory Sample ID: 1503512-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 4/1/15 15:30

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	**0.060** (0.022)		8270D		1	04/04/15 18:41	CYD0062	CD50136
Acenaphthene	ND (0.022)		8270D		1	04/04/15 18:41	CYD0062	CD50136
Acenaphthylene	**0.078** (0.022)		8270D		1	04/04/15 18:41	CYD0062	CD50136
Anthracene	**0.088** (0.022)		8270D		1	04/04/15 18:41	CYD0062	CD50136
Benzo(a)anthracene	**0.154** (0.022)		8270D		1	04/04/15 18:41	CYD0062	CD50136
Benzo(a)pyrene	**0.197** (0.022)		8270D		1	04/04/15 18:41	CYD0062	CD50136
Benzo(b)fluoranthene	**0.276** (0.022)		8270D		1	04/04/15 18:41	CYD0062	CD50136
Benzo(g,h,i)perylene	**0.091** (0.022)		8270D		1	04/04/15 18:41	CYD0062	CD50136
Benzo(k)fluoranthene	**0.103** (0.022)		8270D		1	04/04/15 18:41	CYD0062	CD50136
Chrysene	**0.183** (0.022)		8270D		1	04/04/15 18:41	CYD0062	CD50136
Dibenzo(a,h)Anthracene	**0.029** (0.022)		8270D		1	04/04/15 18:41	CYD0062	CD50136
Fluoranthene	**0.303** (0.022)		8270D		1	04/04/15 18:41	CYD0062	CD50136
Fluorene	**0.029** (0.022)		8270D		1	04/04/15 18:41	CYD0062	CD50136
Hexachlorobenzene	ND (0.022)		8270D		1	04/04/15 18:41	CYD0062	CD50136
Indeno(1,2,3-cd)Pyrene	**0.102** (0.022)		8270D		1	04/04/15 18:41	CYD0062	CD50136
Naphthalene	**0.112** (0.022)		8270D		1	04/04/15 18:41	CYD0062	CD50136
Phenanthrene	**0.124** (0.022)		8270D		1	04/04/15 18:41	CYD0062	CD50136
Pyrene	**0.332** (0.022)		8270D		1	04/04/15 18:41	CYD0062	CD50136

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*34 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*61 %*		*30-130*
Surrogate: Nitrobenzene-d5	*49 %*		*30-130*
Surrogate: p-Terphenyl-d14	*71 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-201 0ft-3ft
Date Sampled: 03/27/15 09:24
Percent Solids: 39
Initial Volume: 11.8
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1503512
ESS Laboratory Sample ID: 1503512-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.0054)		8260B Low		1	03/31/15 13:51	CYC0360	CC53120
1,1,1-Trichloroethane	ND (0.0054)		8260B Low		1	03/31/15 13:51	CYC0360	CC53120
1,1,2,2-Tetrachloroethane	ND (0.0022)		8260B Low		1	03/31/15 13:51	CYC0360	CC53120
1,1,2-Trichloroethane	ND (0.0054)		8260B Low		1	03/31/15 13:51	CYC0360	CC53120
1,1-Dichloroethane	ND (0.0054)		8260B Low		1	03/31/15 13:51	CYC0360	CC53120
1,1-Dichloroethene	ND (0.0054)		8260B Low		1	03/31/15 13:51	CYC0360	CC53120
1,1-Dichloropropene	ND (0.0054)		8260B Low		1	03/31/15 13:51	CYC0360	CC53120
1,2,3-Trichlorobenzene	ND (0.0054)		8260B Low		1	03/31/15 13:51	CYC0360	CC53120
1,2,3-Trichloropropane	ND (0.0054)		8260B Low		1	03/31/15 13:51	CYC0360	CC53120
1,2,4-Trichlorobenzene	ND (0.0054)		8260B Low		1	03/31/15 13:51	CYC0360	CC53120
1,2,4-Trimethylbenzene	ND (0.0054)		8260B Low		1	03/31/15 13:51	CYC0360	CC53120
1,2-Dibromo-3-Chloropropane	ND (0.0054)		8260B Low		1	03/31/15 13:51	CYC0360	CC53120
1,2-Dibromoethane	ND (0.0054)		8260B Low		1	03/31/15 13:51	CYC0360	CC53120
1,2-Dichlorobenzene	ND (0.0054)		8260B Low		1	03/31/15 13:51	CYC0360	CC53120
1,2-Dichloroethane	ND (0.0054)		8260B Low		1	03/31/15 13:51	CYC0360	CC53120
1,2-Dichloropropane	ND (0.0054)		8260B Low		1	03/31/15 13:51	CYC0360	CC53120
1,3,5-Trimethylbenzene	ND (0.0054)		8260B Low		1	03/31/15 13:51	CYC0360	CC53120
1,3-Dichlorobenzene	ND (0.0054)		8260B Low		1	03/31/15 13:51	CYC0360	CC53120
1,3-Dichloropropane	ND (0.0054)		8260B Low		1	03/31/15 13:51	CYC0360	CC53120
1,4-Dichlorobenzene	ND (0.0054)		8260B Low		1	03/31/15 13:51	CYC0360	CC53120
1,4-Dioxane	ND (0.109)		8260B Low		1	03/31/15 13:51	CYC0360	CC53120
2,2-Dichloropropane	ND (0.0054)		8260B Low		1	03/31/15 13:51	CYC0360	CC53120
2-Butanone	ND (0.0109)		8260B Low		1	03/31/15 13:51	CYC0360	CC53120
2-Chlorotoluene	**0.0740** (0.0054)		8260B Low		1	03/31/15 13:51	CYC0360	CC53120
2-Hexanone	ND (0.0109)		8260B Low		1	03/31/15 13:51	CYC0360	CC53120
4-Chlorotoluene	ND (0.0054)		8260B Low		1	03/31/15 13:51	CYC0360	CC53120
4-Isopropyltoluene	ND (0.0054)		8260B Low		1	03/31/15 13:51	CYC0360	CC53120
4-Methyl-2-Pentanone	ND (0.0109)		8260B Low		1	03/31/15 13:51	CYC0360	CC53120
Acetone	ND (0.0109)		8260B Low		1	03/31/15 13:51	CYC0360	CC53120
Benzene	ND (0.0054)		8260B Low		1	03/31/15 13:51	CYC0360	CC53120
Bromobenzene	ND (0.0054)		8260B Low		1	03/31/15 13:51	CYC0360	CC53120
Bromochloromethane	ND (0.0054)		8260B Low		1	03/31/15 13:51	CYC0360	CC53120

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-201 0ft-3ft
Date Sampled: 03/27/15 09:24
Percent Solids: 39
Initial Volume: 11.8
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1503512
ESS Laboratory Sample ID: 1503512-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromodichloromethane	ND (0.0054)		8260B Low		1	03/31/15 13:51	CYC0360	CC53120
Bromoform	ND (0.0054)		8260B Low		1	03/31/15 13:51	CYC0360	CC53120
Bromomethane	ND (0.0109)		8260B Low		1	03/31/15 13:51	CYC0360	CC53120
Carbon Disulfide	ND (0.0054)		8260B Low		1	03/31/15 13:51	CYC0360	CC53120
Carbon Tetrachloride	ND (0.0054)		8260B Low		1	03/31/15 13:51	CYC0360	CC53120
Chlorobenzene	ND (0.0054)		8260B Low		1	03/31/15 13:51	CYC0360	CC53120
Chloroethane	ND (0.0109)		8260B Low		1	03/31/15 13:51	CYC0360	CC53120
Chloroform	ND (0.0054)		8260B Low		1	03/31/15 13:51	CYC0360	CC53120
Chloromethane	ND (0.0109)		8260B Low		1	03/31/15 13:51	CYC0360	CC53120
cis-1,2-Dichloroethene	ND (0.0054)		8260B Low		1	03/31/15 13:51	CYC0360	CC53120
cis-1,3-Dichloropropene	ND (0.0054)		8260B Low		1	03/31/15 13:51	CYC0360	CC53120
Dibromochloromethane	ND (0.0022)		8260B Low		1	03/31/15 13:51	CYC0360	CC53120
Dibromomethane	ND (0.0054)		8260B Low		1	03/31/15 13:51	CYC0360	CC53120
Dichlorodifluoromethane	ND (0.0109)		8260B Low		1	03/31/15 13:51	CYC0360	CC53120
Diethyl Ether	ND (0.0054)		8260B Low		1	03/31/15 13:51	CYC0360	CC53120
Di-isopropyl ether	ND (0.0054)		8260B Low		1	03/31/15 13:51	CYC0360	CC53120
Ethyl tertiary-butyl ether	ND (0.0054)		8260B Low		1	03/31/15 13:51	CYC0360	CC53120
Ethylbenzene	ND (0.0054)		8260B Low		1	03/31/15 13:51	CYC0360	CC53120
Hexachlorobutadiene	ND (0.0054)		8260B Low		1	03/31/15 13:51	CYC0360	CC53120
Isopropylbenzene	ND (0.0054)		8260B Low		1	03/31/15 13:51	CYC0360	CC53120
Methyl tert-Butyl Ether	ND (0.0054)		8260B Low		1	03/31/15 13:51	CYC0360	CC53120
Methylene Chloride	ND (0.0109)		8260B Low		1	03/31/15 13:51	CYC0360	CC53120
Naphthalene	**0.0105** (0.0054)		8260B Low		1	03/31/15 13:51	CYC0360	CC53120
n-Butylbenzene	ND (0.0054)		8260B Low		1	03/31/15 13:51	CYC0360	CC53120
n-Propylbenzene	ND (0.0054)		8260B Low		1	03/31/15 13:51	CYC0360	CC53120
sec-Butylbenzene	ND (0.0054)		8260B Low		1	03/31/15 13:51	CYC0360	CC53120
Styrene	ND (0.0054)		8260B Low		1	03/31/15 13:51	CYC0360	CC53120
tert-Butylbenzene	ND (0.0054)		8260B Low		1	03/31/15 13:51	CYC0360	CC53120
Tertiary-amyl methyl ether	ND (0.0054)		8260B Low		1	03/31/15 13:51	CYC0360	CC53120
Tetrachloroethene	ND (0.0054)		8260B Low		1	03/31/15 13:51	CYC0360	CC53120
Tetrahydrofuran	ND (0.0054)		8260B Low		1	03/31/15 13:51	CYC0360	CC53120
Toluene	ND (0.0054)		8260B Low		1	03/31/15 13:51	CYC0360	CC53120

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-201 0ft-3ft
Date Sampled: 03/27/15 09:24
Percent Solids: 39
Initial Volume: 11.8
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1503512
ESS Laboratory Sample ID: 1503512-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
trans-1,2-Dichloroethene	ND (0.0054)		8260B Low		1	03/31/15 13:51	CYC0360	CC53120
trans-1,3-Dichloropropene	ND (0.0054)		8260B Low		1	03/31/15 13:51	CYC0360	CC53120
Trichloroethene	ND (0.0054)		8260B Low		1	03/31/15 13:51	CYC0360	CC53120
Trichlorofluoromethane	ND (0.0054)		8260B Low		1	03/31/15 13:51	CYC0360	CC53120
Vinyl Chloride	ND (0.0109)		8260B Low		1	03/31/15 13:51	CYC0360	CC53120
Xylene O	ND (0.0054)		8260B Low		1	03/31/15 13:51	CYC0360	CC53120
Xylene P,M	ND (0.0109)		8260B Low		1	03/31/15 13:51	CYC0360	CC53120
Xylenes (Total)	ND (0.0109)		8260B Low		1	03/31/15 13:51		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*100 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*83 %*		*70-130*
Surrogate: Dibromofluoromethane	*98 %*		*70-130*
Surrogate: Toluene-d8	*98 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-201 0ft-3ft
Date Sampled: 03/27/15 09:24
Percent Solids: 39
Initial Volume: 16.4
Final Volume: 15
Extraction Method: 5035

ESS Laboratory Work Order: 1503512
ESS Laboratory Sample ID: 1503512-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MD

5035/8260B Volatile Organic Compounds / Methanol

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.392)		8260B		1	04/02/15 15:49	CYD0027	CD50244
1,1,1-Trichloroethane	ND (0.196)		8260B		1	04/02/15 15:49	CYD0027	CD50244
1,1,2,2-Tetrachloroethane	ND (0.196)		8260B		1	04/02/15 15:49	CYD0027	CD50244
1,1,2-Trichloroethane	ND (0.196)		8260B		1	04/02/15 15:49	CYD0027	CD50244
1,1-Dichloroethane	ND (0.196)		8260B		1	04/02/15 15:49	CYD0027	CD50244
1,1-Dichloroethene	ND (0.196)		8260B		1	04/02/15 15:49	CYD0027	CD50244
1,1-Dichloropropene	ND (0.196)		8260B		1	04/02/15 15:49	CYD0027	CD50244
1,2,3-Trichlorobenzene	ND (0.196)		8260B		1	04/02/15 15:49	CYD0027	CD50244
1,2,3-Trichloropropane	ND (0.196)		8260B		1	04/02/15 15:49	CYD0027	CD50244
1,2,4-Trichlorobenzene	ND (0.196)		8260B		1	04/02/15 15:49	CYD0027	CD50244
1,2,4-Trimethylbenzene	ND (0.196)		8260B		1	04/02/15 15:49	CYD0027	CD50244
1,2-Dibromo-3-Chloropropane	ND (0.784)		8260B		1	04/02/15 15:49	CYD0027	CD50244
1,2-Dibromoethane	ND (0.196)		8260B		1	04/02/15 15:49	CYD0027	CD50244
1,2-Dichlorobenzene	ND (0.196)		8260B		1	04/02/15 15:49	CYD0027	CD50244
1,2-Dichloroethane	ND (0.196)		8260B		1	04/02/15 15:49	CYD0027	CD50244
1,2-Dichloropropane	ND (0.196)		8260B		1	04/02/15 15:49	CYD0027	CD50244
1,3,5-Trimethylbenzene	ND (0.196)		8260B		1	04/02/15 15:49	CYD0027	CD50244
1,3-Dichlorobenzene	ND (0.196)		8260B		1	04/02/15 15:49	CYD0027	CD50244
1,3-Dichloropropane	ND (0.196)		8260B		1	04/02/15 15:49	CYD0027	CD50244
1,4-Dichlorobenzene	ND (0.196)		8260B		1	04/02/15 15:49	CYD0027	CD50244
1,4-Dioxane - Screen	ND (19.6)		8260B		1	04/02/15 15:49	CYD0027	CD50244
2,2-Dichloropropane	ND (0.392)		8260B		1	04/02/15 15:49	CYD0027	CD50244
2-Butanone	ND (0.784)		8260B		1	04/02/15 15:49	CYD0027	CD50244
2-Chlorotoluene	ND (0.196)		8260B		1	04/02/15 15:49	CYD0027	CD50244
2-Hexanone	ND (0.784)		8260B		1	04/02/15 15:49	CYD0027	CD50244
4-Chlorotoluene	ND (0.196)		8260B		1	04/02/15 15:49	CYD0027	CD50244
4-Isopropyltoluene	ND (0.196)		8260B		1	04/02/15 15:49	CYD0027	CD50244
4-Methyl-2-Pentanone	ND (0.784)		8260B		1	04/02/15 15:49	CYD0027	CD50244
Acetone	ND (0.784)		8260B		1	04/02/15 15:49	CYD0027	CD50244
Benzene	ND (0.196)		8260B		1	04/02/15 15:49	CYD0027	CD50244
Bromobenzene	ND (0.196)		8260B		1	04/02/15 15:49	CYD0027	CD50244
Bromochloromethane	ND (0.196)		8260B		1	04/02/15 15:49	CYD0027	CD50244

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-201 0ft-3ft
Date Sampled: 03/27/15 09:24
Percent Solids: 39
Initial Volume: 16.4
Final Volume: 15
Extraction Method: 5035

ESS Laboratory Work Order: 1503512
ESS Laboratory Sample ID: 1503512-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MD

5035/8260B Volatile Organic Compounds / Methanol

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromodichloromethane	ND (0.196)		8260B		1	04/02/15 15:49	CYD0027	CD50244
Bromoform	ND (0.196)		8260B		1	04/02/15 15:49	CYD0027	CD50244
Bromomethane	ND (0.392)		8260B		1	04/02/15 15:49	CYD0027	CD50244
Carbon Disulfide	ND (0.196)		8260B		1	04/02/15 15:49	CYD0027	CD50244
Carbon Tetrachloride	ND (0.196)		8260B		1	04/02/15 15:49	CYD0027	CD50244
Chlorobenzene	ND (0.196)		8260B		1	04/02/15 15:49	CYD0027	CD50244
Chloroethane	ND (0.392)		8260B		1	04/02/15 15:49	CYD0027	CD50244
Chloroform	ND (0.196)		8260B		1	04/02/15 15:49	CYD0027	CD50244
Chloromethane	ND (0.392)		8260B		1	04/02/15 15:49	CYD0027	CD50244
cis-1,2-Dichloroethene	ND (0.196)		8260B		1	04/02/15 15:49	CYD0027	CD50244
cis-1,3-Dichloropropene	ND (0.196)		8260B		1	04/02/15 15:49	CYD0027	CD50244
Dibromochloromethane	ND (0.196)		8260B		1	04/02/15 15:49	CYD0027	CD50244
Dibromomethane	ND (0.196)		8260B		1	04/02/15 15:49	CYD0027	CD50244
Dichlorodifluoromethane	ND (0.196)		8260B		1	04/02/15 15:49	CYD0027	CD50244
Diethyl Ether	ND (0.196)		8260B		1	04/02/15 15:49	CYD0027	CD50244
Di-isopropyl ether	ND (0.196)		8260B		1	04/02/15 15:49	CYD0027	CD50244
Ethyl tertiary-butyl ether	ND (0.196)		8260B		1	04/02/15 15:49	CYD0027	CD50244
Ethylbenzene	ND (0.196)		8260B		1	04/02/15 15:49	CYD0027	CD50244
Hexachlorobutadiene	ND (0.196)		8260B		1	04/02/15 15:49	CYD0027	CD50244
Isopropylbenzene	ND (0.196)		8260B		1	04/02/15 15:49	CYD0027	CD50244
Methyl tert-Butyl Ether	ND (0.196)		8260B		1	04/02/15 15:49	CYD0027	CD50244
Methylene Chloride	ND (0.784)		8260B		1	04/02/15 15:49	CYD0027	CD50244
Naphthalene	ND (0.196)		8260B		1	04/02/15 15:49	CYD0027	CD50244
n-Butylbenzene	ND (0.196)		8260B		1	04/02/15 15:49	CYD0027	CD50244
n-Propylbenzene	ND (0.196)		8260B		1	04/02/15 15:49	CYD0027	CD50244
sec-Butylbenzene	ND (0.196)		8260B		1	04/02/15 15:49	CYD0027	CD50244
Styrene	ND (0.196)		8260B		1	04/02/15 15:49	CYD0027	CD50244
tert-Butylbenzene	ND (0.196)		8260B		1	04/02/15 15:49	CYD0027	CD50244
Tertiary-amyl methyl ether	ND (0.196)		8260B		1	04/02/15 15:49	CYD0027	CD50244
Tetrachloroethene	ND (0.196)		8260B		1	04/02/15 15:49	CYD0027	CD50244
Tetrahydrofuran	ND (0.784)		8260B		1	04/02/15 15:49	CYD0027	CD50244
Toluene	ND (0.196)		8260B		1	04/02/15 15:49	CYD0027	CD50244

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-201 0ft-3ft
Date Sampled: 03/27/15 09:24
Percent Solids: 39
Initial Volume: 16.4
Final Volume: 15
Extraction Method: 5035

ESS Laboratory Work Order: 1503512
ESS Laboratory Sample ID: 1503512-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MD

5035/8260B Volatile Organic Compounds / Methanol

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
trans-1,2-Dichloroethene	ND (0.196)		8260B		1	04/02/15 15:49	CYD0027	CD50244
trans-1,3-Dichloropropene	ND (0.196)		8260B		1	04/02/15 15:49	CYD0027	CD50244
Trichloroethene	ND (0.196)		8260B		1	04/02/15 15:49	CYD0027	CD50244
Trichlorofluoromethane	ND (0.196)		8260B		1	04/02/15 15:49	CYD0027	CD50244
Vinyl Chloride	ND (0.196)		8260B		1	04/02/15 15:49	CYD0027	CD50244
Xylene O	ND (0.196)		8260B		1	04/02/15 15:49	CYD0027	CD50244
Xylene P,M	ND (0.392)		8260B		1	04/02/15 15:49	CYD0027	CD50244
Xylenes (Total)	ND (0.392)		8260B		1	04/02/15 15:49		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*99 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*89 %*		*70-130*
Surrogate: Dibromofluoromethane	*113 %*		*70-130*
Surrogate: Toluene-d8	*93 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-201 0ft-3ft
Date Sampled: 03/27/15 09:24
Percent Solids: 39
Initial Volume: 30
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503512
ESS Laboratory Sample ID: 1503512-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 4/1/15 14:40

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.428)		8270D		1	04/02/15 19:33	CYD0021	CD50642
1,2-Dichlorobenzene	ND (0.428)		8270D		1	04/02/15 19:33	CYD0021	CD50642
1,3-Dichlorobenzene	ND (0.428)		8270D		1	04/02/15 19:33	CYD0021	CD50642
1,4-Dichlorobenzene	ND (0.428)		8270D		1	04/02/15 19:33	CYD0021	CD50642
2,4,5-Trichlorophenol	ND (0.428)		8270D		1	04/02/15 19:33	CYD0021	CD50642
2,4,6-Trichlorophenol	ND (0.428)		8270D		1	04/02/15 19:33	CYD0021	CD50642
2,4-Dichlorophenol	ND (0.428)		8270D		1	04/02/15 19:33	CYD0021	CD50642
2,4-Dimethylphenol	ND (0.428)		8270D		1	04/02/15 19:33	CYD0021	CD50642
2,4-Dinitrophenol	ND (2.15)		8270D		1	04/02/15 19:33	CYD0021	CD50642
2,4-Dinitrotoluene	ND (0.428)		8270D		1	04/02/15 19:33	CYD0021	CD50642
2,6-Dinitrotoluene	ND (0.428)		8270D		1	04/02/15 19:33	CYD0021	CD50642
2-Chloronaphthalene	ND (0.428)		8270D		1	04/02/15 19:33	CYD0021	CD50642
2-Chlorophenol	ND (0.428)		8270D		1	04/02/15 19:33	CYD0021	CD50642
2-Methylphenol	ND (0.428)		8270D		1	04/02/15 19:33	CYD0021	CD50642
2-Nitrophenol	ND (0.428)		8270D		1	04/02/15 19:33	CYD0021	CD50642
3,3´-Dichlorobenzidine	ND (0.857)		8270D		1	04/02/15 19:33	CYD0021	CD50642
3+4-Methylphenol	ND (0.857)		8270D		1	04/02/15 19:33	CYD0021	CD50642
4-Bromophenyl-phenylether	ND (0.428)		8270D		1	04/02/15 19:33	CYD0021	CD50642
4-Chloroaniline	ND (0.857)		8270D		1	04/02/15 19:33	CYD0021	CD50642
4-Nitrophenol	ND (2.15)		8270D		1	04/02/15 19:33	CYD0021	CD50642
Acetophenone	ND (0.857)		8270D		1	04/02/15 19:33	CYD0021	CD50642
Aniline	ND (2.15)		8270D		1	04/02/15 19:33	CYD0021	CD50642
Azobenzene	ND (0.428)		8270D		1	04/02/15 19:33	CYD0021	CD50642
bis(2-Chloroethoxy)methane	ND (0.428)		8270D		1	04/02/15 19:33	CYD0021	CD50642
bis(2-Chloroethyl)ether	ND (0.428)		8270D		1	04/02/15 19:33	CYD0021	CD50642
bis(2-chloroisopropyl)Ether	ND (0.428)		8270D		1	04/02/15 19:33	CYD0021	CD50642
bis(2-Ethylhexyl)phthalate	**76.0** (4.28)		8270D		10	04/04/15 4:10	CYD0021	CD50642
Butylbenzylphthalate	ND (0.428)		8270D		1	04/02/15 19:33	CYD0021	CD50642
Dibenzofuran	ND (0.428)		8270D		1	04/02/15 19:33	CYD0021	CD50642
Diethylphthalate	ND (0.428)		8270D		1	04/02/15 19:33	CYD0021	CD50642
Dimethylphthalate	ND (0.428)		8270D		1	04/02/15 19:33	CYD0021	CD50642
Di-n-butylphthalate	ND (0.428)		8270D		1	04/02/15 19:33	CYD0021	CD50642

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-201 0ft-3ft
Date Sampled: 03/27/15 09:24
Percent Solids: 39
Initial Volume: 30
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503512
ESS Laboratory Sample ID: 1503512-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 4/1/15 14:40

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Di-n-octylphthalate	**1.35** (0.428)		8270D		1	04/02/15 19:33	CYD0021	CD50642
Hexachlorobutadiene	ND (0.428)		8270D		1	04/02/15 19:33	CYD0021	CD50642
Hexachloroethane	ND (0.428)		8270D		1	04/02/15 19:33	CYD0021	CD50642
Isophorone	ND (0.428)		8270D		1	04/02/15 19:33	CYD0021	CD50642
Nitrobenzene	ND (0.428)		8270D		1	04/02/15 19:33	CYD0021	CD50642
N-Nitrosodimethylamine	ND (0.428)		8270D		1	04/02/15 19:33	CYD0021	CD50642
Pentachlorophenol	ND (2.15)		8270D		1	04/02/15 19:33	CYD0021	CD50642
Phenol	ND (0.428)		8270D		1	04/02/15 19:33	CYD0021	CD50642

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*49 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*72 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*51 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*60 %*		*30-130*
Surrogate: 2-Fluorophenol	*49 %*		*30-130*
Surrogate: Nitrobenzene-d5	*51 %*		*30-130*
Surrogate: Phenol-d6	*54 %*		*30-130*
Surrogate: p-Terphenyl-d14	*67 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-201 0ft-3ft
Date Sampled: 03/27/15 09:24
Percent Solids: 39

ESS Laboratory Work Order: 1503512
ESS Laboratory Sample ID: 1503512-07
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Corrosivity (pH)	**H 7.91** (N/A)		9045		1	JLK	03/28/15 10:32	S.U.	CC52811
Corrosivity (pH) Sample Temp	**Soil pH measured in water at 15.1 ºC.**								
Eh (ORP)	**H, WL** ND (N/A)		2580		1	JLK	03/28/15 10:32	mv	CC52818
Grain Size	**See Attached** (N/A)								
Hexavalent Chromium	ND (1.0)		7196A		1	JLK	03/28/15 11:00	mg/kg dry	CC52807
Percent Water	**See Attached** (N/A)								
Reactive Cyanide	ND (2.0)		7.3.3.2		1	JLK	03/31/15 10:59	mg/kg	CC53003
Reactive Sulfide	ND (2.0)		7.3.4.1		1	JLK	03/31/15 10:59	mg/kg	CC53003

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-201 0ft-3ft
Date Sampled: 03/27/15 09:24
Percent Solids: 39
Initial Volume: 30.1
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1503512
ESS Laboratory Sample ID: 1503512-07
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 3/31/15 18:19

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	ND (32.0)		MADEP-EPH		1	JXS	04/02/15 7:55	CYC0382	CC53112
C19-C36 Aliphatics1	**64.0** (32.0)		MADEP-EPH		1	JXS	04/02/15 7:55	CYC0382	CC53112
C11-C22 Unadjusted Aromatics1	**42.9** (32.0)		EPH8270		1	VSC	04/03/15 8:22	CYD0036	CC53112
C11-C22 Aromatics1,2	**42.9** (32.0)		EPH8270			VSC	04/03/15 8:22		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*58 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*85 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*85 %*		*40-140*
Surrogate: O-Terphenyl	*76 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-106 0ft-0.5ft
Date Sampled: 03/27/15 09:24
Percent Solids: 32
Initial Volume: 30.5
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503512
ESS Laboratory Sample ID: 1503512-08
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 4/1/15 14:40

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.518)		8270D		1	04/02/15 20:09	CYD0021	CD50642
1,2-Dichlorobenzene	ND (0.518)		8270D		1	04/02/15 20:09	CYD0021	CD50642
1,3-Dichlorobenzene	ND (0.518)		8270D		1	04/02/15 20:09	CYD0021	CD50642
1,4-Dichlorobenzene	ND (0.518)		8270D		1	04/02/15 20:09	CYD0021	CD50642
2,4,5-Trichlorophenol	ND (0.518)		8270D		1	04/02/15 20:09	CYD0021	CD50642
2,4,6-Trichlorophenol	ND (0.518)		8270D		1	04/02/15 20:09	CYD0021	CD50642
2,4-Dichlorophenol	ND (0.518)		8270D		1	04/02/15 20:09	CYD0021	CD50642
2,4-Dimethylphenol	ND (0.518)		8270D		1	04/02/15 20:09	CYD0021	CD50642
2,4-Dinitrophenol	ND (2.60)		8270D		1	04/02/15 20:09	CYD0021	CD50642
2,4-Dinitrotoluene	ND (0.518)		8270D		1	04/02/15 20:09	CYD0021	CD50642
2,6-Dinitrotoluene	ND (0.518)		8270D		1	04/02/15 20:09	CYD0021	CD50642
2-Chloronaphthalene	ND (0.518)		8270D		1	04/02/15 20:09	CYD0021	CD50642
2-Chlorophenol	ND (0.518)		8270D		1	04/02/15 20:09	CYD0021	CD50642
2-Methylphenol	ND (0.518)		8270D		1	04/02/15 20:09	CYD0021	CD50642
2-Nitrophenol	ND (0.518)		8270D		1	04/02/15 20:09	CYD0021	CD50642
3,3´-Dichlorobenzidine	ND (1.04)		8270D		1	04/02/15 20:09	CYD0021	CD50642
3+4-Methylphenol	ND (1.04)		8270D		1	04/02/15 20:09	CYD0021	CD50642
4-Bromophenyl-phenylether	ND (0.518)		8270D		1	04/02/15 20:09	CYD0021	CD50642
4-Chloroaniline	ND (1.04)		8270D		1	04/02/15 20:09	CYD0021	CD50642
4-Nitrophenol	ND (2.60)		8270D		1	04/02/15 20:09	CYD0021	CD50642
Acetophenone	ND (1.04)		8270D		1	04/02/15 20:09	CYD0021	CD50642
Aniline	ND (2.60)		8270D		1	04/02/15 20:09	CYD0021	CD50642
Azobenzene	ND (0.518)		8270D		1	04/02/15 20:09	CYD0021	CD50642
bis(2-Chloroethoxy)methane	ND (0.518)		8270D		1	04/02/15 20:09	CYD0021	CD50642
bis(2-Chloroethyl)ether	ND (0.518)		8270D		1	04/02/15 20:09	CYD0021	CD50642
bis(2-chloroisopropyl)Ether	ND (0.518)		8270D		1	04/02/15 20:09	CYD0021	CD50642
bis(2-Ethylhexyl)phthalate	**1.53** (0.518)		8270D		1	04/02/15 20:09	CYD0021	CD50642
Butylbenzylphthalate	ND (0.518)		8270D		1	04/02/15 20:09	CYD0021	CD50642
Dibenzofuran	ND (0.518)		8270D		1	04/02/15 20:09	CYD0021	CD50642
Diethylphthalate	ND (0.518)		8270D		1	04/02/15 20:09	CYD0021	CD50642
Dimethylphthalate	ND (0.518)		8270D		1	04/02/15 20:09	CYD0021	CD50642
Di-n-butylphthalate	ND (0.518)		8270D		1	04/02/15 20:09	CYD0021	CD50642

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-106 0ft-0.5ft
Date Sampled: 03/27/15 09:24
Percent Solids: 32
Initial Volume: 30.5
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503512
ESS Laboratory Sample ID: 1503512-08
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 4/1/15 14:40

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Di-n-octylphthalate	ND (0.518)		8270D		1	04/02/15 20:09	CYD0021	CD50642
Hexachlorobutadiene	ND (0.518)		8270D		1	04/02/15 20:09	CYD0021	CD50642
Hexachloroethane	ND (0.518)		8270D		1	04/02/15 20:09	CYD0021	CD50642
Isophorone	ND (0.518)		8270D		1	04/02/15 20:09	CYD0021	CD50642
Nitrobenzene	ND (0.518)		8270D		1	04/02/15 20:09	CYD0021	CD50642
N-Nitrosodimethylamine	ND (0.518)		8270D		1	04/02/15 20:09	CYD0021	CD50642
Pentachlorophenol	ND (2.60)		8270D		1	04/02/15 20:09	CYD0021	CD50642
Phenol	ND (0.518)		8270D		1	04/02/15 20:09	CYD0021	CD50642

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*47 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*69 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*51 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*51 %*		*30-130*
Surrogate: 2-Fluorophenol	*48 %*		*30-130*
Surrogate: Nitrobenzene-d5	*49 %*		*30-130*
Surrogate: Phenol-d6	*53 %*		*30-130*
Surrogate: p-Terphenyl-d14	*68 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-106 0ft-0.5ft
Date Sampled: 03/27/15 09:24
Percent Solids: 32
Initial Volume: 20.2
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503512
ESS Laboratory Sample ID: 1503512-08
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 4/1/15 15:30

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	**0.046** (0.039)		8270D		1	04/04/15 19:29	CYD0062	CD50136
Acenaphthene	**0.055** (0.039)		8270D		1	04/04/15 19:29	CYD0062	CD50136
Acenaphthylene	**0.198** (0.039)		8270D		1	04/04/15 19:29	CYD0062	CD50136
Anthracene	**0.292** (0.039)		8270D		1	04/04/15 19:29	CYD0062	CD50136
Benzo(a)anthracene	**0.620** (0.039)		8270D		1	04/04/15 19:29	CYD0062	CD50136
Benzo(a)pyrene	**0.888** (0.039)		8270D		1	04/04/15 19:29	CYD0062	CD50136
Benzo(b)fluoranthene	**1.37** (0.039)		8270D		1	04/04/15 19:29	CYD0062	CD50136
Benzo(g,h,i)perylene	**0.380** (0.039)		8270D		1	04/04/15 19:29	CYD0062	CD50136
Benzo(k)fluoranthene	**0.489** (0.039)		8270D		1	04/04/15 19:29	CYD0062	CD50136
Chrysene	**0.893** (0.039)		8270D		1	04/04/15 19:29	CYD0062	CD50136
Dibenzo(a,h)Anthracene	**0.116** (0.039)		8270D		1	04/04/15 19:29	CYD0062	CD50136
Fluoranthene	**1.64** (0.039)		8270D		1	04/04/15 19:29	CYD0062	CD50136
Fluorene	**0.082** (0.039)		8270D		1	04/04/15 19:29	CYD0062	CD50136
Hexachlorobenzene	ND (0.039)		8270D		1	04/04/15 19:29	CYD0062	CD50136
Indeno(1,2,3-cd)Pyrene	**0.473** (0.039)		8270D		1	04/04/15 19:29	CYD0062	CD50136
Naphthalene	**0.234** (0.039)		8270D		1	04/04/15 19:29	CYD0062	CD50136
Phenanthrene	**0.634** (0.039)		8270D		1	04/04/15 19:29	CYD0062	CD50136
Pyrene	**1.29** (0.039)		8270D		1	04/04/15 19:29	CYD0062	CD50136

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*40 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*61 %*		*30-130*
Surrogate: Nitrobenzene-d5	*54 %*		*30-130*
Surrogate: p-Terphenyl-d14	*73 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-106 0ft-0.5ft
Date Sampled: 03/27/15 09:24
Percent Solids: 32
Initial Volume: 30.1
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1503512
ESS Laboratory Sample ID: 1503512-08
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 3/31/15 18:19

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	ND (39.4)		MADEP-EPH		1	JXS	04/02/15 8:46	CYC0382	CC53112
C19-C36 Aliphatics1	**132** (39.4)		MADEP-EPH		1	JXS	04/02/15 8:46	CYC0382	CC53112
C11-C22 Unadjusted Aromatics1	**47.3** (39.4)		EPH8270		1	VSC	04/03/15 8:56	CYD0036	CC53112
C11-C22 Aromatics1,2	**45.1** (39.4)		EPH8270			VSC	04/03/15 8:56		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*66 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*85 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*85 %*		*40-140*
Surrogate: O-Terphenyl	*80 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-106 0.5ft-2ft
Date Sampled: 03/27/15 09:24
Percent Solids: 38
Initial Volume: 30.3
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503512
ESS Laboratory Sample ID: 1503512-09
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 4/1/15 14:40

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.439)		8270D		1	04/03/15 2:49	CYD0033	CD50642
1,2-Dichlorobenzene	ND (0.439)		8270D		1	04/03/15 2:49	CYD0033	CD50642
1,3-Dichlorobenzene	ND (0.439)		8270D		1	04/03/15 2:49	CYD0033	CD50642
1,4-Dichlorobenzene	ND (0.439)		8270D		1	04/03/15 2:49	CYD0033	CD50642
2,4,5-Trichlorophenol	ND (0.439)		8270D		1	04/03/15 2:49	CYD0033	CD50642
2,4,6-Trichlorophenol	ND (0.439)		8270D		1	04/03/15 2:49	CYD0033	CD50642
2,4-Dichlorophenol	ND (0.439)		8270D		1	04/03/15 2:49	CYD0033	CD50642
2,4-Dimethylphenol	ND (0.439)		8270D		1	04/03/15 2:49	CYD0033	CD50642
2,4-Dinitrophenol	ND (2.20)		8270D		1	04/03/15 2:49	CYD0033	CD50642
2,4-Dinitrotoluene	ND (0.439)		8270D		1	04/03/15 2:49	CYD0033	CD50642
2,6-Dinitrotoluene	ND (0.439)		8270D		1	04/03/15 2:49	CYD0033	CD50642
2-Chloronaphthalene	ND (0.439)		8270D		1	04/03/15 2:49	CYD0033	CD50642
2-Chlorophenol	ND (0.439)		8270D		1	04/03/15 2:49	CYD0033	CD50642
2-Methylphenol	ND (0.439)		8270D		1	04/03/15 2:49	CYD0033	CD50642
2-Nitrophenol	ND (0.439)		8270D		1	04/03/15 2:49	CYD0033	CD50642
3,3´-Dichlorobenzidine	ND (0.879)		8270D		1	04/03/15 2:49	CYD0033	CD50642
3+4-Methylphenol	ND (0.879)		8270D		1	04/03/15 2:49	CYD0033	CD50642
4-Bromophenyl-phenylether	ND (0.439)		8270D		1	04/03/15 2:49	CYD0033	CD50642
4-Chloroaniline	ND (0.879)		8270D		1	04/03/15 2:49	CYD0033	CD50642
4-Nitrophenol	ND (2.20)		8270D		1	04/03/15 2:49	CYD0033	CD50642
Acetophenone	ND (0.879)		8270D		1	04/03/15 2:49	CYD0033	CD50642
Aniline	ND (2.20)		8270D		1	04/03/15 2:49	CYD0033	CD50642
Azobenzene	ND (0.439)		8270D		1	04/03/15 2:49	CYD0033	CD50642
bis(2-Chloroethoxy)methane	ND (0.439)		8270D		1	04/03/15 2:49	CYD0033	CD50642
bis(2-Chloroethyl)ether	ND (0.439)		8270D		1	04/03/15 2:49	CYD0033	CD50642
bis(2-chloroisopropyl)Ether	ND (0.439)		8270D		1	04/03/15 2:49	CYD0033	CD50642
bis(2-Ethylhexyl)phthalate	**25.4** (4.39)		8270D		10	04/04/15 4:46	CYD0033	CD50642
Butylbenzylphthalate	ND (0.439)		8270D		1	04/03/15 2:49	CYD0033	CD50642
Dibenzofuran	ND (0.439)		8270D		1	04/03/15 2:49	CYD0033	CD50642
Diethylphthalate	ND (0.439)		8270D		1	04/03/15 2:49	CYD0033	CD50642
Dimethylphthalate	ND (0.439)		8270D		1	04/03/15 2:49	CYD0033	CD50642
Di-n-butylphthalate	ND (0.439)		8270D		1	04/03/15 2:49	CYD0033	CD50642

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-106 0.5ft-2ft
Date Sampled: 03/27/15 09:24
Percent Solids: 38
Initial Volume: 30.3
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503512
ESS Laboratory Sample ID: 1503512-09
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 4/1/15 14:40

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Di-n-octylphthalate	ND (0.439)		8270D		1	04/03/15 2:49	CYD0033	CD50642
Hexachlorobutadiene	ND (0.439)		8270D		1	04/03/15 2:49	CYD0033	CD50642
Hexachloroethane	ND (0.439)		8270D		1	04/03/15 2:49	CYD0033	CD50642
Isophorone	ND (0.439)		8270D		1	04/03/15 2:49	CYD0033	CD50642
Nitrobenzene	ND (0.439)		8270D		1	04/03/15 2:49	CYD0033	CD50642
N-Nitrosodimethylamine	ND (0.439)		8270D		1	04/03/15 2:49	CYD0033	CD50642
Pentachlorophenol	ND (2.20)		8270D		1	04/03/15 2:49	CYD0033	CD50642
Phenol	ND (0.439)		8270D		1	04/03/15 2:49	CYD0033	CD50642

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*37 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*70 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*39 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*55 %*		*30-130*
Surrogate: 2-Fluorophenol	*39 %*		*30-130*
Surrogate: Nitrobenzene-d5	*42 %*		*30-130*
Surrogate: Phenol-d6	*44 %*		*30-130*
Surrogate: p-Terphenyl-d14	*64 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-106 0.5ft-2ft
Date Sampled: 03/27/15 09:24
Percent Solids: 38
Initial Volume: 20.2
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503512
ESS Laboratory Sample ID: 1503512-09
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 4/1/15 15:30

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	**0.080** (0.033)		8270D		1	04/09/15 10:29	CYD0127	CD50136
Acenaphthene	**0.072** (0.033)		8270D		1	04/09/15 10:29	CYD0127	CD50136
Acenaphthylene	**0.330** (0.033)		8270D		1	04/09/15 10:29	CYD0127	CD50136
Anthracene	**0.343** (0.033)		8270D		1	04/09/15 10:29	CYD0127	CD50136
Benzo(a)anthracene	**0.624** (0.033)		8270D		1	04/09/15 10:29	CYD0127	CD50136
Benzo(a)pyrene	**0.924** (0.033)		8270D		1	04/09/15 10:29	CYD0127	CD50136
Benzo(b)fluoranthene	**1.53** (0.033)		8270D		1	04/09/15 10:29	CYD0127	CD50136
Benzo(g,h,i)perylene	**0.416** (0.033)		8270D		1	04/09/15 10:29	CYD0127	CD50136
Benzo(k)fluoranthene	**0.445** (0.033)		8270D		1	04/09/15 10:29	CYD0127	CD50136
Chrysene	**0.778** (0.033)		8270D		1	04/09/15 10:29	CYD0127	CD50136
Dibenzo(a,h)Anthracene	**0.134** (0.033)		8270D		1	04/09/15 10:29	CYD0127	CD50136
Fluoranthene	**1.22** (0.033)		8270D		1	04/09/15 10:29	CYD0127	CD50136
Fluorene	**0.108** (0.033)		8270D		1	04/09/15 10:29	CYD0127	CD50136
Hexachlorobenzene	ND (0.033)		8270D		1	04/09/15 10:29	CYD0127	CD50136
Indeno(1,2,3-cd)Pyrene	**0.550** (0.033)		8270D		1	04/09/15 10:29	CYD0127	CD50136
Naphthalene	**0.490** (0.033)		8270D		1	04/09/15 10:29	CYD0127	CD50136
Phenanthrene	**0.594** (0.033)		8270D		1	04/09/15 10:29	CYD0127	CD50136
Pyrene	**1.36** (0.033)		8270D		1	04/09/15 10:29	CYD0127	CD50136

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*42 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*66 %*		*30-130*
Surrogate: Nitrobenzene-d5	*44 %*		*30-130*
Surrogate: p-Terphenyl-d14	*69 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-106 0.5ft-2ft
Date Sampled: 03/27/15 09:24
Percent Solids: 38
Initial Volume: 30.1
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1503512
ESS Laboratory Sample ID: 1503512-09
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 3/31/15 18:19

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	**36.2** (33.2)		MADEP-EPH		1	JXS	04/02/15 9:37	CYC0382	CC53112
C19-C36 Aliphatics1	**192** (33.2)		MADEP-EPH		1	JXS	04/02/15 9:37	CYC0382	CC53112
C11-C22 Unadjusted Aromatics1	**99.9** (33.2)		EPH8270		1	VSC	04/03/15 9:30	CYD0036	CC53112
C11-C22 Aromatics1,2	**93.7** (33.2)		EPH8270			VSC	04/03/15 9:30		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*65 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*81 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*78 %*		*40-140*
Surrogate: O-Terphenyl	*80 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-106 4ft-6ft
Date Sampled: 03/27/15 09:24
Percent Solids: 47
Initial Volume: 20.6
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503512
ESS Laboratory Sample ID: 1503512-10
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 4/1/15 15:30

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	**0.805** (0.026)		8270D		1	04/04/15 21:07	CYD0062	CD50136
Acenaphthene	**0.728** (0.026)		8270D		1	04/04/15 21:07	CYD0062	CD50136
Acenaphthylene	**0.800** (0.026)		8270D		1	04/04/15 21:07	CYD0062	CD50136
Anthracene	**1.30** (0.026)		8270D		1	04/04/15 21:07	CYD0062	CD50136
Benzo(a)anthracene	**1.15** (0.026)		8270D		1	04/04/15 21:07	CYD0062	CD50136
Benzo(a)pyrene	**0.990** (0.026)		8270D		1	04/04/15 21:07	CYD0062	CD50136
Benzo(b)fluoranthene	**1.37** (0.026)		8270D		1	04/04/15 21:07	CYD0062	CD50136
Benzo(g,h,i)perylene	**0.337** (0.026)		8270D		1	04/04/15 21:07	CYD0062	CD50136
Benzo(k)fluoranthene	**0.482** (0.026)		8270D		1	04/04/15 21:07	CYD0062	CD50136
Chrysene	**1.25** (0.026)		8270D		1	04/04/15 21:07	CYD0062	CD50136
Dibenzo(a,h)Anthracene	**0.122** (0.026)		8270D		1	04/04/15 21:07	CYD0062	CD50136
Fluoranthene	**2.19** (0.026)		8270D		1	04/04/15 21:07	CYD0062	CD50136
Fluorene	**0.248** (0.026)		8270D		1	04/04/15 21:07	CYD0062	CD50136
Hexachlorobenzene	ND (0.026)		8270D		1	04/04/15 21:07	CYD0062	CD50136
Indeno(1,2,3-cd)Pyrene	**0.402** (0.026)		8270D		1	04/04/15 21:07	CYD0062	CD50136
Naphthalene	**4.90** (0.130)		8270D		5	04/09/15 2:19	CYD0062	CD50136
Phenanthrene	**2.27** (0.026)		8270D		1	04/04/15 21:07	CYD0062	CD50136
Pyrene	**2.52** (0.026)		8270D		1	04/04/15 21:07	CYD0062	CD50136

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*45 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*67 %*		*30-130*
Surrogate: Nitrobenzene-d5	*55 %*		*30-130*
Surrogate: p-Terphenyl-d14	*73 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-110 0.5ft-2ft
Date Sampled: 03/27/15 10:27
Percent Solids: 41
Initial Volume: 30.4
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503512
ESS Laboratory Sample ID: 1503512-11
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 4/1/15 14:40

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.402)		8270D		1	04/03/15 3:25	CYD0033	CD50642
1,2-Dichlorobenzene	ND (0.402)		8270D		1	04/03/15 3:25	CYD0033	CD50642
1,3-Dichlorobenzene	ND (0.402)		8270D		1	04/03/15 3:25	CYD0033	CD50642
1,4-Dichlorobenzene	ND (0.402)		8270D		1	04/03/15 3:25	CYD0033	CD50642
2,4,5-Trichlorophenol	ND (0.402)		8270D		1	04/03/15 3:25	CYD0033	CD50642
2,4,6-Trichlorophenol	ND (0.402)		8270D		1	04/03/15 3:25	CYD0033	CD50642
2,4-Dichlorophenol	ND (0.402)		8270D		1	04/03/15 3:25	CYD0033	CD50642
2,4-Dimethylphenol	ND (0.402)		8270D		1	04/03/15 3:25	CYD0033	CD50642
2,4-Dinitrophenol	ND (2.01)		8270D		1	04/03/15 3:25	CYD0033	CD50642
2,4-Dinitrotoluene	ND (0.402)		8270D		1	04/03/15 3:25	CYD0033	CD50642
2,6-Dinitrotoluene	ND (0.402)		8270D		1	04/03/15 3:25	CYD0033	CD50642
2-Chloronaphthalene	ND (0.402)		8270D		1	04/03/15 3:25	CYD0033	CD50642
2-Chlorophenol	ND (0.402)		8270D		1	04/03/15 3:25	CYD0033	CD50642
2-Methylphenol	ND (0.402)		8270D		1	04/03/15 3:25	CYD0033	CD50642
2-Nitrophenol	ND (0.402)		8270D		1	04/03/15 3:25	CYD0033	CD50642
3,3´-Dichlorobenzidine	ND (0.805)		8270D		1	04/03/15 3:25	CYD0033	CD50642
3+4-Methylphenol	ND (0.805)		8270D		1	04/03/15 3:25	CYD0033	CD50642
4-Bromophenyl-phenylether	ND (0.402)		8270D		1	04/03/15 3:25	CYD0033	CD50642
4-Chloroaniline	ND (0.805)		8270D		1	04/03/15 3:25	CYD0033	CD50642
4-Nitrophenol	ND (2.01)		8270D		1	04/03/15 3:25	CYD0033	CD50642
Acetophenone	ND (0.805)		8270D		1	04/03/15 3:25	CYD0033	CD50642
Aniline	ND (2.01)		8270D		1	04/03/15 3:25	CYD0033	CD50642
Azobenzene	ND (0.402)		8270D		1	04/03/15 3:25	CYD0033	CD50642
bis(2-Chloroethoxy)methane	ND (0.402)		8270D		1	04/03/15 3:25	CYD0033	CD50642
bis(2-Chloroethyl)ether	ND (0.402)		8270D		1	04/03/15 3:25	CYD0033	CD50642
bis(2-chloroisopropyl)Ether	ND (0.402)		8270D		1	04/03/15 3:25	CYD0033	CD50642
bis(2-Ethylhexyl)phthalate	**3.02** (0.402)		8270D		1	04/03/15 3:25	CYD0033	CD50642
Butylbenzylphthalate	ND (0.402)		8270D		1	04/03/15 3:25	CYD0033	CD50642
Dibenzofuran	ND (0.402)		8270D		1	04/03/15 3:25	CYD0033	CD50642
Diethylphthalate	ND (0.402)		8270D		1	04/03/15 3:25	CYD0033	CD50642
Dimethylphthalate	ND (0.402)		8270D		1	04/03/15 3:25	CYD0033	CD50642
Di-n-butylphthalate	ND (0.402)		8270D		1	04/03/15 3:25	CYD0033	CD50642

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-110 0.5ft-2ft
Date Sampled: 03/27/15 10:27
Percent Solids: 41
Initial Volume: 30.4
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503512
ESS Laboratory Sample ID: 1503512-11
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 4/1/15 14:40

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Di-n-octylphthalate	ND (0.402)		8270D		1	04/03/15 3:25	CYD0033	CD50642
Hexachlorobutadiene	ND (0.402)		8270D		1	04/03/15 3:25	CYD0033	CD50642
Hexachloroethane	ND (0.402)		8270D		1	04/03/15 3:25	CYD0033	CD50642
Isophorone	ND (0.402)		8270D		1	04/03/15 3:25	CYD0033	CD50642
Nitrobenzene	ND (0.402)		8270D		1	04/03/15 3:25	CYD0033	CD50642
N-Nitrosodimethylamine	ND (0.402)		8270D		1	04/03/15 3:25	CYD0033	CD50642
Pentachlorophenol	ND (2.01)		8270D		1	04/03/15 3:25	CYD0033	CD50642
Phenol	ND (0.402)		8270D		1	04/03/15 3:25	CYD0033	CD50642

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*39 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*77 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*41 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*50 %*		*30-130*
Surrogate: 2-Fluorophenol	*39 %*		*30-130*
Surrogate: Nitrobenzene-d5	*42 %*		*30-130*
Surrogate: Phenol-d6	*46 %*		*30-130*
Surrogate: p-Terphenyl-d14	*70 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-110 0.5ft-2ft
Date Sampled: 03/27/15 10:27
Percent Solids: 41
Initial Volume: 20.2
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503512
ESS Laboratory Sample ID: 1503512-11
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 4/1/15 15:30

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	**0.084** (0.030)		8270D		1	04/09/15 3:08	CYD0127	CD50136
Acenaphthene	**0.147** (0.030)		8270D		1	04/09/15 3:08	CYD0127	CD50136
Acenaphthylene	**0.429** (0.030)		8270D		1	04/09/15 3:08	CYD0127	CD50136
Anthracene	**0.574** (0.030)		8270D		1	04/09/15 3:08	CYD0127	CD50136
Benzo(a)anthracene	**1.40** (0.030)		8270D		1	04/09/15 3:08	CYD0127	CD50136
Benzo(a)pyrene	**1.72** (0.030)		8270D		1	04/09/15 3:08	CYD0127	CD50136
Benzo(b)fluoranthene	**2.27** (0.030)		8270D		1	04/09/15 3:08	CYD0127	CD50136
Benzo(g,h,i)perylene	**1.07** (0.030)		8270D		1	04/09/15 3:08	CYD0127	CD50136
Benzo(k)fluoranthene	**0.668** (0.030)		8270D		1	04/09/15 3:08	CYD0127	CD50136
Chrysene	**1.54** (0.030)		8270D		1	04/09/15 3:08	CYD0127	CD50136
Dibenzo(a,h)Anthracene	**0.310** (0.030)		8270D		1	04/09/15 3:08	CYD0127	CD50136
Fluoranthene	**2.52** (0.030)		8270D		1	04/09/15 3:08	CYD0127	CD50136
Fluorene	**0.194** (0.030)		8270D		1	04/09/15 3:08	CYD0127	CD50136
Hexachlorobenzene	ND (0.030)		8270D		1	04/09/15 3:08	CYD0127	CD50136
Indeno(1,2,3-cd)Pyrene	**1.32** (0.030)		8270D		1	04/09/15 3:08	CYD0127	CD50136
Naphthalene	**0.537** (0.030)		8270D		1	04/09/15 3:08	CYD0127	CD50136
Phenanthrene	**1.30** (0.030)		8270D		1	04/09/15 3:08	CYD0127	CD50136
Pyrene	**2.68** (0.030)		8270D		1	04/09/15 3:08	CYD0127	CD50136

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*45 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*67 %*		*30-130*
Surrogate: Nitrobenzene-d5	*50 %*		*30-130*
Surrogate: p-Terphenyl-d14	*90 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-110 0.5ft-2ft
Date Sampled: 03/27/15 10:27
Percent Solids: 41
Initial Volume: 30.1
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1503512
ESS Laboratory Sample ID: 1503512-11
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 3/31/15 18:19

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	**34.9** (30.5)		MADEP-EPH		1	JXS	04/02/15 10:27	CYC0382	CC53112
C19-C36 Aliphatics1	**179** (30.5)		MADEP-EPH		1	JXS	04/02/15 10:27	CYC0382	CC53112
C11-C22 Unadjusted Aromatics1	**152** (30.5)		EPH8270		1	VSC	04/03/15 10:04	CYD0036	CC53112
C11-C22 Aromatics1,2	**137** (30.5)		EPH8270			VSC	04/03/15 10:04		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*52 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*86 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*84 %*		*40-140*
Surrogate: O-Terphenyl	*71 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-110 2ft-4ft
Date Sampled: 03/27/15 10:27
Percent Solids: 71
Initial Volume: 20
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503512
ESS Laboratory Sample ID: 1503512-12
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 4/1/15 15:30

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	**0.232** (0.018)		8270D		1	04/09/15 3:57	CYD0127	CD50136
Acenaphthene	**0.175** (0.018)		8270D		1	04/09/15 3:57	CYD0127	CD50136
Acenaphthylene	**1.15** (0.018)		8270D		1	04/09/15 3:57	CYD0127	CD50136
Anthracene	**1.16** (0.018)		8270D		1	04/09/15 3:57	CYD0127	CD50136
Benzo(a)anthracene	**3.32** (0.175)		8270D		10	04/09/15 15:58	CYD0127	CD50136
Benzo(a)pyrene	**3.86** (0.175)		8270D		10	04/09/15 15:58	CYD0127	CD50136
Benzo(b)fluoranthene	**4.17** (0.175)		8270D		10	04/09/15 15:58	CYD0127	CD50136
Benzo(g,h,i)perylene	**1.34** (0.018)		8270D		1	04/09/15 3:57	CYD0127	CD50136
Benzo(k)fluoranthene	**0.807** (0.018)		8270D		1	04/09/15 3:57	CYD0127	CD50136
Chrysene	**3.56** (0.175)		8270D		10	04/09/15 15:58	CYD0127	CD50136
Dibenzo(a,h)Anthracene	**0.521** (0.018)		8270D		1	04/09/15 3:57	CYD0127	CD50136
Fluoranthene	**5.75** (0.175)		8270D		10	04/09/15 15:58	CYD0127	CD50136
Fluorene	**0.300** (0.018)		8270D		1	04/09/15 3:57	CYD0127	CD50136
Hexachlorobenzene	ND (0.018)		8270D		1	04/09/15 3:57	CYD0127	CD50136
Indeno(1,2,3-cd)Pyrene	**1.68** (0.018)		8270D		1	04/09/15 3:57	CYD0127	CD50136
Naphthalene	**0.543** (0.018)		8270D		1	04/09/15 3:57	CYD0127	CD50136
Phenanthrene	**1.51** (0.018)		8270D		1	04/09/15 3:57	CYD0127	CD50136
Pyrene	**6.26** (0.175)		8270D		10	04/09/15 15:58	CYD0127	CD50136

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*49 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*73 %*		*30-130*
Surrogate: Nitrobenzene-d5	*54 %*		*30-130*
Surrogate: p-Terphenyl-d14	*97 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-111 0ft-0.5ft
Date Sampled: 03/27/15 10:46
Percent Solids: 39
Initial Volume: 30.2
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503512
ESS Laboratory Sample ID: 1503512-13
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 4/1/15 14:40

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.423)		8270D		1	04/03/15 4:01	CYD0033	CD50642
1,2-Dichlorobenzene	ND (0.423)		8270D		1	04/03/15 4:01	CYD0033	CD50642
1,3-Dichlorobenzene	ND (0.423)		8270D		1	04/03/15 4:01	CYD0033	CD50642
1,4-Dichlorobenzene	ND (0.423)		8270D		1	04/03/15 4:01	CYD0033	CD50642
2,4,5-Trichlorophenol	ND (0.423)		8270D		1	04/03/15 4:01	CYD0033	CD50642
2,4,6-Trichlorophenol	ND (0.423)		8270D		1	04/03/15 4:01	CYD0033	CD50642
2,4-Dichlorophenol	ND (0.423)		8270D		1	04/03/15 4:01	CYD0033	CD50642
2,4-Dimethylphenol	ND (0.423)		8270D		1	04/03/15 4:01	CYD0033	CD50642
2,4-Dinitrophenol	ND (2.12)		8270D		1	04/03/15 4:01	CYD0033	CD50642
2,4-Dinitrotoluene	ND (0.423)		8270D		1	04/03/15 4:01	CYD0033	CD50642
2,6-Dinitrotoluene	ND (0.423)		8270D		1	04/03/15 4:01	CYD0033	CD50642
2-Chloronaphthalene	ND (0.423)		8270D		1	04/03/15 4:01	CYD0033	CD50642
2-Chlorophenol	ND (0.423)		8270D		1	04/03/15 4:01	CYD0033	CD50642
2-Methylphenol	ND (0.423)		8270D		1	04/03/15 4:01	CYD0033	CD50642
2-Nitrophenol	ND (0.423)		8270D		1	04/03/15 4:01	CYD0033	CD50642
3,3´-Dichlorobenzidine	ND (0.847)		8270D		1	04/03/15 4:01	CYD0033	CD50642
3+4-Methylphenol	ND (0.847)		8270D		1	04/03/15 4:01	CYD0033	CD50642
4-Bromophenyl-phenylether	ND (0.423)		8270D		1	04/03/15 4:01	CYD0033	CD50642
4-Chloroaniline	ND (0.847)		8270D		1	04/03/15 4:01	CYD0033	CD50642
4-Nitrophenol	ND (2.12)		8270D		1	04/03/15 4:01	CYD0033	CD50642
Acetophenone	ND (0.847)		8270D		1	04/03/15 4:01	CYD0033	CD50642
Aniline	ND (2.12)		8270D		1	04/03/15 4:01	CYD0033	CD50642
Azobenzene	ND (0.423)		8270D		1	04/03/15 4:01	CYD0033	CD50642
bis(2-Chloroethoxy)methane	ND (0.423)		8270D		1	04/03/15 4:01	CYD0033	CD50642
bis(2-Chloroethyl)ether	ND (0.423)		8270D		1	04/03/15 4:01	CYD0033	CD50642
bis(2-chloroisopropyl)Ether	ND (0.423)		8270D		1	04/03/15 4:01	CYD0033	CD50642
bis(2-Ethylhexyl)phthalate	**2.17** (0.423)		8270D		1	04/03/15 4:01	CYD0033	CD50642
Butylbenzylphthalate	ND (0.423)		8270D		1	04/03/15 4:01	CYD0033	CD50642
Dibenzofuran	ND (0.423)		8270D		1	04/03/15 4:01	CYD0033	CD50642
Diethylphthalate	ND (0.423)		8270D		1	04/03/15 4:01	CYD0033	CD50642
Dimethylphthalate	ND (0.423)		8270D		1	04/03/15 4:01	CYD0033	CD50642
Di-n-butylphthalate	ND (0.423)		8270D		1	04/03/15 4:01	CYD0033	CD50642

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-111 0ft-0.5ft
Date Sampled: 03/27/15 10:46
Percent Solids: 39
Initial Volume: 30.2
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503512
ESS Laboratory Sample ID: 1503512-13
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 4/1/15 14:40

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Di-n-octylphthalate	ND (0.423)		8270D		1	04/03/15 4:01	CYD0033	CD50642
Hexachlorobutadiene	ND (0.423)		8270D		1	04/03/15 4:01	CYD0033	CD50642
Hexachloroethane	ND (0.423)		8270D		1	04/03/15 4:01	CYD0033	CD50642
Isophorone	ND (0.423)		8270D		1	04/03/15 4:01	CYD0033	CD50642
Nitrobenzene	ND (0.423)		8270D		1	04/03/15 4:01	CYD0033	CD50642
N-Nitrosodimethylamine	ND (0.423)		8270D		1	04/03/15 4:01	CYD0033	CD50642
Pentachlorophenol	ND (2.12)		8270D		1	04/03/15 4:01	CYD0033	CD50642
Phenol	ND (0.423)		8270D		1	04/03/15 4:01	CYD0033	CD50642

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*45 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*79 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*49 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*58 %*		*30-130*
Surrogate: 2-Fluorophenol	*47 %*		*30-130*
Surrogate: Nitrobenzene-d5	*52 %*		*30-130*
Surrogate: Phenol-d6	*54 %*		*30-130*
Surrogate: p-Terphenyl-d14	*68 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-111 0ft-0.5ft
Date Sampled: 03/27/15 10:46
Percent Solids: 39
Initial Volume: 20
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503512
ESS Laboratory Sample ID: 1503512-13
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 4/1/15 15:30

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	**0.106** (0.032)		8270D		1	04/09/15 4:46	CYD0127	CD50136
Acenaphthene	**0.122** (0.032)		8270D		1	04/09/15 4:46	CYD0127	CD50136
Acenaphthylene	**0.452** (0.032)		8270D		1	04/09/15 4:46	CYD0127	CD50136
Anthracene	**0.567** (0.032)		8270D		1	04/09/15 4:46	CYD0127	CD50136
Benzo(a)anthracene	**1.34** (0.032)		8270D		1	04/09/15 4:46	CYD0127	CD50136
Benzo(a)pyrene	**1.82** (0.032)		8270D		1	04/09/15 4:46	CYD0127	CD50136
Benzo(b)fluoranthene	**2.45** (0.032)		8270D		1	04/09/15 4:46	CYD0127	CD50136
Benzo(g,h,i)perylene	**0.961** (0.032)		8270D		1	04/09/15 4:46	CYD0127	CD50136
Benzo(k)fluoranthene	**0.808** (0.032)		8270D		1	04/09/15 4:46	CYD0127	CD50136
Chrysene	**1.54** (0.032)		8270D		1	04/09/15 4:46	CYD0127	CD50136
Dibenzo(a,h)Anthracene	**0.294** (0.032)		8270D		1	04/09/15 4:46	CYD0127	CD50136
Fluoranthene	**2.65** (0.032)		8270D		1	04/09/15 4:46	CYD0127	CD50136
Fluorene	**0.172** (0.032)		8270D		1	04/09/15 4:46	CYD0127	CD50136
Hexachlorobenzene	ND (0.032)		8270D		1	04/09/15 4:46	CYD0127	CD50136
Indeno(1,2,3-cd)Pyrene	**1.23** (0.032)		8270D		1	04/09/15 4:46	CYD0127	CD50136
Naphthalene	**0.700** (0.032)		8270D		1	04/09/15 4:46	CYD0127	CD50136
Phenanthrene	**1.23** (0.032)		8270D		1	04/09/15 4:46	CYD0127	CD50136
Pyrene	**2.60** (0.032)		8270D		1	04/09/15 4:46	CYD0127	CD50136

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*39 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*60 %*		*30-130*
Surrogate: Nitrobenzene-d5	*45 %*		*30-130*
Surrogate: p-Terphenyl-d14	*76 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-111 0ft-0.5ft
Date Sampled: 03/27/15 10:46
Percent Solids: 39
Initial Volume: 30
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1503512
ESS Laboratory Sample ID: 1503512-13
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 3/31/15 18:19

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	ND (32.0)		MADEP-EPH		1	JXS	04/02/15 11:18	CYC0382	CC53112
C19-C36 Aliphatics1	**137** (32.0)		MADEP-EPH		1	JXS	04/02/15 11:18	CYC0382	CC53112
C11-C22 Unadjusted Aromatics1	**175** (32.0)		EPH8270		1	VSC	04/03/15 10:38	CYD0036	CC53112
C11-C22 Aromatics1,2	**139** (32.0)		EPH8270			VSC	04/03/15 10:38		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*61 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*82 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*81 %*		*40-140*
Surrogate: O-Terphenyl	*72 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-111 0.5ft-2ft
Date Sampled: 03/27/15 10:46
Percent Solids: 44
Initial Volume: 20.3
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503512
ESS Laboratory Sample ID: 1503512-14
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 4/1/15 15:30

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	**0.277** (0.028)		8270D		1	04/09/15 5:35	CYD0127	CD50136
Acenaphthene	**0.084** (0.028)		8270D		1	04/09/15 5:35	CYD0127	CD50136
Acenaphthylene	**1.02** (0.028)		8270D		1	04/09/15 5:35	CYD0127	CD50136
Anthracene	**0.854** (0.028)		8270D		1	04/09/15 5:35	CYD0127	CD50136
Benzo(a)anthracene	**1.63** (0.028)		8270D		1	04/09/15 5:35	CYD0127	CD50136
Benzo(a)pyrene	**1.96** (0.028)		8270D		1	04/09/15 5:35	CYD0127	CD50136
Benzo(b)fluoranthene	**2.60** (0.028)		8270D		1	04/09/15 5:35	CYD0127	CD50136
Benzo(g,h,i)perylene	**0.840** (0.028)		8270D		1	04/09/15 5:35	CYD0127	CD50136
Benzo(k)fluoranthene	**0.710** (0.028)		8270D		1	04/09/15 5:35	CYD0127	CD50136
Chrysene	**1.56** (0.028)		8270D		1	04/09/15 5:35	CYD0127	CD50136
Dibenzo(a,h)Anthracene	**0.348** (0.028)		8270D		1	04/09/15 5:35	CYD0127	CD50136
Fluoranthene	**1.80** (0.028)		8270D		1	04/09/15 5:35	CYD0127	CD50136
Fluorene	**0.214** (0.028)		8270D		1	04/09/15 5:35	CYD0127	CD50136
Hexachlorobenzene	ND (0.028)		8270D		1	04/09/15 5:35	CYD0127	CD50136
Indeno(1,2,3-cd)Pyrene	**1.07** (0.028)		8270D		1	04/09/15 5:35	CYD0127	CD50136
Naphthalene	**2.24** (0.028)		8270D		1	04/09/15 5:35	CYD0127	CD50136
Phenanthrene	**0.759** (0.028)		8270D		1	04/09/15 5:35	CYD0127	CD50136
Pyrene	**4.35** (0.280)		8270D		10	04/09/15 16:47	CYD0127	CD50136

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*43 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*61 %*		*30-130*
Surrogate: Nitrobenzene-d5	*50 %*		*30-130*
Surrogate: p-Terphenyl-d14	*82 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-111 4ft-6ft
Date Sampled: 03/27/15 10:46
Percent Solids: 61
Initial Volume: 20.1
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503512
ESS Laboratory Sample ID: 1503512-15
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 4/1/15 15:30

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.021)		8270D		1	04/08/15 5:09	CYD0108	CD50136
Acenaphthene	ND (0.021)		8270D		1	04/08/15 5:09	CYD0108	CD50136
Acenaphthylene	ND (0.021)		8270D		1	04/08/15 5:09	CYD0108	CD50136
Anthracene	ND (0.021)		8270D		1	04/08/15 5:09	CYD0108	CD50136
Benzo(a)anthracene	**0.028** (0.021)		8270D		1	04/08/15 5:09	CYD0108	CD50136
Benzo(a)pyrene	**0.034** (0.021)		8270D		1	04/08/15 5:09	CYD0108	CD50136
Benzo(b)fluoranthene	**0.043** (0.021)		8270D		1	04/08/15 5:09	CYD0108	CD50136
Benzo(g,h,i)perylene	**0.022** (0.021)		8270D		1	04/08/15 5:09	CYD0108	CD50136
Benzo(k)fluoranthene	ND (0.021)		8270D		1	04/08/15 5:09	CYD0108	CD50136
Chrysene	**0.031** (0.021)		8270D		1	04/08/15 5:09	CYD0108	CD50136
Dibenzo(a,h)Anthracene	ND (0.021)		8270D		1	04/08/15 5:09	CYD0108	CD50136
Fluoranthene	**0.051** (0.021)		8270D		1	04/08/15 5:09	CYD0108	CD50136
Fluorene	ND (0.021)		8270D		1	04/08/15 5:09	CYD0108	CD50136
Hexachlorobenzene	ND (0.021)		8270D		1	04/08/15 5:09	CYD0108	CD50136
Indeno(1,2,3-cd)Pyrene	**0.024** (0.021)		8270D		1	04/08/15 5:09	CYD0108	CD50136
Naphthalene	ND (0.021)		8270D		1	04/08/15 5:09	CYD0108	CD50136
Phenanthrene	ND (0.021)		8270D		1	04/08/15 5:09	CYD0108	CD50136
Pyrene	**0.070** (0.021)		8270D		1	04/08/15 5:09	CYD0108	CD50136

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*50 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*62 %*		*30-130*
Surrogate: Nitrobenzene-d5	*55 %*		*30-130*
Surrogate: p-Terphenyl-d14	*79 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-112 0ft-0.5ft
Date Sampled: 03/27/15 11:16
Percent Solids: 40
Initial Volume: 30
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503512
ESS Laboratory Sample ID: 1503512-16
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 4/1/15 14:40

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.414)		8270D		1	04/03/15 4:37	CYD0033	CD50642
1,2-Dichlorobenzene	ND (0.414)		8270D		1	04/03/15 4:37	CYD0033	CD50642
1,3-Dichlorobenzene	ND (0.414)		8270D		1	04/03/15 4:37	CYD0033	CD50642
1,4-Dichlorobenzene	ND (0.414)		8270D		1	04/03/15 4:37	CYD0033	CD50642
2,4,5-Trichlorophenol	ND (0.414)		8270D		1	04/03/15 4:37	CYD0033	CD50642
2,4,6-Trichlorophenol	ND (0.414)		8270D		1	04/03/15 4:37	CYD0033	CD50642
2,4-Dichlorophenol	ND (0.414)		8270D		1	04/03/15 4:37	CYD0033	CD50642
2,4-Dimethylphenol	ND (0.414)		8270D		1	04/03/15 4:37	CYD0033	CD50642
2,4-Dinitrophenol	ND (2.08)		8270D		1	04/03/15 4:37	CYD0033	CD50642
2,4-Dinitrotoluene	ND (0.414)		8270D		1	04/03/15 4:37	CYD0033	CD50642
2,6-Dinitrotoluene	ND (0.414)		8270D		1	04/03/15 4:37	CYD0033	CD50642
2-Chloronaphthalene	ND (0.414)		8270D		1	04/03/15 4:37	CYD0033	CD50642
2-Chlorophenol	ND (0.414)		8270D		1	04/03/15 4:37	CYD0033	CD50642
2-Methylphenol	ND (0.414)		8270D		1	04/03/15 4:37	CYD0033	CD50642
2-Nitrophenol	ND (0.414)		8270D		1	04/03/15 4:37	CYD0033	CD50642
3,3´-Dichlorobenzidine	ND (0.829)		8270D		1	04/03/15 4:37	CYD0033	CD50642
3+4-Methylphenol	ND (0.829)		8270D		1	04/03/15 4:37	CYD0033	CD50642
4-Bromophenyl-phenylether	ND (0.414)		8270D		1	04/03/15 4:37	CYD0033	CD50642
4-Chloroaniline	ND (0.829)		8270D		1	04/03/15 4:37	CYD0033	CD50642
4-Nitrophenol	ND (2.08)		8270D		1	04/03/15 4:37	CYD0033	CD50642
Acetophenone	ND (0.829)		8270D		1	04/03/15 4:37	CYD0033	CD50642
Aniline	ND (2.08)		8270D		1	04/03/15 4:37	CYD0033	CD50642
Azobenzene	ND (0.414)		8270D		1	04/03/15 4:37	CYD0033	CD50642
bis(2-Chloroethoxy)methane	ND (0.414)		8270D		1	04/03/15 4:37	CYD0033	CD50642
bis(2-Chloroethyl)ether	ND (0.414)		8270D		1	04/03/15 4:37	CYD0033	CD50642
bis(2-chloroisopropyl)Ether	ND (0.414)		8270D		1	04/03/15 4:37	CYD0033	CD50642
bis(2-Ethylhexyl)phthalate	**2.53** (0.414)		8270D		1	04/03/15 4:37	CYD0033	CD50642
Butylbenzylphthalate	ND (0.414)		8270D		1	04/03/15 4:37	CYD0033	CD50642
Dibenzofuran	ND (0.414)		8270D		1	04/03/15 4:37	CYD0033	CD50642
Diethylphthalate	ND (0.414)		8270D		1	04/03/15 4:37	CYD0033	CD50642
Dimethylphthalate	ND (0.414)		8270D		1	04/03/15 4:37	CYD0033	CD50642
Di-n-butylphthalate	ND (0.414)		8270D		1	04/03/15 4:37	CYD0033	CD50642

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-112 0ft-0.5ft
Date Sampled: 03/27/15 11:16
Percent Solids: 40
Initial Volume: 30
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503512
ESS Laboratory Sample ID: 1503512-16
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 4/1/15 14:40

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Di-n-octylphthalate	ND (0.414)		8270D		1	04/03/15 4:37	CYD0033	CD50642
Hexachlorobutadiene	ND (0.414)		8270D		1	04/03/15 4:37	CYD0033	CD50642
Hexachloroethane	ND (0.414)		8270D		1	04/03/15 4:37	CYD0033	CD50642
Isophorone	ND (0.414)		8270D		1	04/03/15 4:37	CYD0033	CD50642
Nitrobenzene	ND (0.414)		8270D		1	04/03/15 4:37	CYD0033	CD50642
N-Nitrosodimethylamine	ND (0.414)		8270D		1	04/03/15 4:37	CYD0033	CD50642
Pentachlorophenol	ND (2.08)		8270D		1	04/03/15 4:37	CYD0033	CD50642
Phenol	ND (0.414)		8270D		1	04/03/15 4:37	CYD0033	CD50642

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*38 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*77 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*40 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*49 %*		*30-130*
Surrogate: 2-Fluorophenol	*39 %*		*30-130*
Surrogate: Nitrobenzene-d5	*42 %*		*30-130*
Surrogate: Phenol-d6	*45 %*		*30-130*
Surrogate: p-Terphenyl-d14	*65 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-112 0ft-0.5ft
Date Sampled: 03/27/15 11:16
Percent Solids: 40
Initial Volume: 20.6
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503512
ESS Laboratory Sample ID: 1503512-16
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 4/1/15 15:30

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	**0.190** (0.030)		8270D		1	04/09/15 6:24	CYD0127	CD50136
Acenaphthene	**0.104** (0.030)		8270D		1	04/09/15 6:24	CYD0127	CD50136
Acenaphthylene	**0.484** (0.030)		8270D		1	04/09/15 6:24	CYD0127	CD50136
Anthracene	**0.556** (0.030)		8270D		1	04/09/15 6:24	CYD0127	CD50136
Benzo(a)anthracene	**1.25** (0.030)		8270D		1	04/09/15 6:24	CYD0127	CD50136
Benzo(a)pyrene	**1.76** (0.030)		8270D		1	04/09/15 6:24	CYD0127	CD50136
Benzo(b)fluoranthene	**2.43** (0.030)		8270D		1	04/09/15 6:24	CYD0127	CD50136
Benzo(g,h,i)perylene	**0.776** (0.030)		8270D		1	04/09/15 6:24	CYD0127	CD50136
Benzo(k)fluoranthene	**0.968** (0.030)		8270D		1	04/09/15 6:24	CYD0127	CD50136
Chrysene	**1.43** (0.030)		8270D		1	04/09/15 6:24	CYD0127	CD50136
Dibenzo(a,h)Anthracene	**0.251** (0.030)		8270D		1	04/09/15 6:24	CYD0127	CD50136
Fluoranthene	**2.27** (0.030)		8270D		1	04/09/15 6:24	CYD0127	CD50136
Fluorene	**0.171** (0.030)		8270D		1	04/09/15 6:24	CYD0127	CD50136
Hexachlorobenzene	ND (0.030)		8270D		1	04/09/15 6:24	CYD0127	CD50136
Indeno(1,2,3-cd)Pyrene	**0.998** (0.030)		8270D		1	04/09/15 6:24	CYD0127	CD50136
Naphthalene	**0.908** (0.030)		8270D		1	04/09/15 6:24	CYD0127	CD50136
Phenanthrene	**1.09** (0.030)		8270D		1	04/09/15 6:24	CYD0127	CD50136
Pyrene	**2.36** (0.030)		8270D		1	04/09/15 6:24	CYD0127	CD50136

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*38 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*59 %*		*30-130*
Surrogate: Nitrobenzene-d5	*44 %*		*30-130*
Surrogate: p-Terphenyl-d14	*74 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-112 0ft-0.5ft
Date Sampled: 03/27/15 11:16
Percent Solids: 40
Initial Volume: 30.1
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1503512
ESS Laboratory Sample ID: 1503512-16
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 3/31/15 18:19

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	ND (31.0)		MADEP-EPH		1	JXS	04/02/15 12:08	CYC0382	CC53112
C19-C36 Aliphatics1	**52.9** (31.0)		MADEP-EPH		1	JXS	04/02/15 12:08	CYC0382	CC53112
C11-C22 Unadjusted Aromatics1	**50.3** (31.0)		EPH8270		1	VSC	04/03/15 11:12	CYD0036	CC53112
C11-C22 Aromatics1,2	**45.9** (31.0)		EPH8270			VSC	04/03/15 11:12		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*53 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*84 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*86 %*		*40-140*
Surrogate: O-Terphenyl	*74 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-112 4ft-6ft
Date Sampled: 03/27/15 11:16
Percent Solids: 76
Initial Volume: 30.2
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503512
ESS Laboratory Sample ID: 1503512-17
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 4/1/15 14:40

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.216)		8270D		1	04/03/15 2:13	CYD0033	CD50642
1,2-Dichlorobenzene	ND (0.216)		8270D		1	04/03/15 2:13	CYD0033	CD50642
1,3-Dichlorobenzene	ND (0.216)		8270D		1	04/03/15 2:13	CYD0033	CD50642
1,4-Dichlorobenzene	ND (0.216)		8270D		1	04/03/15 2:13	CYD0033	CD50642
2,4,5-Trichlorophenol	ND (0.216)		8270D		1	04/03/15 2:13	CYD0033	CD50642
2,4,6-Trichlorophenol	ND (0.216)		8270D		1	04/03/15 2:13	CYD0033	CD50642
2,4-Dichlorophenol	ND (0.216)		8270D		1	04/03/15 2:13	CYD0033	CD50642
2,4-Dimethylphenol	ND (0.216)		8270D		1	04/03/15 2:13	CYD0033	CD50642
2,4-Dinitrophenol	ND (1.08)		8270D		1	04/03/15 2:13	CYD0033	CD50642
2,4-Dinitrotoluene	ND (0.216)		8270D		1	04/03/15 2:13	CYD0033	CD50642
2,6-Dinitrotoluene	ND (0.216)		8270D		1	04/03/15 2:13	CYD0033	CD50642
2-Chloronaphthalene	ND (0.216)		8270D		1	04/03/15 2:13	CYD0033	CD50642
2-Chlorophenol	ND (0.216)		8270D		1	04/03/15 2:13	CYD0033	CD50642
2-Methylphenol	ND (0.216)		8270D		1	04/03/15 2:13	CYD0033	CD50642
2-Nitrophenol	ND (0.216)		8270D		1	04/03/15 2:13	CYD0033	CD50642
3,3´-Dichlorobenzidine	ND (0.433)		8270D		1	04/03/15 2:13	CYD0033	CD50642
3+4-Methylphenol	ND (0.433)		8270D		1	04/03/15 2:13	CYD0033	CD50642
4-Bromophenyl-phenylether	ND (0.216)		8270D		1	04/03/15 2:13	CYD0033	CD50642
4-Chloroaniline	ND (0.433)		8270D		1	04/03/15 2:13	CYD0033	CD50642
4-Nitrophenol	ND (1.08)		8270D		1	04/03/15 2:13	CYD0033	CD50642
Acetophenone	ND (0.433)		8270D		1	04/03/15 2:13	CYD0033	CD50642
Aniline	ND (1.08)		8270D		1	04/03/15 2:13	CYD0033	CD50642
Azobenzene	ND (0.216)		8270D		1	04/03/15 2:13	CYD0033	CD50642
bis(2-Chloroethoxy)methane	ND (0.216)		8270D		1	04/03/15 2:13	CYD0033	CD50642
bis(2-Chloroethyl)ether	ND (0.216)		8270D		1	04/03/15 2:13	CYD0033	CD50642
bis(2-chloroisopropyl)Ether	ND (0.216)		8270D		1	04/03/15 2:13	CYD0033	CD50642
bis(2-Ethylhexyl)phthalate	ND (0.216)		8270D		1	04/03/15 2:13	CYD0033	CD50642
Butylbenzylphthalate	ND (0.216)		8270D		1	04/03/15 2:13	CYD0033	CD50642
Dibenzofuran	ND (0.216)		8270D		1	04/03/15 2:13	CYD0033	CD50642
Diethylphthalate	ND (0.216)		8270D		1	04/03/15 2:13	CYD0033	CD50642
Dimethylphthalate	ND (0.216)		8270D		1	04/03/15 2:13	CYD0033	CD50642
Di-n-butylphthalate	ND (0.216)		8270D		1	04/03/15 2:13	CYD0033	CD50642

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-112 4ft-6ft
Date Sampled: 03/27/15 11:16
Percent Solids: 76
Initial Volume: 30.2
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503512
ESS Laboratory Sample ID: 1503512-17
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 4/1/15 14:40

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Di-n-octylphthalate	ND (0.216)		8270D		1	04/03/15 2:13	CYD0033	CD50642
Hexachlorobutadiene	ND (0.216)		8270D		1	04/03/15 2:13	CYD0033	CD50642
Hexachloroethane	ND (0.216)		8270D		1	04/03/15 2:13	CYD0033	CD50642
Isophorone	ND (0.216)		8270D		1	04/03/15 2:13	CYD0033	CD50642
Nitrobenzene	ND (0.216)		8270D		1	04/03/15 2:13	CYD0033	CD50642
N-Nitrosodimethylamine	ND (0.216)		8270D		1	04/03/15 2:13	CYD0033	CD50642
Pentachlorophenol	ND (1.08)		8270D		1	04/03/15 2:13	CYD0033	CD50642
Phenol	ND (0.216)		8270D		1	04/03/15 2:13	CYD0033	CD50642

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*76 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*93 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*82 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*86 %*		*30-130*
Surrogate: 2-Fluorophenol	*83 %*		*30-130*
Surrogate: Nitrobenzene-d5	*84 %*		*30-130*
Surrogate: Phenol-d6	*89 %*		*30-130*
Surrogate: p-Terphenyl-d14	*91 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-112 4ft-6ft
Date Sampled: 03/27/15 11:16
Percent Solids: 76
Initial Volume: 20.4
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503512
ESS Laboratory Sample ID: 1503512-17
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 4/1/15 15:30

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.016)		8270D		1	04/08/15 2:44	CYD0108	CD50136
Acenaphthene	ND (0.016)		8270D		1	04/08/15 2:44	CYD0108	CD50136
Acenaphthylene	**0.032** (0.016)		8270D		1	04/08/15 2:44	CYD0108	CD50136
Anthracene	**0.095** (0.016)		8270D		1	04/08/15 2:44	CYD0108	CD50136
Benzo(a)anthracene	**0.187** (0.016)		8270D		1	04/08/15 2:44	CYD0108	CD50136
Benzo(a)pyrene	**0.182** (0.016)		8270D		1	04/08/15 2:44	CYD0108	CD50136
Benzo(b)fluoranthene	**0.188** (0.016)		8270D		1	04/08/15 2:44	CYD0108	CD50136
Benzo(g,h,i)perylene	**0.096** (0.016)		8270D		1	04/08/15 2:44	CYD0108	CD50136
Benzo(k)fluoranthene	**0.061** (0.016)		8270D		1	04/08/15 2:44	CYD0108	CD50136
Chrysene	**0.175** (0.016)		8270D		1	04/08/15 2:44	CYD0108	CD50136
Dibenzo(a,h)Anthracene	**0.023** (0.016)		8270D		1	04/08/15 2:44	CYD0108	CD50136
Fluoranthene	**0.363** (0.016)		8270D		1	04/08/15 2:44	CYD0108	CD50136
Fluorene	**0.023** (0.016)		8270D		1	04/08/15 2:44	CYD0108	CD50136
Hexachlorobenzene	ND (0.016)		8270D		1	04/08/15 2:44	CYD0108	CD50136
Indeno(1,2,3-cd)Pyrene	**0.113** (0.016)		8270D		1	04/08/15 2:44	CYD0108	CD50136
Naphthalene	**0.026** (0.016)		8270D		1	04/08/15 2:44	CYD0108	CD50136
Phenanthrene	**0.194** (0.016)		8270D		1	04/08/15 2:44	CYD0108	CD50136
Pyrene	**0.380** (0.016)		8270D		1	04/08/15 2:44	CYD0108	CD50136

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*47 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*58 %*		*30-130*
Surrogate: Nitrobenzene-d5	*50 %*		*30-130*
Surrogate: p-Terphenyl-d14	*83 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-112 4ft-6ft
Date Sampled: 03/27/15 11:16
Percent Solids: 76
Initial Volume: 30.5
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1503512
ESS Laboratory Sample ID: 1503512-17
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 3/31/15 18:19

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	ND (16.1)		MADEP-EPH		1	JXS	04/02/15 12:59	CYC0382	CC53112
C19-C36 Aliphatics1	ND (16.1)		MADEP-EPH		1	JXS	04/02/15 12:59	CYC0382	CC53112
C11-C22 Unadjusted Aromatics1	ND (16.1)		EPH8270		1	JXS	04/01/15 21:34	CYD0009	CC53112
C11-C22 Aromatics1,2	ND (16.1)		EPH8270			JXS	04/01/15 21:34		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*49 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*84 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*84 %*		*40-140*
Surrogate: O-Terphenyl	*60 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-225 0ft-0.5ft
Date Sampled: 03/27/15 08:49
Percent Solids: 100

ESS Laboratory Work Order: 1503512
ESS Laboratory Sample ID: 1503512-18
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	**0.51** (0.44)		6020A		50	NAR	04/08/15 17:03	2.28	100	CD50408
Arsenic	**41.1** (2.19)		6010C		1	KJK	04/08/15 0:35	2.28	100	CD50408
Barium	**36.5** (2.19)		6010C		1	KJK	04/04/15 20:46	2.28	100	CD50408
Beryllium	**0.22** (0.10)		6010C		1	KJK	04/04/15 20:46	2.28	100	CD50408
Cadmium	ND (0.44)		6010C		1	KJK	04/04/15 20:46	2.28	100	CD50408
Chromium	**38.8** (0.88)		6010C		1	KJK	04/04/15 20:46	2.28	100	CD50408
Lead	**389** (4.39)		6010C		1	KJK	04/04/15 20:46	2.28	100	CD50408
Mercury	**0.319** (0.031)		7471B		1	RLA	04/06/15 22:35	0.64	40	CD50409
Nickel	**13.7** (2.19)		6010C		1	KJK	04/08/15 0:35	2.28	100	CD50408
Selenium	**2.75** (0.44)		6020A		50	NAR	04/08/15 17:03	2.28	100	CD50408
Silver	ND (0.44)		6010C		1	KJK	04/08/15 0:35	2.28	100	CD50408
Thallium	ND (0.35)		7010		4	JP	04/07/15 6:56	2.28	100	CD50408
Vanadium	**48.2** (0.88)		6010C		1	KJK	04/04/15 20:46	2.28	100	CD50408
Zinc	**202** (2.19)		6010C		1	KJK	04/04/15 20:46	2.28	100	CD50408

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-225 4ft-6ft
Date Sampled: 03/27/15 08:49
Percent Solids: 100

ESS Laboratory Work Order: 1503512
ESS Laboratory Sample ID: 1503512-19
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (4.57)		6010C		1	KJK	04/08/15 1:15	2.19	100	CD50408
Arsenic	**51.9** (2.28)		6010C		1	KJK	04/08/15 1:15	2.19	100	CD50408
Barium	**32.0** (2.28)		6010C		1	KJK	04/04/15 21:41	2.19	100	CD50408
Beryllium	**0.49** (0.10)		6010C		1	KJK	04/04/15 21:41	2.19	100	CD50408
Cadmium	ND (0.46)		6010C		1	KJK	04/04/15 21:41	2.19	100	CD50408
Chromium	**27.3** (0.91)		6010C		1	KJK	04/04/15 21:41	2.19	100	CD50408
Lead	**123** (4.57)		6010C		1	KJK	04/04/15 21:41	2.19	100	CD50408
Mercury	**0.136** (0.029)		7471B		1	RLA	04/06/15 22:51	0.68	40	CD50409
Nickel	**15.7** (2.28)		6010C		1	KJK	04/08/15 1:15	2.19	100	CD50408
Selenium	ND (4.57)		6010C		1	KJK	04/04/15 21:41	2.19	100	CD50408
Silver	ND (0.46)		6010C		1	KJK	04/08/15 1:15	2.19	100	CD50408
Thallium	ND (0.37)		7010		4	JP	04/07/15 8:00	2.19	100	CD50408
Vanadium	**33.7** (0.91)		6010C		1	KJK	04/04/15 21:41	2.19	100	CD50408
Zinc	**107** (2.28)		6010C		1	KJK	04/04/15 21:41	2.19	100	CD50408

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-225 6ft-7ft 2in
Date Sampled: 03/27/15 08:49
Percent Solids: 100

ESS Laboratory Work Order: 1503512
ESS Laboratory Sample ID: 1503512-20
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (0.45)		6020A		50	NAR	04/08/15 17:32	2.2	100	CD50408
Arsenic	**3.46** (2.27)		6010C		1	KJK	04/08/15 1:19	2.2	100	CD50408
Barium	**57.9** (2.27)		6010C		1	KJK	04/04/15 21:45	2.2	100	CD50408
Beryllium	**0.76** (0.10)		6010C		1	KJK	04/04/15 21:45	2.2	100	CD50408
Cadmium	ND (0.45)		6010C		1	KJK	04/04/15 21:45	2.2	100	CD50408
Chromium	**32.4** (0.91)		6010C		1	KJK	04/04/15 21:45	2.2	100	CD50408
Lead	**9.92** (4.55)		6010C		1	KJK	04/04/15 21:45	2.2	100	CD50408
Mercury	ND (0.029)		7471B		1	RLA	04/06/15 22:54	0.69	40	CD50409
Nickel	**23.7** (2.27)		6010C		1	KJK	04/08/15 1:19	2.2	100	CD50408
Selenium	ND (4.55)		6010C		1	KJK	04/04/15 21:45	2.2	100	CD50408
Silver	ND (0.45)		6010C		1	KJK	04/08/15 1:19	2.2	100	CD50408
Thallium	ND (0.36)		7010		4	JP	04/07/15 8:05	2.2	100	CD50408
Vanadium	**46.4** (0.91)		6010C		1	KJK	04/04/15 21:45	2.2	100	CD50408
Zinc	**52.0** (2.27)		6010C		1	KJK	04/04/15 21:45	2.2	100	CD50408

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-225 0ft-3ft
Date Sampled: 03/27/15 08:49
Percent Solids: 100

ESS Laboratory Work Order: 1503512
ESS Laboratory Sample ID: 1503512-21
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	**0.50** (0.44)		6020A		50	NAR	04/08/15 17:38	2.29	100	CD50408
Arsenic	**27.8** (2.18)		6010C		1	KJK	04/08/15 1:25	2.29	100	CD50408
Barium	**32.3** (2.18)		6010C		1	KJK	04/04/15 21:50	2.29	100	CD50408
Beryllium	**0.49** (0.10)		6010C		1	KJK	04/04/15 21:50	2.29	100	CD50408
Cadmium	ND (0.44)		6010C		1	KJK	04/04/15 21:50	2.29	100	CD50408
Chromium	**26.4** (0.87)		6010C		1	KJK	04/04/15 21:50	2.29	100	CD50408
Lead	**83.5** (4.37)		6010C		1	KJK	04/04/15 21:50	2.29	100	CD50408
Mercury	**0.628** (0.271)		7471B		10	RLA	04/07/15 0:13	0.73	40	CD50409
Nickel	**15.1** (2.18)		6010C		1	KJK	04/08/15 1:25	2.29	100	CD50408
Selenium	ND (4.37)		6010C		1	KJK	04/04/15 21:50	2.29	100	CD50408
Silver	ND (0.44)		6010C		1	KJK	04/08/15 1:25	2.29	100	CD50408
Thallium	ND (0.35)		7010		4	JP	04/07/15 8:11	2.29	100	CD50408
Vanadium	**32.8** (0.87)		6010C		1	KJK	04/04/15 21:50	2.29	100	CD50408
Zinc	**92.5** (2.18)		6010C		1	KJK	04/04/15 21:50	2.29	100	CD50408

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-201 0ft-0.5ft
Date Sampled: 03/27/15 09:24
Percent Solids: 100

ESS Laboratory Work Order: 1503512
ESS Laboratory Sample ID: 1503512-22
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	**0.54** (0.46)		6020A		50	NAR	04/08/15 17:44	2.17	100	CD50408
Arsenic	**17.0** (2.30)		6010C		1	KJK	04/08/15 1:29	2.17	100	CD50408
Barium	**60.7** (2.30)		6010C		1	KJK	04/04/15 21:54	2.17	100	CD50408
Beryllium	**0.60** (0.10)		6010C		1	KJK	04/04/15 21:54	2.17	100	CD50408
Cadmium	**1.10** (0.46)		6010C		1	KJK	04/04/15 21:54	2.17	100	CD50408
Chromium	**74.2** (0.92)		6010C		1	KJK	04/04/15 21:54	2.17	100	CD50408
Lead	**165** (4.61)		6010C		1	KJK	04/04/15 21:54	2.17	100	CD50408
Mercury	**0.114** (0.032)		7471B		1	RLA	04/06/15 22:59	0.61	40	CD50409
Nickel	**24.0** (2.30)		6010C		1	KJK	04/08/15 1:29	2.17	100	CD50408
Selenium	ND (4.61)		6010C		1	KJK	04/04/15 21:54	2.17	100	CD50408
Silver	**1.05** (0.46)		6010C		1	KJK	04/08/15 1:29	2.17	100	CD50408
Thallium	ND (0.37)		7010		4	JP	04/07/15 8:16	2.17	100	CD50408
Vanadium	**64.8** (0.92)		6010C		1	KJK	04/04/15 21:54	2.17	100	CD50408
Zinc	**304** (2.30)		6010C		1	KJK	04/04/15 21:54	2.17	100	CD50408

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-201 4ft-5ft
Date Sampled: 03/27/15 09:24
Percent Solids: 100

ESS Laboratory Work Order: 1503512
ESS Laboratory Sample ID: 1503512-23
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	**0.58** (0.44)		6020A		50	NAR	04/08/15 17:50	2.27	100	CD50408
Arsenic	**14.0** (2.20)		6010C		1	KJK	04/08/15 1:35	2.27	100	CD50408
Barium	**47.2** (2.20)		6010C		1	KJK	04/04/15 22:00	2.27	100	CD50408
Beryllium	**0.45** (0.10)		6010C		1	KJK	04/04/15 22:00	2.27	100	CD50408
Cadmium	**1.38** (0.44)		6010C		1	KJK	04/04/15 22:00	2.27	100	CD50408
Chromium	**63.5** (0.88)		6010C		1	KJK	04/04/15 22:00	2.27	100	CD50408
Lead	**178** (4.41)		6010C		1	KJK	04/04/15 22:00	2.27	100	CD50408
Mercury	**0.498** (0.026)		7471B		1	RLA	04/06/15 23:07	0.77	40	CD50409
Nickel	**22.9** (2.20)		6010C		1	KJK	04/08/15 1:35	2.27	100	CD50408
Selenium	ND (4.41)		6010C		1	KJK	04/04/15 22:00	2.27	100	CD50408
Silver	**1.36** (0.44)		6010C		1	KJK	04/08/15 1:35	2.27	100	CD50408
Thallium	ND (0.35)		7010		4	JP	04/07/15 8:22	2.27	100	CD50408
Vanadium	**90.0** (0.88)		6010C		1	KJK	04/04/15 22:00	2.27	100	CD50408
Zinc	**216** (2.20)		6010C		1	KJK	04/04/15 22:00	2.27	100	CD50408

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-201 0ft-3ft
Date Sampled: 03/27/15 09:24
Percent Solids: 100

ESS Laboratory Work Order: 1503512
ESS Laboratory Sample ID: 1503512-24
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	**0.50** (0.43)		6020A		50	NAR	04/08/15 17:56	2.3	100	CD50408
Arsenic	**20.4** (2.17)		6010C		1	KJK	04/08/15 1:40	2.3	100	CD50408
Barium	**63.6** (2.17)		6010C		1	KJK	04/04/15 22:05	2.3	100	CD50408
Beryllium	**0.62** (0.10)		6010C		1	KJK	04/04/15 22:05	2.3	100	CD50408
Cadmium	**1.54** (0.43)		6010C		1	KJK	04/04/15 22:05	2.3	100	CD50408
Chromium	**88.6** (0.87)		6010C		1	KJK	04/04/15 22:05	2.3	100	CD50408
Lead	**218** (4.35)		6010C		1	KJK	04/04/15 22:05	2.3	100	CD50408
Mercury	**0.434** (0.031)		7471B		1	RLA	04/06/15 23:10	0.64	40	CD50409
Nickel	**30.4** (2.17)		6010C		1	KJK	04/08/15 1:40	2.3	100	CD50408
Selenium	ND (4.35)		6010C		1	KJK	04/04/15 22:05	2.3	100	CD50408
Silver	**2.11** (0.43)		6010C		1	KJK	04/08/15 1:40	2.3	100	CD50408
Thallium	ND (0.35)		7010		4	JP	04/07/15 8:27	2.3	100	CD50408
Vanadium	**103** (0.87)		6010C		1	KJK	04/04/15 22:05	2.3	100	CD50408
Zinc	**307** (2.17)		6010C		1	KJK	04/04/15 22:05	2.3	100	CD50408

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-106 0ft-0.5ft
Date Sampled: 03/27/15 09:24
Percent Solids: 100

ESS Laboratory Work Order: 1503512
ESS Laboratory Sample ID: 1503512-25
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	**0.73** (0.47)		6020A		50	NAR	04/08/15 18:13	2.11	100	CD50408
Arsenic	**16.7** (2.37)		6010C		1	KJK	04/08/15 1:46	2.11	100	CD50408
Barium	**69.6** (2.37)		6010C		1	KJK	04/04/15 22:24	2.11	100	CD50408
Beryllium	**0.67** (0.10)		6010C		1	KJK	04/04/15 22:24	2.11	100	CD50408
Cadmium	**1.47** (0.47)		6010C		1	KJK	04/04/15 22:24	2.11	100	CD50408
Chromium	**85.7** (0.95)		6010C		1	KJK	04/04/15 22:24	2.11	100	CD50408
Lead	**216** (4.74)		6010C		1	KJK	04/04/15 22:24	2.11	100	CD50408
Mercury	**0.146** (0.033)		7471B		1	RLA	04/06/15 23:13	0.6	40	CD50409
Nickel	**27.6** (2.37)		6010C		1	KJK	04/08/15 1:46	2.11	100	CD50408
Selenium	ND (4.74)		6010C		1	KJK	04/04/15 22:24	2.11	100	CD50408
Silver	**1.23** (0.47)		6010C		1	KJK	04/08/15 1:46	2.11	100	CD50408
Thallium	ND (0.38)		7010		4	JP	04/07/15 8:33	2.11	100	CD50408
Vanadium	**77.0** (0.95)		6010C		1	KJK	04/04/15 22:24	2.11	100	CD50408
Zinc	**386** (2.37)		6010C		1	KJK	04/04/15 22:24	2.11	100	CD50408

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-106 0.5ft-2ft
Date Sampled: 03/27/15 09:24
Percent Solids: 100

ESS Laboratory Work Order: 1503512
ESS Laboratory Sample ID: 1503512-26
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (0.48)		6020A		50	NAR	04/08/15 18:19	2.09	100	CD50408
Arsenic	**17.2** (2.39)		6010C		1	KJK	04/08/15 1:51	2.09	100	CD50408
Barium	**71.4** (2.39)		6010C		1	KJK	04/04/15 22:29	2.09	100	CD50408
Beryllium	**0.68** (0.11)		6010C		1	KJK	04/04/15 22:29	2.09	100	CD50408
Cadmium	**1.79** (0.48)		6010C		1	KJK	04/04/15 22:29	2.09	100	CD50408
Chromium	**93.8** (0.96)		6010C		1	KJK	04/04/15 22:29	2.09	100	CD50408
Lead	**243** (4.78)		6010C		1	KJK	04/04/15 22:29	2.09	100	CD50408
Mercury	**0.682** (0.296)		7471B		10	RLA	04/07/15 0:14	0.67	40	CD50409
Nickel	**30.5** (2.39)		6010C		1	KJK	04/08/15 1:51	2.09	100	CD50408
Selenium	ND (4.78)		6010C		1	KJK	04/04/15 22:29	2.09	100	CD50408
Silver	**1.63** (0.48)		6010C		1	KJK	04/08/15 1:51	2.09	100	CD50408
Thallium	ND (0.38)		7010		4	JP	04/07/15 8:38	2.09	100	CD50408
Vanadium	**88.2** (0.96)		6010C		1	KJK	04/04/15 22:29	2.09	100	CD50408
Zinc	**396** (2.39)		6010C		1	KJK	04/04/15 22:29	2.09	100	CD50408

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-106 4ft-6ft
Date Sampled: 03/27/15 09:24
Percent Solids: 100

ESS Laboratory Work Order: 1503512
ESS Laboratory Sample ID: 1503512-27
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (0.42)		6020A		50	NAR	04/08/15 18:25	2.4	100	CD50408
Arsenic	**24.5** (2.08)		6010C		1	KJK	04/08/15 1:57	2.4	100	CD50408
Barium	**93.5** (2.08)		6010C		1	KJK	04/04/15 22:35	2.4	100	CD50408
Beryllium	**0.95** (0.09)		6010C		1	KJK	04/04/15 22:35	2.4	100	CD50408
Cadmium	**1.62** (0.42)		6010C		1	KJK	04/04/15 22:35	2.4	100	CD50408
Chromium	**86.5** (0.83)		6010C		1	KJK	04/04/15 22:35	2.4	100	CD50408
Lead	**167** (4.17)		6010C		1	KJK	04/04/15 22:35	2.4	100	CD50408
Mercury	ND (0.032)		7471B		1	RLA	04/06/15 23:21	0.62	40	CD50409
Nickel	**30.9** (2.08)		6010C		1	KJK	04/08/15 1:57	2.4	100	CD50408
Selenium	**1.91** (0.42)		6020A		50	NAR	04/08/15 18:25	2.4	100	CD50408
Silver	ND (0.42)		6010C		1	KJK	04/08/15 1:57	2.4	100	CD50408
Thallium	ND (0.33)		7010		4	JP	04/07/15 9:01	2.4	100	CD50408
Vanadium	**74.3** (0.83)		6010C		1	KJK	04/04/15 22:35	2.4	100	CD50408
Zinc	**270** (2.08)		6010C		1	KJK	04/04/15 22:35	2.4	100	CD50408

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-110 0.5ft-2ft
Date Sampled: 03/27/15 10:27
Percent Solids: 100

ESS Laboratory Work Order: 1503512
ESS Laboratory Sample ID: 1503512-28
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	**0.69** (0.43)		6020A		50	NAR	04/08/15 18:31	2.3	100	CD50408
Arsenic	**16.3** (2.17)		6010C		1	KJK	04/08/15 2:02	2.3	100	CD50408
Barium	**72.6** (2.17)		6010C		1	KJK	04/04/15 22:40	2.3	100	CD50408
Beryllium	**0.58** (0.10)		6010C		1	KJK	04/04/15 22:40	2.3	100	CD50408
Cadmium	**1.57** (0.43)		6010C		1	KJK	04/04/15 22:40	2.3	100	CD50408
Chromium	**83.6** (0.87)		6010C		1	KJK	04/04/15 22:40	2.3	100	CD50408
Lead	**218** (4.35)		6010C		1	KJK	04/04/15 22:40	2.3	100	CD50408
Mercury	**0.827** (0.309)		7471B		10	RLA	04/07/15 0:16	0.64	40	CD50409
Nickel	**29.8** (2.17)		6010C		1	KJK	04/08/15 2:02	2.3	100	CD50408
Selenium	ND (4.35)		6010C		1	KJK	04/04/15 22:40	2.3	100	CD50408
Silver	**1.52** (0.43)		6010C		1	KJK	04/08/15 2:02	2.3	100	CD50408
Thallium	ND (0.35)		7010		4	JP	04/07/15 9:06	2.3	100	CD50408
Vanadium	**82.4** (0.87)		6010C		1	KJK	04/04/15 22:40	2.3	100	CD50408
Zinc	**300** (2.17)		6010C		1	KJK	04/04/15 22:40	2.3	100	CD50408

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-110 2ft-4ft
Date Sampled: 03/27/15 10:27
Percent Solids: 100

ESS Laboratory Work Order: 1503512
ESS Laboratory Sample ID: 1503512-29
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (4.07)		6010C		1	KJK	04/08/15 2:21	2.46	100	CD50408
Arsenic	**20.0** (2.03)		6010C		1	KJK	04/08/15 2:21	2.46	100	CD50408
Barium	**36.7** (2.03)		6010C		1	KJK	04/04/15 22:46	2.46	100	CD50408
Beryllium	**0.36** (0.09)		6010C		1	KJK	04/04/15 22:46	2.46	100	CD50408
Cadmium	**0.47** (0.41)		6010C		1	KJK	04/04/15 22:46	2.46	100	CD50408
Chromium	**41.1** (0.81)		6010C		1	KJK	04/04/15 22:46	2.46	100	CD50408
Lead	**94.9** (4.07)		6010C		1	KJK	04/04/15 22:46	2.46	100	CD50408
Mercury	**0.375** (0.029)		7471B		1	RLA	04/06/15 23:26	0.69	40	CD50409
Nickel	**10.7** (2.03)		6010C		1	KJK	04/08/15 2:21	2.46	100	CD50408
Selenium	ND (4.07)		6010C		1	KJK	04/04/15 22:46	2.46	100	CD50408
Silver	ND (0.41)		6010C		1	KJK	04/08/15 2:21	2.46	100	CD50408
Thallium	ND (0.33)		7010		4	JP	04/07/15 9:12	2.46	100	CD50408
Vanadium	**24.4** (0.81)		6010C		1	KJK	04/04/15 22:46	2.46	100	CD50408
Zinc	**165** (2.03)		6010C		1	KJK	04/04/15 22:46	2.46	100	CD50408

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-111 0ft-0.5ft
Date Sampled: 03/27/15 10:46
Percent Solids: 100

ESS Laboratory Work Order: 1503512
ESS Laboratory Sample ID: 1503512-30
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	**0.59** (0.47)		6020A		50	NAR	04/08/15 18:37	2.15	100	CD50408
Arsenic	**13.5** (2.33)		6010C		1	KJK	04/07/15 21:10	2.15	100	CD50408
Barium	**66.1** (2.33)		6010C		1	KJK	04/04/15 22:50	2.15	100	CD50408
Beryllium	**0.53** (0.10)		6010C		1	KJK	04/04/15 22:50	2.15	100	CD50408
Cadmium	**1.18** (0.47)		6010C		1	KJK	04/04/15 22:50	2.15	100	CD50408
Chromium	**75.9** (0.93)		6010C		1	KJK	04/04/15 22:50	2.15	100	CD50408
Lead	**186** (4.65)		6010C		1	KJK	04/04/15 22:50	2.15	100	CD50408
Mercury	**0.846** (0.330)		7471B		10	RLA	04/07/15 0:18	0.6	40	CD50409
Nickel	**29.6** (2.33)		6010C		1	KJK	04/07/15 21:10	2.15	100	CD50408
Selenium	ND (4.65)		6010C		1	KJK	04/04/15 22:50	2.15	100	CD50408
Silver	**1.37** (0.47)		6010C		1	KJK	04/07/15 21:10	2.15	100	CD50408
Thallium	ND (0.37)		7010		4	JP	04/07/15 9:17	2.15	100	CD50408
Vanadium	**93.3** (0.93)		6010C		1	KJK	04/04/15 22:50	2.15	100	CD50408
Zinc	**274** (2.33)		6010C		1	KJK	04/04/15 22:50	2.15	100	CD50408

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-111 0.5ft-2ft
Date Sampled: 03/27/15 10:46
Percent Solids: 100

ESS Laboratory Work Order: 1503512
ESS Laboratory Sample ID: 1503512-31
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	**0.85** (0.48)		6020A		50	NAR	04/08/15 18:43	2.08	100	CD50408
Arsenic	**34.1** (2.40)		6010C		1	KJK	04/07/15 21:16	2.08	100	CD50408
Barium	**106** (2.40)		6010C		1	KJK	04/04/15 22:56	2.08	100	CD50408
Beryllium	**0.87** (0.11)		6010C		1	KJK	04/04/15 22:56	2.08	100	CD50408
Cadmium	**2.52** (0.48)		6010C		1	KJK	04/04/15 22:56	2.08	100	CD50408
Chromium	**83.9** (0.96)		6010C		1	KJK	04/04/15 22:56	2.08	100	CD50408
Lead	**211** (4.81)		6010C		1	KJK	04/04/15 22:56	2.08	100	CD50408
Mercury	**1.08** (0.066)		7471B		2	JP	04/07/15 17:45	0.6	40	CD50716
Nickel	**29.8** (2.40)		6010C		1	KJK	04/07/15 21:16	2.08	100	CD50408
Selenium	ND (4.81)		6010C		1	KJK	04/04/15 22:56	2.08	100	CD50408
Silver	ND (0.48)		6010C		1	KJK	04/07/15 21:16	2.08	100	CD50408
Thallium	ND (0.38)		7010		4	JP	04/07/15 9:23	2.08	100	CD50408
Vanadium	**66.5** (0.96)		6010C		1	KJK	04/04/15 22:56	2.08	100	CD50408
Zinc	**279** (2.40)		6010C		1	KJK	04/04/15 22:56	2.08	100	CD50408

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-111 4ft-6ft
Date Sampled: 03/27/15 10:46
Percent Solids: 100

ESS Laboratory Work Order: 1503512
ESS Laboratory Sample ID: 1503512-32
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (0.47)		6020A		50	NAR	04/08/15 18:49	2.14	100	CD50408
Arsenic	**3.07** (2.34)		6010C		1	KJK	04/07/15 21:21	2.14	100	CD50408
Barium	**30.4** (2.34)		6010C		1	KJK	04/04/15 23:01	2.14	100	CD50408
Beryllium	**0.53** (0.10)		6010C		1	KJK	04/04/15 23:01	2.14	100	CD50408
Cadmium	ND (0.47)		6010C		1	KJK	04/04/15 23:01	2.14	100	CD50408
Chromium	**25.0** (0.93)		6010C		1	KJK	04/04/15 23:01	2.14	100	CD50408
Lead	**7.27** (4.67)		6010C		1	KJK	04/04/15 23:01	2.14	100	CD50408
Mercury	ND (0.030)		7471B		1	RLA	04/06/15 23:39	0.65	40	CD50409
Nickel	**15.8** (2.34)		6010C		1	KJK	04/07/15 21:21	2.14	100	CD50408
Selenium	ND (4.67)		6010C		1	KJK	04/04/15 23:01	2.14	100	CD50408
Silver	ND (0.47)		6010C		1	KJK	04/07/15 21:21	2.14	100	CD50408
Thallium	ND (0.37)		7010		4	JP	04/07/15 9:28	2.14	100	CD50408
Vanadium	**34.5** (0.93)		6010C		1	KJK	04/04/15 23:01	2.14	100	CD50408
Zinc	**36.3** (2.34)		6010C		1	KJK	04/04/15 23:01	2.14	100	CD50408

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-112 0ft-0.5ft
Date Sampled: 03/27/15 11:16
Percent Solids: 100

ESS Laboratory Work Order: 1503512
ESS Laboratory Sample ID: 1503512-33
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (0.48)		6020A		50	NAR	04/08/15 18:54	2.1	100	CD50408
Arsenic	**15.1** (2.38)		6010C		1	KJK	04/07/15 21:25	2.1	100	CD50408
Barium	**64.8** (2.38)		6010C		1	KJK	04/04/15 23:05	2.1	100	CD50408
Beryllium	**0.55** (0.10)		6010C		1	KJK	04/04/15 23:05	2.1	100	CD50408
Cadmium	**1.19** (0.48)		6010C		1	KJK	04/04/15 23:05	2.1	100	CD50408
Chromium	**73.4** (0.95)		6010C		1	KJK	04/04/15 23:05	2.1	100	CD50408
Lead	**183** (4.76)		6010C		1	KJK	04/04/15 23:05	2.1	100	CD50408
Mercury	**0.760** (0.162)		7471B		5	RLA	04/07/15 0:19	0.61	40	CD50409
Nickel	**25.1** (2.38)		6010C		1	KJK	04/07/15 21:25	2.1	100	CD50408
Selenium	ND (4.76)		6010C		1	KJK	04/04/15 23:05	2.1	100	CD50408
Silver	**1.16** (0.48)		6010C		1	KJK	04/07/15 21:25	2.1	100	CD50408
Thallium	ND (0.38)		7010		4	JP	04/07/15 9:34	2.1	100	CD50408
Vanadium	**75.2** (0.95)		6010C		1	KJK	04/04/15 23:05	2.1	100	CD50408
Zinc	**255** (2.38)		6010C		1	KJK	04/04/15 23:05	2.1	100	CD50408

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-112 4ft-6ft
Date Sampled: 03/27/15 11:16
Percent Solids: 100

ESS Laboratory Work Order: 1503512
ESS Laboratory Sample ID: 1503512-34
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (4.46)		6010C		1	KJK	04/07/15 21:31	2.24	100	CD50408
Arsenic	**5.13** (2.23)		6010C		1	KJK	04/07/15 21:31	2.24	100	CD50408
Barium	**12.2** (2.23)		6010C		1	KJK	04/04/15 23:11	2.24	100	CD50408
Beryllium	**0.30** (0.10)		6010C		1	KJK	04/04/15 23:11	2.24	100	CD50408
Cadmium	ND (0.45)		6010C		1	KJK	04/04/15 23:11	2.24	100	CD50408
Chromium	**13.3** (0.89)		6010C		1	KJK	04/04/15 23:11	2.24	100	CD50408
Lead	**4.97** (4.46)		6010C		1	KJK	04/04/15 23:11	2.24	100	CD50408
Mercury	ND (0.028)		7471B		1	RLA	04/06/15 23:45	0.72	40	CD50409
Nickel	**8.56** (2.23)		6010C		1	KJK	04/07/15 21:31	2.24	100	CD50408
Selenium	ND (4.46)		6010C		1	KJK	04/04/15 23:11	2.24	100	CD50408
Silver	ND (0.45)		6010C		1	KJK	04/07/15 21:31	2.24	100	CD50408
Thallium	ND (0.36)		7010		4	JP	04/07/15 9:40	2.24	100	CD50408
Vanadium	**20.2** (0.89)		6010C		1	KJK	04/04/15 23:11	2.24	100	CD50408
Zinc	**19.6** (2.23)		6010C		1	KJK	04/04/15 23:11	2.24	100	CD50408

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-225 0ft-0.5ft
Date Sampled: 03/27/15 08:49
Percent Solids: 96
Initial Volume: 25.1
Final Volume: 2
Extraction Method: 3540

ESS Laboratory Work Order: 1503512
ESS Laboratory Sample ID: 1503512-35
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 4/2/15 17:45
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0083)		8082A		1	04/03/15 12:53		CD50161
Aroclor 1221	ND (0.0083)		8082A		1	04/03/15 12:53		CD50161
Aroclor 1232	ND (0.0083)		8082A		1	04/03/15 12:53		CD50161
Aroclor 1242	ND (0.0083)		8082A		1	04/03/15 12:53		CD50161
Aroclor 1248	**P 0.119** (0.0083)		8082A		1	04/03/15 12:53		CD50161
Aroclor 1254	**P 0.284** (0.0416)		8082A		5	04/03/15 14:49		CD50161
Aroclor 1260	**0.108** (0.0083)		8082A		1	04/03/15 12:53		CD50161
Aroclor 1262	ND (0.0083)		8082A		1	04/03/15 12:53		CD50161
Aroclor 1268	ND (0.0083)		8082A		1	04/03/15 12:53		CD50161

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*61 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*73 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*93 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*42 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-225 0ft-3ft
Date Sampled: 03/27/15 08:49
Percent Solids: 99
Initial Volume: 25
Final Volume: 2
Extraction Method: 3540

ESS Laboratory Work Order: 1503512
ESS Laboratory Sample ID: 1503512-36
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 4/2/15 17:45
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0081)		8082A		1	04/03/15 13:12		CD50161
Aroclor 1221	ND (0.0081)		8082A		1	04/03/15 13:12		CD50161
Aroclor 1232	ND (0.0081)		8082A		1	04/03/15 13:12		CD50161
Aroclor 1242	ND (0.0081)		8082A		1	04/03/15 13:12		CD50161
Aroclor 1248	**P 0.0388** (0.0081)		8082A		1	04/03/15 13:12		CD50161
Aroclor 1254	**0.0495** (0.0081)		8082A		1	04/03/15 13:12		CD50161
Aroclor 1260	**0.0160** (0.0081)		8082A		1	04/03/15 13:12		CD50161
Aroclor 1262	ND (0.0081)		8082A		1	04/03/15 13:12		CD50161
Aroclor 1268	ND (0.0081)		8082A		1	04/03/15 13:12		CD50161

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*52 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*49 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*47 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*34 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-201 0ft-0.5ft
Date Sampled: 03/27/15 09:24
Percent Solids: 78
Initial Volume: 3.8
Final Volume: 2
Extraction Method: 3540C

ESS Laboratory Work Order: 1503512
ESS Laboratory Sample ID: 1503512-37
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 4/3/15 17:00
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0671)		8082A		1	04/06/15 13:00		CD50221
Aroclor 1221	ND (0.0671)		8082A		1	04/06/15 13:00		CD50221
Aroclor 1232	ND (0.0671)		8082A		1	04/06/15 13:00		CD50221
Aroclor 1242	ND (0.0671)		8082A		1	04/06/15 13:00		CD50221
Aroclor 1248	**P 0.326** (0.0671)		8082A		1	04/06/15 13:00		CD50221
Aroclor 1254	**0.582** (0.0671)		8082A		1	04/06/15 13:00		CD50221
Aroclor 1260	**0.285** (0.0671)		8082A		1	04/06/15 13:00		CD50221
Aroclor 1262	ND (0.0671)		8082A		1	04/06/15 13:00		CD50221
Aroclor 1268	ND (0.0671)		8082A		1	04/06/15 13:00		CD50221

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*74 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*68 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*71 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*56 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-201 0ft-3ft
Date Sampled: 03/27/15 09:24
Percent Solids: 85
Initial Volume: 25.069
Final Volume: 2
Extraction Method: 3540

ESS Laboratory Work Order: 1503512
ESS Laboratory Sample ID: 1503512-38
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 4/2/15 17:45
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0094)		8082A		1	04/03/15 13:51		CD50161
Aroclor 1221	ND (0.0094)		8082A		1	04/03/15 13:51		CD50161
Aroclor 1232	ND (0.0094)		8082A		1	04/03/15 13:51		CD50161
Aroclor 1242	ND (0.0094)		8082A		1	04/03/15 13:51		CD50161
Aroclor 1248	**1.17** (0.0938)		8082A		10	04/03/15 15:46		CD50161
Aroclor 1254	**0.913** (0.0938)		8082A		10	04/03/15 15:46		CD50161
Aroclor 1260	**0.264** (0.0938)		8082A		10	04/03/15 15:46		CD50161
Aroclor 1262	ND (0.0094)		8082A		1	04/03/15 13:51		CD50161
Aroclor 1268	ND (0.0094)		8082A		1	04/03/15 13:51		CD50161

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*49 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*47 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*40 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*24 %*	*SC*	*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-201 0ft-3ft
Date Sampled: 03/27/15 09:24
Percent Solids: 85
Initial Volume: 25.069
Final Volume: 2
Extraction Method: 3540

ESS Laboratory Work Order: 1503512
ESS Laboratory Sample ID: 1503512-38RE1
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 4/2/15 17:45
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0938)		8082A		10	04/03/15 15:46		CD50161
Aroclor 1221	ND (0.0938)		8082A		10	04/03/15 15:46		CD50161
Aroclor 1232	ND (0.0938)		8082A		10	04/03/15 15:46		CD50161
Aroclor 1242	ND (0.0938)		8082A		10	04/03/15 15:46		CD50161
Aroclor 1248	**1.17** (0.0938)		8082A		10	04/03/15 15:46		CD50161
Aroclor 1254	**0.913** (0.0938)		8082A		10	04/03/15 15:46		CD50161
Aroclor 1260	**0.264** (0.0938)		8082A		10	04/03/15 15:46		CD50161
Aroclor 1262	ND (0.0938)		8082A		10	04/03/15 15:46		CD50161
Aroclor 1268	ND (0.0938)		8082A		10	04/03/15 15:46		CD50161

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*38 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*67 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*40 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*23 %*	*SC*	*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-106 0ft-0.5ft
Date Sampled: 03/27/15 09:24
Percent Solids: 90
Initial Volume: 8
Final Volume: 2
Extraction Method: 3540C

ESS Laboratory Work Order: 1503512
ESS Laboratory Sample ID: 1503512-39
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 4/6/15 18:00
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0279)		8082A		1	04/07/15 16:03		CD50616
Aroclor 1221	ND (0.0279)		8082A		1	04/07/15 16:03		CD50616
Aroclor 1232	ND (0.0279)		8082A		1	04/07/15 16:03		CD50616
Aroclor 1242	ND (0.0279)		8082A		1	04/07/15 16:03		CD50616
Aroclor 1248	**0.442** (0.0279)		8082A		1	04/07/15 16:03		CD50616
Aroclor 1254	**0.755** (0.140)		8082A		5	04/08/15 1:31		CD50616
Aroclor 1260	**0.392** (0.0279)		8082A		1	04/07/15 16:03		CD50616
Aroclor 1262	ND (0.0279)		8082A		1	04/07/15 16:03		CD50616
Aroclor 1268	ND (0.0279)		8082A		1	04/07/15 16:03		CD50616

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*108 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*64 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*68 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*66 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-106 0.5ft-2ft
Date Sampled: 03/27/15 09:24
Percent Solids: 98
Initial Volume: 25.1
Final Volume: 2
Extraction Method: 3540

ESS Laboratory Work Order: 1503512
ESS Laboratory Sample ID: 1503512-40
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 4/2/15 17:45
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.163)		8082A		20	04/03/15 15:27		CD50161
Aroclor 1221	ND (0.163)		8082A		20	04/03/15 15:27		CD50161
Aroclor 1232	ND (0.163)		8082A		20	04/03/15 15:27		CD50161
Aroclor 1242	ND (0.163)		8082A		20	04/03/15 15:27		CD50161
Aroclor 1248	**P 1.29** (0.163)		8082A		20	04/03/15 15:27		CD50161
Aroclor 1254	**2.07** (0.163)		8082A		20	04/03/15 15:27		CD50161
Aroclor 1260	**0.850** (0.163)		8082A		20	04/03/15 15:27		CD50161
Aroclor 1262	ND (0.163)		8082A		20	04/03/15 15:27		CD50161
Aroclor 1268	ND (0.163)		8082A		20	04/03/15 15:27		CD50161

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-110 0.5ft-2ft
Date Sampled: 03/27/15 10:27
Percent Solids: 96
Initial Volume: 25.5
Final Volume: 2
Extraction Method: 3540

ESS Laboratory Work Order: 1503512
ESS Laboratory Sample ID: 1503512-41
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 4/2/15 17:45
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0082)		8082A		1	04/03/15 12:42		CD50161
Aroclor 1221	ND (0.0082)		8082A		1	04/03/15 12:42		CD50161
Aroclor 1232	ND (0.0082)		8082A		1	04/03/15 12:42		CD50161
Aroclor 1242	ND (0.0082)		8082A		1	04/03/15 12:42		CD50161
Aroclor 1248	**P 0.334** (0.0820)		8082A		10	04/03/15 15:08		CD50161
Aroclor 1254	**P 0.673** (0.0820)		8082A		10	04/03/15 15:08		CD50161
Aroclor 1260	**0.316** (0.0820)		8082A		10	04/03/15 15:08		CD50161
Aroclor 1262	ND (0.0082)		8082A		1	04/03/15 12:42		CD50161
Aroclor 1268	ND (0.0082)		8082A		1	04/03/15 12:42		CD50161

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*136 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*71 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*62 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*61 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-111 0ft-0.5ft
Date Sampled: 03/27/15 10:46
Percent Solids: 93
Initial Volume: 25.3
Final Volume: 2
Extraction Method: 3540

ESS Laboratory Work Order: 1503512
ESS Laboratory Sample ID: 1503512-42
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 4/2/15 17:45
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0085)		8082A		1	04/03/15 13:00		CD50161
Aroclor 1221	ND (0.0085)		8082A		1	04/03/15 13:00		CD50161
Aroclor 1232	ND (0.0085)		8082A		1	04/03/15 13:00		CD50161
Aroclor 1242	ND (0.0085)		8082A		1	04/03/15 13:00		CD50161
Aroclor 1248	**0.540** (0.0849)		8082A		10	04/03/15 14:53		CD50161
Aroclor 1254	**0.813** (0.0849)		8082A		10	04/03/15 14:53		CD50161
Aroclor 1260	**0.381** (0.0849)		8082A		10	04/03/15 14:53		CD50161
Aroclor 1262	ND (0.0085)		8082A		1	04/03/15 13:00		CD50161
Aroclor 1268	ND (0.0085)		8082A		1	04/03/15 13:00		CD50161

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*130 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*78 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*67 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*66 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-112 0ft-0.5ft
Date Sampled: 03/27/15 11:16
Percent Solids: 83
Initial Volume: 25.4
Final Volume: 2
Extraction Method: 3540C

ESS Laboratory Work Order: 1503512
ESS Laboratory Sample ID: 1503512-43
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 4/2/15 18:15
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0095)		8082A		1	04/03/15 13:19		CD50221
Aroclor 1221	ND (0.0095)		8082A		1	04/03/15 13:19		CD50221
Aroclor 1232	ND (0.0095)		8082A		1	04/03/15 13:19		CD50221
Aroclor 1242	ND (0.0095)		8082A		1	04/03/15 13:19		CD50221
Aroclor 1248	**0.300** (0.0473)		8082A		5	04/03/15 15:12		CD50221
Aroclor 1254	**0.480** (0.0473)		8082A		5	04/03/15 15:12		CD50221
Aroclor 1260	**0.265** (0.0473)		8082A		5	04/03/15 15:12		CD50221
Aroclor 1262	ND (0.0095)		8082A		1	04/03/15 13:19		CD50221
Aroclor 1268	ND (0.0095)		8082A		1	04/03/15 13:19		CD50221

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*137 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*79 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*63 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*62 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: LC-112 4ft-6ft
Date Sampled: 03/27/15 11:16
Percent Solids: 100
Initial Volume: 25
Final Volume: 2
Extraction Method: 3540C

ESS Laboratory Work Order: 1503512
ESS Laboratory Sample ID: 1503512-44
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 4/2/15 18:15
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0080)		8082A		1	04/03/15 13:38		CD50221
Aroclor 1221	ND (0.0080)		8082A		1	04/03/15 13:38		CD50221
Aroclor 1232	ND (0.0080)		8082A		1	04/03/15 13:38		CD50221
Aroclor 1242	ND (0.0080)		8082A		1	04/03/15 13:38		CD50221
Aroclor 1248	ND (0.0080)		8082A		1	04/03/15 13:38		CD50221
Aroclor 1254	ND (0.0080)		8082A		1	04/03/15 13:38		CD50221
Aroclor 1260	ND (0.0080)		8082A		1	04/03/15 13:38		CD50221
Aroclor 1262	ND (0.0080)		8082A		1	04/03/15 13:38		CD50221
Aroclor 1268	ND (0.0080)		8082A		1	04/03/15 13:38		CD50221

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*74 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*82 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*72 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*72 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503512

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Total Metals										
Batch CD50408 - 3050B										
Blank										
Antimony	ND	5.00	mg/kg wet							
Antimony	ND	0.50	mg/kg wet							
Arsenic	ND	2.50	mg/kg wet							
Arsenic	ND	2.50	mg/kg wet							
Barium	ND	2.50	mg/kg wet							
Barium	ND	2.50	mg/kg wet							
Beryllium	ND	0.11	mg/kg wet							
Cadmium	ND	0.50	mg/kg wet							
Cadmium	ND	0.50	mg/kg wet							
Chromium	ND	1.00	mg/kg wet							
Chromium	ND	1.00	mg/kg wet							
Lead	ND	5.00	mg/kg wet							
Lead	ND	5.00	mg/kg wet							
Nickel	ND	2.50	mg/kg wet							
Selenium	ND	5.00	mg/kg wet							
Selenium	ND	5.00	mg/kg wet							
Selenium	ND	0.50	mg/kg wet							
Silver	ND	0.50	mg/kg wet							
Silver	ND	0.50	mg/kg wet							
Thallium	ND	0.25	mg/kg wet							
Vanadium	ND	1.00	mg/kg wet							
Zinc	ND	2.50	mg/kg wet							
LCS										
Antimony	59.8	1.67	mg/kg wet	49.70		120	80-120			
Antimony	53.0	16.7	mg/kg wet	49.70		107	80-120			
Arsenic	125	8.33	mg/kg wet	133.0		94	80-120			
Arsenic	125	8.33	mg/kg wet	133.0		94	80-120			
Barium	191	8.33	mg/kg wet	229.0		83	80-120			
Barium	191	8.33	mg/kg wet	229.0		83	80-120			
Beryllium	83.2	0.37	mg/kg wet	95.80		87	80-120			
Cadmium	98.9	1.67	mg/kg wet	123.0		80	73-127			
Cadmium	98.9	1.67	mg/kg wet	123.0		80	73-127			
Chromium	53.8	3.33	mg/kg wet	63.20		85	80-120			
Chromium	53.8	3.33	mg/kg wet	63.20		85	80-120			
Lead	90.1	16.7	mg/kg wet	108.0		83	80-120			
Lead	90.1	16.7	mg/kg wet	108.0		83	80-120			
Nickel	263	8.33	mg/kg wet	285.0		92	80-120			
Selenium	88.8	1.67	mg/kg wet	81.40		109	80-120			
Selenium	69.2	16.7	mg/kg wet	81.40		85	64-136			
Selenium	69.2	16.7	mg/kg wet	81.40		85	64-136			
Silver	70.7	1.67	mg/kg wet	74.80		95	80-120			
Silver	70.7	1.67	mg/kg wet	74.80		95	80-120			
Thallium	52.7	25.0	mg/kg wet	50.10		105	80-120			
Vanadium	131	3.33	mg/kg wet	148.0		88	80-120			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503512

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Total Metals										
Batch CD50408 - 3050B										
Zinc	158	8.33	mg/kg wet	203.0		78	70-130			
LCS Dup										
Antimony	56.5	1.69	mg/kg wet	49.70		114	80-120	6	30	
Antimony	55.3	16.9	mg/kg wet	49.70		111	80-120	4	20	
Arsenic	124	8.47	mg/kg wet	133.0		93	80-120	0.9	20	
Arsenic	124	8.47	mg/kg wet	133.0		93	80-120	0.9	20	
Barium	187	8.47	mg/kg wet	229.0		82	80-120	2	20	
Barium	187	8.47	mg/kg wet	229.0		82	80-120	2	20	
Beryllium	78.9	0.37	mg/kg wet	95.80		82	80-120	5	20	
Cadmium	92.3	1.69	mg/kg wet	123.0		75	73-127	7	20	
Cadmium	92.3	1.69	mg/kg wet	123.0		75	73-127	7	20	
Chromium	50.8	3.39	mg/kg wet	63.20		80	80-120	6	20	
Chromium	50.8	3.39	mg/kg wet	63.20		80	80-120	6	20	
Lead	85.9	16.9	mg/kg wet	108.0		80	80-120	5	20	
Lead	85.9	16.9	mg/kg wet	108.0		80	80-120	5	20	
Nickel	252	8.47	mg/kg wet	285.0		88	80-120	4	20	
Selenium	64.6	16.9	mg/kg wet	81.40		79	64-136	7	20	
Selenium	84.1	1.69	mg/kg wet	81.40		103	80-120	6	30	
Selenium	64.6	16.9	mg/kg wet	81.40		79	64-136	7	20	
Silver	68.0	1.69	mg/kg wet	74.80		91	80-120	4	20	
Silver	68.0	1.69	mg/kg wet	74.80		91	80-120	4	20	
Thallium	55.2	25.4	mg/kg wet	50.10		110	80-120	5	20	
Vanadium	123	3.39	mg/kg wet	148.0		83	80-120	6	20	
Zinc	151	8.47	mg/kg wet	203.0		75	70-130	4	20	
Batch CD50409 - 7471A										
Blank										
Mercury	ND	0.033	mg/kg wet							
Mercury	ND	0.033	mg/kg wet							
LCS										
Mercury	32.3	3.60	mg/kg wet	24.90		130	51-149			
Mercury	32.3	3.60	mg/kg wet	24.90		130	51-149			
LCS Dup										
Mercury	33.2	3.47	mg/kg wet	24.90		133	51-149	3	20	
Mercury	33.2	3.47	mg/kg wet	24.90		133	51-149	3	20	
Batch CD50716 - 7471A										
Blank										
Mercury	ND	0.033	mg/kg wet							
LCS										
Mercury	34.2	3.74	mg/kg wet	24.90		137	51-149			
LCS Dup										
Mercury	34.3	3.88	mg/kg wet	24.90		138	51-149	0.4	20	
Reference										
Mercury	0.967	0.194	mg/kg wet	1.000		97	70-130			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503512

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch CC53022 - 5035										
Blank										
1,1,1,2-Tetrachloroethane	ND	0.0050	mg/kg wet							
1,1,1-Trichloroethane	0.0066	0.0050	mg/kg wet							
1,1,2,2-Tetrachloroethane	ND	0.0020	mg/kg wet							
1,1,2-Trichloroethane	ND	0.0050	mg/kg wet							
1,1-Dichloroethane	ND	0.0050	mg/kg wet							
1,1-Dichloroethene	ND	0.0050	mg/kg wet							
1,1-Dichloropropene	ND	0.0050	mg/kg wet							
1,2,3-Trichlorobenzene	ND	0.0050	mg/kg wet							
1,2,3-Trichloropropane	ND	0.0050	mg/kg wet							
1,2,4-Trichlorobenzene	ND	0.0050	mg/kg wet							
1,2,4-Trimethylbenzene	ND	0.0050	mg/kg wet							
1,2-Dibromo-3-Chloropropane	ND	0.0050	mg/kg wet							
1,2-Dibromoethane	ND	0.0050	mg/kg wet							
1,2-Dichlorobenzene	ND	0.0050	mg/kg wet							
1,2-Dichloroethane	ND	0.0050	mg/kg wet							
1,2-Dichloropropane	ND	0.0050	mg/kg wet							
1,3,5-Trimethylbenzene	ND	0.0050	mg/kg wet							
1,3-Dichlorobenzene	ND	0.0050	mg/kg wet							
1,3-Dichloropropane	ND	0.0050	mg/kg wet							
1,4-Dichlorobenzene	ND	0.0050	mg/kg wet							
1,4-Dioxane	ND	0.100	mg/kg wet							
2,2-Dichloropropane	ND	0.0050	mg/kg wet							
2-Butanone	ND	0.0100	mg/kg wet							
2-Chlorotoluene	ND	0.0050	mg/kg wet							
2-Hexanone	ND	0.0100	mg/kg wet							
4-Chlorotoluene	ND	0.0050	mg/kg wet							
4-Isopropyltoluene	ND	0.0050	mg/kg wet							
4-Methyl-2-Pentanone	ND	0.0100	mg/kg wet							
Acetone	ND	0.0100	mg/kg wet							
Benzene	ND	0.0050	mg/kg wet							
Bromobenzene	ND	0.0050	mg/kg wet							
Bromochloromethane	ND	0.0050	mg/kg wet							
Bromodichloromethane	ND	0.0050	mg/kg wet							
Bromoform	ND	0.0050	mg/kg wet							
Bromomethane	ND	0.0100	mg/kg wet							
Carbon Disulfide	ND	0.0050	mg/kg wet							
Carbon Tetrachloride	ND	0.0050	mg/kg wet							
Chlorobenzene	ND	0.0050	mg/kg wet							
Chloroethane	ND	0.0100	mg/kg wet							
Chloroform	ND	0.0050	mg/kg wet							
Chloromethane	ND	0.0100	mg/kg wet							
cis-1,2-Dichloroethene	ND	0.0050	mg/kg wet							
cis-1,3-Dichloropropene	ND	0.0050	mg/kg wet							
Dibromochloromethane	ND	0.0020	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503512

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch CC53022 - 5035										
Dibromomethane	ND	0.0050	mg/kg wet							
Dichlorodifluoromethane	ND	0.0100	mg/kg wet							
Diethyl Ether	ND	0.0050	mg/kg wet							
Di-isopropyl ether	ND	0.0050	mg/kg wet							
Ethyl tertiary-butyl ether	ND	0.0050	mg/kg wet							
Ethylbenzene	ND	0.0050	mg/kg wet							
Hexachlorobutadiene	ND	0.0050	mg/kg wet							
Isopropylbenzene	ND	0.0050	mg/kg wet							
Methyl tert-Butyl Ether	ND	0.0050	mg/kg wet							
Methylene Chloride	ND	0.0100	mg/kg wet							
Naphthalene	ND	0.0050	mg/kg wet							
n-Butylbenzene	ND	0.0050	mg/kg wet							
n-Propylbenzene	ND	0.0050	mg/kg wet							
sec-Butylbenzene	ND	0.0050	mg/kg wet							
Styrene	ND	0.0050	mg/kg wet							
tert-Butylbenzene	ND	0.0050	mg/kg wet							
Tertiary-amyl methyl ether	ND	0.0050	mg/kg wet							
Tetrachloroethene	ND	0.0050	mg/kg wet							
Tetrahydrofuran	ND	0.0050	mg/kg wet							
Toluene	ND	0.0050	mg/kg wet							
trans-1,2-Dichloroethene	ND	0.0050	mg/kg wet							
trans-1,3-Dichloropropene	ND	0.0050	mg/kg wet							
Trichloroethene	ND	0.0050	mg/kg wet							
Trichlorofluoromethane	ND	0.0050	mg/kg wet							
Vinyl Chloride	ND	0.0100	mg/kg wet							
Xylene O	ND	0.0050	mg/kg wet							
Xylene P,M	ND	0.0100	mg/kg wet							
Surrogate: 1,2-Dichloroethane-d4	*0.0461*		mg/kg wet	*0.05000*		*92*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0457*		mg/kg wet	*0.05000*		*91*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0442*		mg/kg wet	*0.05000*		*88*	*70-130*			
Surrogate: Toluene-d8	*0.0452*		mg/kg wet	*0.05000*		*90*	*70-130*			
LCS										
1,1,1,2-Tetrachloroethane	0.0562	0.0050	mg/kg wet	0.05000		112	70-130			
1,1,1-Trichloroethane	0.0547	0.0050	mg/kg wet	0.05000		109	70-130			
1,1,2,2-Tetrachloroethane	0.0502	0.0020	mg/kg wet	0.05000		100	70-130			
1,1,2-Trichloroethane	0.0496	0.0050	mg/kg wet	0.05000		99	70-130			
1,1-Dichloroethane	0.0491	0.0050	mg/kg wet	0.05000		98	70-130			
1,1-Dichloroethene	0.0468	0.0050	mg/kg wet	0.05000		94	70-130			
1,1-Dichloropropene	0.0475	0.0050	mg/kg wet	0.05000		95	70-130			
1,2,3-Trichlorobenzene	0.0501	0.0050	mg/kg wet	0.05000		100	70-130			
1,2,3-Trichloropropane	0.0536	0.0050	mg/kg wet	0.05000		107	70-130			
1,2,4-Trichlorobenzene	0.0493	0.0050	mg/kg wet	0.05000		99	70-130			
1,2,4-Trimethylbenzene	0.0484	0.0050	mg/kg wet	0.05000		97	70-130			
1,2-Dibromo-3-Chloropropane	0.0555	0.0050	mg/kg wet	0.05000		111	70-130			
1,2-Dibromoethane	0.0520	0.0050	mg/kg wet	0.05000		104	70-130			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503512

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch CC53022 - 5035										
1,2-Dichlorobenzene	0.0482	0.0050	mg/kg wet	0.05000		96	70-130			
1,2-Dichloroethane	0.0520	0.0050	mg/kg wet	0.05000		104	70-130			
1,2-Dichloropropane	0.0478	0.0050	mg/kg wet	0.05000		96	70-130			
1,3,5-Trimethylbenzene	0.0505	0.0050	mg/kg wet	0.05000		101	70-130			
1,3-Dichlorobenzene	0.0489	0.0050	mg/kg wet	0.05000		98	70-130			
1,3-Dichloropropane	0.0543	0.0050	mg/kg wet	0.05000		109	70-130			
1,4-Dichlorobenzene	0.0487	0.0050	mg/kg wet	0.05000		97	70-130			
1,4-Dioxane	0.969	0.100	mg/kg wet	1.000		97	70-130			
2,2-Dichloropropane	0.0568	0.0050	mg/kg wet	0.05000		114	70-130			
2-Butanone	0.255	0.0100	mg/kg wet	0.2500		102	70-130			
2-Chlorotoluene	0.0493	0.0050	mg/kg wet	0.05000		99	70-130			
2-Hexanone	0.286	0.0100	mg/kg wet	0.2500		114	70-130			
4-Chlorotoluene	0.0495	0.0050	mg/kg wet	0.05000		99	70-130			
4-Isopropyltoluene	0.0486	0.0050	mg/kg wet	0.05000		97	70-130			
4-Methyl-2-Pentanone	0.259	0.0100	mg/kg wet	0.2500		104	70-130			
Acetone	0.284	0.0100	mg/kg wet	0.2500		113	70-130			
Benzene	0.0494	0.0050	mg/kg wet	0.05000		99	70-130			
Bromobenzene	0.0491	0.0050	mg/kg wet	0.05000		98	70-130			
Bromochloromethane	0.0504	0.0050	mg/kg wet	0.05000		101	70-130			
Bromodichloromethane	0.0537	0.0050	mg/kg wet	0.05000		107	70-130			
Bromoform	0.0520	0.0050	mg/kg wet	0.05000		104	70-130			
Bromomethane	0.0912	0.0100	mg/kg wet	0.05000		182	70-130			B+
Carbon Disulfide	0.0545	0.0050	mg/kg wet	0.05000		109	70-130			
Carbon Tetrachloride	0.0576	0.0050	mg/kg wet	0.05000		115	70-130			
Chlorobenzene	0.0500	0.0050	mg/kg wet	0.05000		100	70-130			
Chloroethane	0.0458	0.0100	mg/kg wet	0.05000		92	70-130			
Chloroform	0.0520	0.0050	mg/kg wet	0.05000		104	70-130			
Chloromethane	0.0573	0.0100	mg/kg wet	0.05000		115	70-130			
cis-1,2-Dichloroethene	0.0506	0.0050	mg/kg wet	0.05000		101	70-130			
cis-1,3-Dichloropropene	0.0569	0.0050	mg/kg wet	0.05000		114	70-130			
Dibromochloromethane	0.0516	0.0020	mg/kg wet	0.05000		103	70-130			
Dibromomethane	0.0516	0.0050	mg/kg wet	0.05000		103	70-130			
Dichlorodifluoromethane	0.0541	0.0100	mg/kg wet	0.05000		108	70-130			
Diethyl Ether	0.0504	0.0050	mg/kg wet	0.05000		101	70-130			
Di-isopropyl ether	0.0488	0.0050	mg/kg wet	0.05000		98	70-130			
Ethyl tertiary-butyl ether	0.0485	0.0050	mg/kg wet	0.05000		97	70-130			
Ethylbenzene	0.0505	0.0050	mg/kg wet	0.05000		101	70-130			
Hexachlorobutadiene	0.0550	0.0050	mg/kg wet	0.05000		110	70-130			
Isopropylbenzene	0.0489	0.0050	mg/kg wet	0.05000		98	70-130			
Methyl tert-Butyl Ether	0.0509	0.0050	mg/kg wet	0.05000		102	70-130			
Methylene Chloride	0.0497	0.0100	mg/kg wet	0.05000		99	70-130			
Naphthalene	0.0452	0.0050	mg/kg wet	0.05000		90	70-130			
n-Butylbenzene	0.0497	0.0050	mg/kg wet	0.05000		99	70-130			
n-Propylbenzene	0.0484	0.0050	mg/kg wet	0.05000		97	70-130			
sec-Butylbenzene	0.0489	0.0050	mg/kg wet	0.05000		98	70-130			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503512

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch CC53022 - 5035										
Styrene	0.0507	0.0050	mg/kg wet	0.05000		101	70-130			
tert-Butylbenzene	0.0486	0.0050	mg/kg wet	0.05000		97	70-130			
Tertiary-amyl methyl ether	0.0506	0.0050	mg/kg wet	0.05000		101	70-130			
Tetrachloroethene	0.0511	0.0050	mg/kg wet	0.05000		102	70-130			
Tetrahydrofuran	0.0487	0.0050	mg/kg wet	0.05000		97	70-130			
Toluene	0.0491	0.0050	mg/kg wet	0.05000		98	70-130			
trans-1,2-Dichloroethene	0.0457	0.0050	mg/kg wet	0.05000		91	70-130			
trans-1,3-Dichloropropene	0.0565	0.0050	mg/kg wet	0.05000		113	70-130			
Trichloroethene	0.0496	0.0050	mg/kg wet	0.05000		99	70-130			
Trichlorofluoromethane	0.0474	0.0050	mg/kg wet	0.05000		95	70-130			
Vinyl Chloride	0.0519	0.0100	mg/kg wet	0.05000		104	70-130			
Xylene O	0.0498	0.0050	mg/kg wet	0.05000		100	70-130			
Xylene P,M	0.101	0.0100	mg/kg wet	0.1000		101	70-130			
Surrogate: 1,2-Dichloroethane-d4	*0.0505*		mg/kg wet	*0.05000*		*101*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0481*		mg/kg wet	*0.05000*		*96*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0480*		mg/kg wet	*0.05000*		*96*	*70-130*			
Surrogate: Toluene-d8	*0.0497*		mg/kg wet	*0.05000*		*99*	*70-130*			
LCS Dup										
1,1,1,2-Tetrachloroethane	0.0502	0.0050	mg/kg wet	0.05000		100	70-130	11	25	
1,1,1-Trichloroethane	0.0503	0.0050	mg/kg wet	0.05000		101	70-130	8	25	
1,1,2,2-Tetrachloroethane	0.0453	0.0020	mg/kg wet	0.05000		91	70-130	10	25	
1,1,2-Trichloroethane	0.0436	0.0050	mg/kg wet	0.05000		87	70-130	13	25	
1,1-Dichloroethane	0.0438	0.0050	mg/kg wet	0.05000		88	70-130	11	25	
1,1-Dichloroethene	0.0421	0.0050	mg/kg wet	0.05000		84	70-130	11	25	
1,1-Dichloropropene	0.0429	0.0050	mg/kg wet	0.05000		86	70-130	10	25	
1,2,3-Trichlorobenzene	0.0474	0.0050	mg/kg wet	0.05000		95	70-130	6	25	
1,2,3-Trichloropropane	0.0488	0.0050	mg/kg wet	0.05000		98	70-130	10	25	
1,2,4-Trichlorobenzene	0.0470	0.0050	mg/kg wet	0.05000		94	70-130	5	25	
1,2,4-Trimethylbenzene	0.0450	0.0050	mg/kg wet	0.05000		90	70-130	7	25	
1,2-Dibromo-3-Chloropropane	0.123	0.0050	mg/kg wet	0.05000		245	70-130	75	25	B+, D+
1,2-Dibromoethane	0.0459	0.0050	mg/kg wet	0.05000		92	70-130	13	25	
1,2-Dichlorobenzene	0.0448	0.0050	mg/kg wet	0.05000		90	70-130	7	25	
1,2-Dichloroethane	0.0461	0.0050	mg/kg wet	0.05000		92	70-130	12	25	
1,2-Dichloropropane	0.0429	0.0050	mg/kg wet	0.05000		86	70-130	11	25	
1,3,5-Trimethylbenzene	0.0470	0.0050	mg/kg wet	0.05000		94	70-130	7	25	
1,3-Dichlorobenzene	0.0456	0.0050	mg/kg wet	0.05000		91	70-130	7	25	
1,3-Dichloropropane	0.0480	0.0050	mg/kg wet	0.05000		96	70-130	12	25	
1,4-Dichlorobenzene	0.0457	0.0050	mg/kg wet	0.05000		91	70-130	6	25	
1,4-Dioxane	0.914	0.100	mg/kg wet	1.000		91	70-130	6	20	
2,2-Dichloropropane	0.0496	0.0050	mg/kg wet	0.05000		99	70-130	14	25	
2-Butanone	0.223	0.0100	mg/kg wet	0.2500		89	70-130	13	25	
2-Chlorotoluene	0.0453	0.0050	mg/kg wet	0.05000		91	70-130	8	25	
2-Hexanone	0.244	0.0100	mg/kg wet	0.2500		98	70-130	16	25	
4-Chlorotoluene	0.0467	0.0050	mg/kg wet	0.05000		93	70-130	6	25	
4-Isopropyltoluene	0.0455	0.0050	mg/kg wet	0.05000		91	70-130	7	25	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503512

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch CC53022 - 5035										
4-Methyl-2-Pentanone	0.227	0.0100	mg/kg wet	0.2500		91	70-130	13	25	
Acetone	0.254	0.0100	mg/kg wet	0.2500		101	70-130	11	25	
Benzene	0.0441	0.0050	mg/kg wet	0.05000		88	70-130	11	25	
Bromobenzene	0.0461	0.0050	mg/kg wet	0.05000		92	70-130	6	25	
Bromochloromethane	0.0460	0.0050	mg/kg wet	0.05000		92	70-130	9	25	
Bromodichloromethane	0.0483	0.0050	mg/kg wet	0.05000		97	70-130	11	25	
Bromoform	0.0475	0.0050	mg/kg wet	0.05000		95	70-130	9	25	
Bromomethane	0.0771	0.0100	mg/kg wet	0.05000		154	70-130	17	25	B+
Carbon Disulfide	0.0479	0.0050	mg/kg wet	0.05000		96	70-130	13	25	
Carbon Tetrachloride	0.0516	0.0050	mg/kg wet	0.05000		103	70-130	11	25	
Chlorobenzene	0.0452	0.0050	mg/kg wet	0.05000		90	70-130	10	25	
Chloroethane	0.0422	0.0100	mg/kg wet	0.05000		84	70-130	8	25	
Chloroform	0.0464	0.0050	mg/kg wet	0.05000		93	70-130	11	25	
Chloromethane	0.0524	0.0100	mg/kg wet	0.05000		105	70-130	9	25	
cis-1,2-Dichloroethene	0.0452	0.0050	mg/kg wet	0.05000		90	70-130	11	25	
cis-1,3-Dichloropropene	0.0513	0.0050	mg/kg wet	0.05000		103	70-130	10	25	
Dibromochloromethane	0.0469	0.0020	mg/kg wet	0.05000		94	70-130	10	25	
Dibromomethane	0.0452	0.0050	mg/kg wet	0.05000		90	70-130	13	25	
Dichlorodifluoromethane	0.0478	0.0100	mg/kg wet	0.05000		96	70-130	12	25	
Diethyl Ether	0.0449	0.0050	mg/kg wet	0.05000		90	70-130	12	25	
Di-isopropyl ether	0.0430	0.0050	mg/kg wet	0.05000		86	70-130	13	25	
Ethyl tertiary-butyl ether	0.0410	0.0050	mg/kg wet	0.05000		82	70-130	17	25	
Ethylbenzene	0.0452	0.0050	mg/kg wet	0.05000		90	70-130	11	25	
Hexachlorobutadiene	0.0525	0.0050	mg/kg wet	0.05000		105	70-130	5	25	
Isopropylbenzene	0.0456	0.0050	mg/kg wet	0.05000		91	70-130	7	25	
Methyl tert-Butyl Ether	0.0442	0.0050	mg/kg wet	0.05000		88	70-130	14	25	
Methylene Chloride	0.0428	0.0100	mg/kg wet	0.05000		86	70-130	15	25	
Naphthalene	0.0422	0.0050	mg/kg wet	0.05000		84	70-130	7	25	
n-Butylbenzene	0.0466	0.0050	mg/kg wet	0.05000		93	70-130	7	25	
n-Propylbenzene	0.0452	0.0050	mg/kg wet	0.05000		90	70-130	7	25	
sec-Butylbenzene	0.0455	0.0050	mg/kg wet	0.05000		91	70-130	7	25	
Styrene	0.0458	0.0050	mg/kg wet	0.05000		92	70-130	10	25	
tert-Butylbenzene	0.0459	0.0050	mg/kg wet	0.05000		92	70-130	6	25	
Tertiary-amyl methyl ether	0.0429	0.0050	mg/kg wet	0.05000		86	70-130	16	25	
Tetrachloroethene	0.0454	0.0050	mg/kg wet	0.05000		91	70-130	12	25	
Tetrahydrofuran	0.0407	0.0050	mg/kg wet	0.05000		81	70-130	18	25	
Toluene	0.0441	0.0050	mg/kg wet	0.05000		88	70-130	11	25	
trans-1,2-Dichloroethene	0.0404	0.0050	mg/kg wet	0.05000		81	70-130	12	25	
trans-1,3-Dichloropropene	0.0503	0.0050	mg/kg wet	0.05000		101	70-130	12	25	
Trichloroethene	0.0441	0.0050	mg/kg wet	0.05000		88	70-130	12	25	
Trichlorofluoromethane	0.0429	0.0050	mg/kg wet	0.05000		86	70-130	10	25	
Vinyl Chloride	0.0482	0.0100	mg/kg wet	0.05000		96	70-130	7	25	
Xylene O	0.0448	0.0050	mg/kg wet	0.05000		90	70-130	11	25	
Xylene P,M	0.0909	0.0100	mg/kg wet	0.1000		91	70-130	10	25	
Surrogate: 1,2-Dichloroethane-d4	*0.0477*		mg/kg wet	*0.05000*		*95*	*70-130*			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503512

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch CC53022 - 5035										
Surrogate: 4-Bromofluorobenzene	*0.0468*		mg/kg wet	*0.05000*		*94*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0464*		mg/kg wet	*0.05000*		*93*	*70-130*			
Surrogate: Toluene-d8	*0.0483*		mg/kg wet	*0.05000*		*97*	*70-130*			
Batch CC53120 - 5035										
Blank										
1,1,1,2-Tetrachloroethane	ND	0.0050	mg/kg wet							
1,1,1-Trichloroethane	ND	0.0050	mg/kg wet							
1,1,2,2-Tetrachloroethane	ND	0.0020	mg/kg wet							
1,1,2-Trichloroethane	ND	0.0050	mg/kg wet							
1,1-Dichloroethane	ND	0.0050	mg/kg wet							
1,1-Dichloroethene	ND	0.0050	mg/kg wet							
1,1-Dichloropropene	ND	0.0050	mg/kg wet							
1,2,3-Trichlorobenzene	ND	0.0050	mg/kg wet							
1,2,3-Trichloropropane	ND	0.0050	mg/kg wet							
1,2,4-Trichlorobenzene	ND	0.0050	mg/kg wet							
1,2,4-Trimethylbenzene	ND	0.0050	mg/kg wet							
1,2-Dibromo-3-Chloropropane	ND	0.0050	mg/kg wet							
1,2-Dibromoethane	ND	0.0050	mg/kg wet							
1,2-Dichlorobenzene	ND	0.0050	mg/kg wet							
1,2-Dichloroethane	ND	0.0050	mg/kg wet							
1,2-Dichloropropane	ND	0.0050	mg/kg wet							
1,3,5-Trimethylbenzene	ND	0.0050	mg/kg wet							
1,3-Dichlorobenzene	ND	0.0050	mg/kg wet							
1,3-Dichloropropane	ND	0.0050	mg/kg wet							
1,4-Dichlorobenzene	ND	0.0050	mg/kg wet							
1,4-Dioxane	ND	0.100	mg/kg wet							
2,2-Dichloropropane	ND	0.0050	mg/kg wet							
2-Butanone	ND	0.0100	mg/kg wet							
2-Chlorotoluene	ND	0.0050	mg/kg wet							
2-Hexanone	ND	0.0100	mg/kg wet							
4-Chlorotoluene	ND	0.0050	mg/kg wet							
4-Isopropyltoluene	ND	0.0050	mg/kg wet							
4-Methyl-2-Pentanone	ND	0.0100	mg/kg wet							
Acetone	ND	0.0100	mg/kg wet							
Benzene	ND	0.0050	mg/kg wet							
Bromobenzene	ND	0.0050	mg/kg wet							
Bromochloromethane	ND	0.0050	mg/kg wet							
Bromodichloromethane	ND	0.0050	mg/kg wet							
Bromoform	ND	0.0050	mg/kg wet							
Bromomethane	ND	0.0100	mg/kg wet							
Carbon Disulfide	ND	0.0050	mg/kg wet							
Carbon Tetrachloride	ND	0.0050	mg/kg wet							
Chlorobenzene	ND	0.0050	mg/kg wet							
Chloroethane	ND	0.0100	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503512

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch CC53120 - 5035										
Chloroform	ND	0.0050	mg/kg wet							
Chloromethane	ND	0.0100	mg/kg wet							
cis-1,2-Dichloroethene	ND	0.0050	mg/kg wet							
cis-1,3-Dichloropropene	ND	0.0050	mg/kg wet							
Dibromochloromethane	ND	0.0020	mg/kg wet							
Dibromomethane	ND	0.0050	mg/kg wet							
Dichlorodifluoromethane	ND	0.0100	mg/kg wet							
Diethyl Ether	ND	0.0050	mg/kg wet							
Di-isopropyl ether	ND	0.0050	mg/kg wet							
Ethyl tertiary-butyl ether	ND	0.0050	mg/kg wet							
Ethylbenzene	ND	0.0050	mg/kg wet							
Hexachlorobutadiene	ND	0.0050	mg/kg wet							
Isopropylbenzene	ND	0.0050	mg/kg wet							
Methyl tert-Butyl Ether	ND	0.0050	mg/kg wet							
Methylene Chloride	ND	0.0100	mg/kg wet							
Naphthalene	ND	0.0050	mg/kg wet							
n-Butylbenzene	ND	0.0050	mg/kg wet							
n-Propylbenzene	ND	0.0050	mg/kg wet							
sec-Butylbenzene	ND	0.0050	mg/kg wet							
Styrene	ND	0.0050	mg/kg wet							
tert-Butylbenzene	ND	0.0050	mg/kg wet							
Tertiary-amyl methyl ether	ND	0.0050	mg/kg wet							
Tetrachloroethene	ND	0.0050	mg/kg wet							
Tetrahydrofuran	ND	0.0050	mg/kg wet							
Toluene	ND	0.0050	mg/kg wet							
trans-1,2-Dichloroethene	ND	0.0050	mg/kg wet							
trans-1,3-Dichloropropene	ND	0.0050	mg/kg wet							
Trichloroethene	ND	0.0050	mg/kg wet							
Trichlorofluoromethane	ND	0.0050	mg/kg wet							
Vinyl Chloride	ND	0.0100	mg/kg wet							
Xylene O	ND	0.0050	mg/kg wet							
Xylene P,M	ND	0.0100	mg/kg wet							
Surrogate: 1,2-Dichloroethane-d4	*0.0443*		mg/kg wet	*0.05000*		*89*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0462*		mg/kg wet	*0.05000*		*92*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0431*		mg/kg wet	*0.05000*		*86*	*70-130*			
Surrogate: Toluene-d8	*0.0455*		mg/kg wet	*0.05000*		*91*	*70-130*			
LCS										
1,1,1,2-Tetrachloroethane	0.0533	0.0050	mg/kg wet	0.05000		107	70-130			
1,1,1-Trichloroethane	0.0501	0.0050	mg/kg wet	0.05000		100	70-130			
1,1,2,2-Tetrachloroethane	0.0454	0.0020	mg/kg wet	0.05000		91	70-130			
1,1,2-Trichloroethane	0.0441	0.0050	mg/kg wet	0.05000		88	70-130			
1,1-Dichloroethane	0.0448	0.0050	mg/kg wet	0.05000		90	70-130			
1,1-Dichloroethene	0.0429	0.0050	mg/kg wet	0.05000		86	70-130			
1,1-Dichloropropene	0.0431	0.0050	mg/kg wet	0.05000		86	70-130			
1,2,3-Trichlorobenzene	0.0494	0.0050	mg/kg wet	0.05000		99	70-130			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503512

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch CC53120 - 5035										
1,2,3-Trichloropropane	0.0491	0.0050	mg/kg wet	0.05000		98	70-130			
1,2,4-Trichlorobenzene	0.0489	0.0050	mg/kg wet	0.05000		98	70-130			
1,2,4-Trimethylbenzene	0.0469	0.0050	mg/kg wet	0.05000		94	70-130			
1,2-Dibromo-3-Chloropropane	0.0504	0.0050	mg/kg wet	0.05000		101	70-130			
1,2-Dibromoethane	0.0488	0.0050	mg/kg wet	0.05000		98	70-130			
1,2-Dichlorobenzene	0.0464	0.0050	mg/kg wet	0.05000		93	70-130			
1,2-Dichloroethane	0.0465	0.0050	mg/kg wet	0.05000		93	70-130			
1,2-Dichloropropane	0.0434	0.0050	mg/kg wet	0.05000		87	70-130			
1,3,5-Trimethylbenzene	0.0493	0.0050	mg/kg wet	0.05000		99	70-130			
1,3-Dichlorobenzene	0.0479	0.0050	mg/kg wet	0.05000		96	70-130			
1,3-Dichloropropane	0.0508	0.0050	mg/kg wet	0.05000		102	70-130			
1,4-Dichlorobenzene	0.0477	0.0050	mg/kg wet	0.05000		95	70-130			
1,4-Dioxane	0.886	0.100	mg/kg wet	1.000		89	70-130			
2,2-Dichloropropane	0.0507	0.0050	mg/kg wet	0.05000		101	70-130			
2-Butanone	0.217	0.0100	mg/kg wet	0.2500		87	70-130			
2-Chlorotoluene	0.0479	0.0050	mg/kg wet	0.05000		96	70-130			
2-Hexanone	0.246	0.0100	mg/kg wet	0.2500		99	70-130			
4-Chlorotoluene	0.0478	0.0050	mg/kg wet	0.05000		96	70-130			
4-Isopropyltoluene	0.0473	0.0050	mg/kg wet	0.05000		95	70-130			
4-Methyl-2-Pentanone	0.212	0.0100	mg/kg wet	0.2500		85	70-130			
Acetone	0.241	0.0100	mg/kg wet	0.2500		96	70-130			
Benzene	0.0442	0.0050	mg/kg wet	0.05000		88	70-130			
Bromobenzene	0.0490	0.0050	mg/kg wet	0.05000		98	70-130			
Bromochloromethane	0.0457	0.0050	mg/kg wet	0.05000		91	70-130			
Bromodichloromethane	0.0488	0.0050	mg/kg wet	0.05000		98	70-130			
Bromoform	0.0503	0.0050	mg/kg wet	0.05000		101	70-130			
Bromomethane	0.0837	0.0100	mg/kg wet	0.05000		167	70-130			B+
Carbon Disulfide	0.0477	0.0050	mg/kg wet	0.05000		95	70-130			
Carbon Tetrachloride	0.0525	0.0050	mg/kg wet	0.05000		105	70-130			
Chlorobenzene	0.0486	0.0050	mg/kg wet	0.05000		97	70-130			
Chloroethane	0.0410	0.0100	mg/kg wet	0.05000		82	70-130			
Chloroform	0.0471	0.0050	mg/kg wet	0.05000		94	70-130			
Chloromethane	0.0517	0.0100	mg/kg wet	0.05000		103	70-130			
cis-1,2-Dichloroethene	0.0456	0.0050	mg/kg wet	0.05000		91	70-130			
cis-1,3-Dichloropropene	0.0523	0.0050	mg/kg wet	0.05000		105	70-130			
Dibromochloromethane	0.0496	0.0020	mg/kg wet	0.05000		99	70-130			
Dibromomethane	0.0461	0.0050	mg/kg wet	0.05000		92	70-130			
Dichlorodifluoromethane	0.0481	0.0100	mg/kg wet	0.05000		96	70-130			
Diethyl Ether	0.0451	0.0050	mg/kg wet	0.05000		90	70-130			
Di-isopropyl ether	0.0442	0.0050	mg/kg wet	0.05000		88	70-130			
Ethyl tertiary-butyl ether	0.0431	0.0050	mg/kg wet	0.05000		86	70-130			
Ethylbenzene	0.0483	0.0050	mg/kg wet	0.05000		97	70-130			
Hexachlorobutadiene	0.0539	0.0050	mg/kg wet	0.05000		108	70-130			
Isopropylbenzene	0.0477	0.0050	mg/kg wet	0.05000		95	70-130			
Methyl tert-Butyl Ether	0.0454	0.0050	mg/kg wet	0.05000		91	70-130			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503512

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch CC53120 - 5035										
Methylene Chloride	0.0447	0.0100	mg/kg wet	0.05000		89	70-130			
Naphthalene	0.0426	0.0050	mg/kg wet	0.05000		85	70-130			
n-Butylbenzene	0.0477	0.0050	mg/kg wet	0.05000		95	70-130			
n-Propylbenzene	0.0466	0.0050	mg/kg wet	0.05000		93	70-130			
sec-Butylbenzene	0.0468	0.0050	mg/kg wet	0.05000		94	70-130			
Styrene	0.0498	0.0050	mg/kg wet	0.05000		100	70-130			
tert-Butylbenzene	0.0480	0.0050	mg/kg wet	0.05000		96	70-130			
Tertiary-amyl methyl ether	0.0450	0.0050	mg/kg wet	0.05000		90	70-130			
Tetrachloroethene	0.0485	0.0050	mg/kg wet	0.05000		97	70-130			
Tetrahydrofuran	0.0372	0.0050	mg/kg wet	0.05000		74	70-130			
Toluene	0.0438	0.0050	mg/kg wet	0.05000		88	70-130			
trans-1,2-Dichloroethene	0.0411	0.0050	mg/kg wet	0.05000		82	70-130			
trans-1,3-Dichloropropene	0.0520	0.0050	mg/kg wet	0.05000		104	70-130			
Trichloroethene	0.0456	0.0050	mg/kg wet	0.05000		91	70-130			
Trichlorofluoromethane	0.0431	0.0050	mg/kg wet	0.05000		86	70-130			
Vinyl Chloride	0.0452	0.0100	mg/kg wet	0.05000		90	70-130			
Xylene O	0.0480	0.0050	mg/kg wet	0.05000		96	70-130			
Xylene P,M	0.0969	0.0100	mg/kg wet	0.1000		97	70-130			
Surrogate: 1,2-Dichloroethane-d4	*0.0454*		mg/kg wet	*0.05000*		*91*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0483*		mg/kg wet	*0.05000*		*97*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0450*		mg/kg wet	*0.05000*		*90*	*70-130*			
Surrogate: Toluene-d8	*0.0504*		mg/kg wet	*0.05000*		*101*	*70-130*			
LCS Dup										
1,1,1,2-Tetrachloroethane	0.0590	0.0050	mg/kg wet	0.05000		118	70-130	10	25	
1,1,1-Trichloroethane	0.0522	0.0050	mg/kg wet	0.05000		104	70-130	4	25	
1,1,2,2-Tetrachloroethane	0.0479	0.0020	mg/kg wet	0.05000		96	70-130	5	25	
1,1,2-Trichloroethane	0.0462	0.0050	mg/kg wet	0.05000		92	70-130	5	25	
1,1-Dichloroethane	0.0456	0.0050	mg/kg wet	0.05000		91	70-130	2	25	
1,1-Dichloroethene	0.0449	0.0050	mg/kg wet	0.05000		90	70-130	5	25	
1,1-Dichloropropene	0.0450	0.0050	mg/kg wet	0.05000		90	70-130	4	25	
1,2,3-Trichlorobenzene	0.0533	0.0050	mg/kg wet	0.05000		107	70-130	7	25	
1,2,3-Trichloropropane	0.0521	0.0050	mg/kg wet	0.05000		104	70-130	6	25	
1,2,4-Trichlorobenzene	0.0539	0.0050	mg/kg wet	0.05000		108	70-130	10	25	
1,2,4-Trimethylbenzene	0.0493	0.0050	mg/kg wet	0.05000		99	70-130	5	25	
1,2-Dibromo-3-Chloropropane	0.0983	0.0050	mg/kg wet	0.05000		197	70-130	64	25	B+, D+
1,2-Dibromoethane	0.0539	0.0050	mg/kg wet	0.05000		108	70-130	10	25	
1,2-Dichlorobenzene	0.0492	0.0050	mg/kg wet	0.05000		98	70-130	6	25	
1,2-Dichloroethane	0.0486	0.0050	mg/kg wet	0.05000		97	70-130	5	25	
1,2-Dichloropropane	0.0443	0.0050	mg/kg wet	0.05000		89	70-130	2	25	
1,3,5-Trimethylbenzene	0.0517	0.0050	mg/kg wet	0.05000		103	70-130	5	25	
1,3-Dichlorobenzene	0.0501	0.0050	mg/kg wet	0.05000		100	70-130	4	25	
1,3-Dichloropropane	0.0550	0.0050	mg/kg wet	0.05000		110	70-130	8	25	
1,4-Dichlorobenzene	0.0502	0.0050	mg/kg wet	0.05000		100	70-130	5	25	
1,4-Dioxane	0.970	0.100	mg/kg wet	1.000		97	70-130	9	20	
2,2-Dichloropropane	0.0533	0.0050	mg/kg wet	0.05000		107	70-130	5	25	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503512

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch CC53120 - 5035										
2-Butanone	0.229	0.0100	mg/kg wet	0.2500		92	70-130	6	25	
2-Chlorotoluene	0.0493	0.0050	mg/kg wet	0.05000		99	70-130	3	25	
2-Hexanone	0.275	0.0100	mg/kg wet	0.2500		110	70-130	11	25	
4-Chlorotoluene	0.0505	0.0050	mg/kg wet	0.05000		101	70-130	5	25	
4-Isopropyltoluene	0.0499	0.0050	mg/kg wet	0.05000		100	70-130	5	25	
4-Methyl-2-Pentanone	0.231	0.0100	mg/kg wet	0.2500		92	70-130	9	25	
Acetone	0.265	0.0100	mg/kg wet	0.2500		106	70-130	9	25	
Benzene	0.0460	0.0050	mg/kg wet	0.05000		92	70-130	4	25	
Bromobenzene	0.0515	0.0050	mg/kg wet	0.05000		103	70-130	5	25	
Bromochloromethane	0.0483	0.0050	mg/kg wet	0.05000		97	70-130	6	25	
Bromodichloromethane	0.0512	0.0050	mg/kg wet	0.05000		102	70-130	5	25	
Bromoform	0.0563	0.0050	mg/kg wet	0.05000		113	70-130	11	25	
Bromomethane	0.0806	0.0100	mg/kg wet	0.05000		161	70-130	4	25	B+
Carbon Disulfide	0.0499	0.0050	mg/kg wet	0.05000		100	70-130	5	25	
Carbon Tetrachloride	0.0553	0.0050	mg/kg wet	0.05000		111	70-130	5	25	
Chlorobenzene	0.0526	0.0050	mg/kg wet	0.05000		105	70-130	8	25	
Chloroethane	0.0421	0.0100	mg/kg wet	0.05000		84	70-130	3	25	
Chloroform	0.0487	0.0050	mg/kg wet	0.05000		97	70-130	3	25	
Chloromethane	0.0529	0.0100	mg/kg wet	0.05000		106	70-130	2	25	
cis-1,2-Dichloroethene	0.0477	0.0050	mg/kg wet	0.05000		95	70-130	5	25	
cis-1,3-Dichloropropene	0.0543	0.0050	mg/kg wet	0.05000		109	70-130	4	25	
Dibromochloromethane	0.0552	0.0020	mg/kg wet	0.05000		110	70-130	11	25	
Dibromomethane	0.0478	0.0050	mg/kg wet	0.05000		96	70-130	4	25	
Dichlorodifluoromethane	0.0502	0.0100	mg/kg wet	0.05000		100	70-130	4	25	
Diethyl Ether	0.0471	0.0050	mg/kg wet	0.05000		94	70-130	4	25	
Di-isopropyl ether	0.0452	0.0050	mg/kg wet	0.05000		90	70-130	2	25	
Ethyl tertiary-butyl ether	0.0406	0.0050	mg/kg wet	0.05000		81	70-130	6	25	
Ethylbenzene	0.0520	0.0050	mg/kg wet	0.05000		104	70-130	7	25	
Hexachlorobutadiene	0.0585	0.0050	mg/kg wet	0.05000		117	70-130	8	25	
Isopropylbenzene	0.0496	0.0050	mg/kg wet	0.05000		99	70-130	4	25	
Methyl tert-Butyl Ether	0.0451	0.0050	mg/kg wet	0.05000		90	70-130	0.7	25	
Methylene Chloride	0.0453	0.0100	mg/kg wet	0.05000		91	70-130	1	25	
Naphthalene	0.0460	0.0050	mg/kg wet	0.05000		92	70-130	8	25	
n-Butylbenzene	0.0497	0.0050	mg/kg wet	0.05000		99	70-130	4	25	
n-Propylbenzene	0.0492	0.0050	mg/kg wet	0.05000		98	70-130	5	25	
sec-Butylbenzene	0.0495	0.0050	mg/kg wet	0.05000		99	70-130	6	25	
Styrene	0.0535	0.0050	mg/kg wet	0.05000		107	70-130	7	25	
tert-Butylbenzene	0.0504	0.0050	mg/kg wet	0.05000		101	70-130	5	25	
Tertiary-amyl methyl ether	0.0434	0.0050	mg/kg wet	0.05000		87	70-130	4	25	
Tetrachloroethene	0.0542	0.0050	mg/kg wet	0.05000		108	70-130	11	25	
Tetrahydrofuran	0.0435	0.0050	mg/kg wet	0.05000		87	70-130	15	25	
Toluene	0.0461	0.0050	mg/kg wet	0.05000		92	70-130	5	25	
trans-1,2-Dichloroethene	0.0435	0.0050	mg/kg wet	0.05000		87	70-130	6	25	
trans-1,3-Dichloropropene	0.0537	0.0050	mg/kg wet	0.05000		107	70-130	3	25	
Trichloroethene	0.0474	0.0050	mg/kg wet	0.05000		95	70-130	4	25	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503512

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch CC53120 - 5035										
Trichlorofluoromethane	0.0454	0.0050	mg/kg wet	0.05000		91	70-130	5	25	
Vinyl Chloride	0.0461	0.0100	mg/kg wet	0.05000		92	70-130	2	25	
Xylene O	0.0519	0.0050	mg/kg wet	0.05000		104	70-130	8	25	
Xylene P,M	0.106	0.0100	mg/kg wet	0.1000		106	70-130	9	25	
Surrogate: 1,2-Dichloroethane-d4	*0.0448*		mg/kg wet	*0.05000*		*90*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0487*		mg/kg wet	*0.05000*		*97*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0445*		mg/kg wet	*0.05000*		*89*	*70-130*			
Surrogate: Toluene-d8	*0.0507*		mg/kg wet	*0.05000*		*101*	*70-130*			
5035/8260B Volatile Organic Compounds / Methanol										
Batch CD50244 - 5035										
Blank										
1,1,1,2-Tetrachloroethane	ND	0.100	mg/kg wet							
1,1,1-Trichloroethane	ND	0.0500	mg/kg wet							
1,1,2,2-Tetrachloroethane	ND	0.0500	mg/kg wet							
1,1,2-Trichloroethane	ND	0.0500	mg/kg wet							
1,1-Dichloroethane	ND	0.0500	mg/kg wet							
1,1-Dichloroethene	ND	0.0500	mg/kg wet							
1,1-Dichloropropene	ND	0.0500	mg/kg wet							
1,2,3-Trichlorobenzene	ND	0.0500	mg/kg wet							
1,2,3-Trichloropropane	ND	0.0500	mg/kg wet							
1,2,4-Trichlorobenzene	ND	0.0500	mg/kg wet							
1,2,4-Trimethylbenzene	ND	0.0500	mg/kg wet							
1,2-Dibromo-3-Chloropropane	ND	0.200	mg/kg wet							
1,2-Dibromoethane	ND	0.0500	mg/kg wet							
1,2-Dichlorobenzene	ND	0.0500	mg/kg wet							
1,2-Dichloroethane	ND	0.0500	mg/kg wet							
1,2-Dichloropropane	ND	0.0500	mg/kg wet							
1,3,5-Trimethylbenzene	ND	0.0500	mg/kg wet							
1,3-Dichlorobenzene	ND	0.0500	mg/kg wet							
1,3-Dichloropropane	ND	0.0500	mg/kg wet							
1,4-Dichlorobenzene	ND	0.0500	mg/kg wet							
1,4-Dioxane - Screen	ND	5.00	mg/kg wet							
2,2-Dichloropropane	ND	0.100	mg/kg wet							
2-Butanone	ND	0.200	mg/kg wet							
2-Chlorotoluene	ND	0.0500	mg/kg wet							
2-Hexanone	ND	0.200	mg/kg wet							
4-Chlorotoluene	ND	0.0500	mg/kg wet							
4-Isopropyltoluene	ND	0.0500	mg/kg wet							
4-Methyl-2-Pentanone	ND	0.200	mg/kg wet							
Acetone	ND	0.200	mg/kg wet							
Benzene	ND	0.0500	mg/kg wet							
Bromobenzene	ND	0.0500	mg/kg wet							
Bromochloromethane	ND	0.0500	mg/kg wet							
Bromodichloromethane	ND	0.0500	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503512

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Methanol										
Batch CD50244 - 5035										
Bromoform	ND	0.0500	mg/kg wet							
Bromomethane	ND	0.100	mg/kg wet							
Carbon Disulfide	ND	0.0500	mg/kg wet							
Carbon Tetrachloride	ND	0.0500	mg/kg wet							
Chlorobenzene	ND	0.0500	mg/kg wet							
Chloroethane	ND	0.100	mg/kg wet							
Chloroform	ND	0.0500	mg/kg wet							
Chloromethane	ND	0.100	mg/kg wet							
cis-1,2-Dichloroethene	ND	0.0500	mg/kg wet							
cis-1,3-Dichloropropene	ND	0.0500	mg/kg wet							
Dibromochloromethane	ND	0.0500	mg/kg wet							
Dibromomethane	ND	0.0500	mg/kg wet							
Dichlorodifluoromethane	ND	0.0500	mg/kg wet							
Diethyl Ether	ND	0.0500	mg/kg wet							
Di-isopropyl ether	ND	0.0500	mg/kg wet							
Ethyl tertiary-butyl ether	ND	0.0500	mg/kg wet							
Ethylbenzene	ND	0.0500	mg/kg wet							
Hexachlorobutadiene	ND	0.0500	mg/kg wet							
Isopropylbenzene	ND	0.0500	mg/kg wet							
Methyl tert-Butyl Ether	ND	0.0500	mg/kg wet							
Methylene Chloride	ND	0.200	mg/kg wet							
Naphthalene	ND	0.0500	mg/kg wet							
n-Butylbenzene	ND	0.0500	mg/kg wet							
n-Propylbenzene	ND	0.0500	mg/kg wet							
sec-Butylbenzene	ND	0.0500	mg/kg wet							
Styrene	ND	0.0500	mg/kg wet							
tert-Butylbenzene	ND	0.0500	mg/kg wet							
Tertiary-amyl methyl ether	ND	0.0500	mg/kg wet							
Tetrachloroethene	ND	0.0500	mg/kg wet							
Tetrahydrofuran	ND	0.200	mg/kg wet							
Toluene	ND	0.0500	mg/kg wet							
trans-1,2-Dichloroethene	ND	0.0500	mg/kg wet							
trans-1,3-Dichloropropene	ND	0.0500	mg/kg wet							
Trichloroethene	ND	0.0500	mg/kg wet							
Trichlorofluoromethane	ND	0.0500	mg/kg wet							
Vinyl Chloride	ND	0.0500	mg/kg wet							
Xylene O	ND	0.0500	mg/kg wet							
Xylene P,M	ND	0.100	mg/kg wet							
Surrogate: 1,2-Dichloroethane-d4	*2.45*		mg/kg wet	*2.500*		*98*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*2.38*		mg/kg wet	*2.500*		*95*	*70-130*			
Surrogate: Dibromofluoromethane	*2.81*		mg/kg wet	*2.500*		*112*	*70-130*			
Surrogate: Toluene-d8	*2.43*		mg/kg wet	*2.500*		*97*	*70-130*			
LCS										
1,1,1,2-Tetrachloroethane	2.28	0.100	mg/kg wet	2.500		91	70-130			
1,1,1-Trichloroethane	2.53	0.0500	mg/kg wet	2.500		101	70-130			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503512

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Methanol										
Batch CD50244 - 5035										
1,1,2,2-Tetrachloroethane	2.42	0.0500	mg/kg wet	2.500		97	70-130			
1,1,2-Trichloroethane	2.79	0.0500	mg/kg wet	2.500		112	70-130			
1,1-Dichloroethane	2.52	0.0500	mg/kg wet	2.500		101	70-130			
1,1-Dichloroethene	2.50	0.0500	mg/kg wet	2.500		100	70-130			
1,1-Dichloropropene	2.28	0.0500	mg/kg wet	2.500		91	70-130			
1,2,3-Trichlorobenzene	2.88	0.0500	mg/kg wet	2.500		115	70-130			
1,2,3-Trichloropropane	2.43	0.0500	mg/kg wet	2.500		97	70-130			
1,2,4-Trichlorobenzene	2.67	0.0500	mg/kg wet	2.500		107	70-130			
1,2,4-Trimethylbenzene	2.32	0.0500	mg/kg wet	2.500		93	70-130			
1,2-Dibromo-3-Chloropropane	2.34	0.200	mg/kg wet	2.500		94	70-130			
1,2-Dibromoethane	2.43	0.0500	mg/kg wet	2.500		97	70-130			
1,2-Dichlorobenzene	2.35	0.0500	mg/kg wet	2.500		94	70-130			
1,2-Dichloroethane	2.54	0.0500	mg/kg wet	2.500		102	70-130			
1,2-Dichloropropane	2.74	0.0500	mg/kg wet	2.500		109	70-130			
1,3,5-Trimethylbenzene	2.40	0.0500	mg/kg wet	2.500		96	70-130			
1,3-Dichlorobenzene	2.37	0.0500	mg/kg wet	2.500		95	70-130			
1,3-Dichloropropane	2.46	0.0500	mg/kg wet	2.500		98	70-130			
1,4-Dichlorobenzene	2.36	0.0500	mg/kg wet	2.500		94	70-130			
1,4-Dioxane - Screen	60.7	5.00	mg/kg wet	50.00		121	44-241			
2,2-Dichloropropane	2.90	0.100	mg/kg wet	2.500		116	70-130			
2-Butanone	20.7	0.200	mg/kg wet	12.50		166	70-130			B+
2-Chlorotoluene	2.26	0.0500	mg/kg wet	2.500		90	70-130			
2-Hexanone	16.8	0.200	mg/kg wet	12.50		134	70-130			B+
4-Chlorotoluene	2.33	0.0500	mg/kg wet	2.500		93	70-130			
4-Isopropyltoluene	2.33	0.0500	mg/kg wet	2.500		93	70-130			
4-Methyl-2-Pentanone	13.4	0.200	mg/kg wet	12.50		108	70-130			
Acetone	28.5	0.200	mg/kg wet	12.50		228	70-130			B+
Benzene	2.39	0.0500	mg/kg wet	2.500		96	70-130			
Bromobenzene	2.40	0.0500	mg/kg wet	2.500		96	70-130			
Bromochloromethane	2.74	0.0500	mg/kg wet	2.500		110	70-130			
Bromodichloromethane	2.62	0.0500	mg/kg wet	2.500		105	70-130			
Bromoform	2.54	0.0500	mg/kg wet	2.500		102	70-130			
Bromomethane	3.17	0.100	mg/kg wet	2.500		127	70-130			
Carbon Disulfide	2.16	0.0500	mg/kg wet	2.500		86	70-130			
Carbon Tetrachloride	2.56	0.0500	mg/kg wet	2.500		102	70-130			
Chlorobenzene	2.36	0.0500	mg/kg wet	2.500		95	70-130			
Chloroethane	2.56	0.100	mg/kg wet	2.500		102	70-130			
Chloroform	2.67	0.0500	mg/kg wet	2.500		107	70-130			
Chloromethane	2.70	0.100	mg/kg wet	2.500		108	70-130			
cis-1,2-Dichloroethene	2.66	0.0500	mg/kg wet	2.500		106	70-130			
cis-1,3-Dichloropropene	3.00	0.0500	mg/kg wet	2.500		120	70-130			
Dibromochloromethane	2.42	0.0500	mg/kg wet	2.500		97	70-130			
Dibromomethane	2.76	0.0500	mg/kg wet	2.500		110	70-130			
Dichlorodifluoromethane	2.75	0.0500	mg/kg wet	2.500		110	70-130			
Diethyl Ether	2.75	0.0500	mg/kg wet	2.500		110	70-130			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503512

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Methanol										
Batch CD50244 - 5035										
Di-isopropyl ether	2.47	0.0500	mg/kg wet	2.500		99	70-130			
Ethyl tertiary-butyl ether	2.49	0.0500	mg/kg wet	2.500		100	70-130			
Ethylbenzene	2.28	0.0500	mg/kg wet	2.500		91	70-130			
Hexachlorobutadiene	2.72	0.0500	mg/kg wet	2.500		109	70-130			
Isopropylbenzene	2.33	0.0500	mg/kg wet	2.500		93	70-130			
Methyl tert-Butyl Ether	2.60	0.0500	mg/kg wet	2.500		104	70-130			
Methylene Chloride	2.60	0.200	mg/kg wet	2.500		104	70-130			
Naphthalene	2.75	0.0500	mg/kg wet	2.500		110	70-130			
n-Butylbenzene	2.42	0.0500	mg/kg wet	2.500		97	70-130			
n-Propylbenzene	2.30	0.0500	mg/kg wet	2.500		92	70-130			
sec-Butylbenzene	2.35	0.0500	mg/kg wet	2.500		94	70-130			
Styrene	2.39	0.0500	mg/kg wet	2.500		96	70-130			
tert-Butylbenzene	2.31	0.0500	mg/kg wet	2.500		92	70-130			
Tertiary-amyl methyl ether	2.26	0.0500	mg/kg wet	2.500		90	70-130			
Tetrachloroethene	2.50	0.0500	mg/kg wet	2.500		100	70-130			
Tetrahydrofuran	2.60	0.200	mg/kg wet	2.500		104	70-130			
Toluene	2.72	0.0500	mg/kg wet	2.500		109	70-130			
trans-1,2-Dichloroethene	2.38	0.0500	mg/kg wet	2.500		95	70-130			
trans-1,3-Dichloropropene	2.85	0.0500	mg/kg wet	2.500		114	70-130			
Trichloroethene	2.88	0.0500	mg/kg wet	2.500		115	70-130			
Trichlorofluoromethane	2.14	0.0500	mg/kg wet	2.500		86	70-130			
Vinyl Chloride	2.94	0.0500	mg/kg wet	2.500		118	70-130			
Xylene O	2.35	0.0500	mg/kg wet	2.500		94	70-130			
Xylene P,M	4.68	0.100	mg/kg wet	5.000		94	70-130			
Surrogate: 1,2-Dichloroethane-d4	*2.46*		mg/kg wet	*2.500*		*99*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*2.40*		mg/kg wet	*2.500*		*96*	*70-130*			
Surrogate: Dibromofluoromethane	*2.70*		mg/kg wet	*2.500*		*108*	*70-130*			
Surrogate: Toluene-d8	*2.40*		mg/kg wet	*2.500*		*96*	*70-130*			
LCS Dup										
1,1,1,2-Tetrachloroethane	2.29	0.100	mg/kg wet	2.500		91	70-130	0.04	25	
1,1,1-Trichloroethane	2.57	0.0500	mg/kg wet	2.500		103	70-130	2	25	
1,1,2,2-Tetrachloroethane	2.44	0.0500	mg/kg wet	2.500		98	70-130	0.8	25	
1,1,2-Trichloroethane	2.79	0.0500	mg/kg wet	2.500		112	70-130	0.1	25	
1,1-Dichloroethane	2.52	0.0500	mg/kg wet	2.500		101	70-130	0.2	25	
1,1-Dichloroethene	2.53	0.0500	mg/kg wet	2.500		101	70-130	1	25	
1,1-Dichloropropene	2.31	0.0500	mg/kg wet	2.500		92	70-130	1	25	
1,2,3-Trichlorobenzene	2.85	0.0500	mg/kg wet	2.500		114	70-130	1	25	
1,2,3-Trichloropropane	2.43	0.0500	mg/kg wet	2.500		97	70-130	0.08	25	
1,2,4-Trichlorobenzene	2.64	0.0500	mg/kg wet	2.500		106	70-130	1	25	
1,2,4-Trimethylbenzene	2.29	0.0500	mg/kg wet	2.500		91	70-130	2	25	
1,2-Dibromo-3-Chloropropane	2.36	0.200	mg/kg wet	2.500		95	70-130	0.8	25	
1,2-Dibromoethane	2.46	0.0500	mg/kg wet	2.500		98	70-130	1	25	
1,2-Dichlorobenzene	2.32	0.0500	mg/kg wet	2.500		93	70-130	1	25	
1,2-Dichloroethane	2.54	0.0500	mg/kg wet	2.500		101	70-130	0.3	25	
1,2-Dichloropropane	2.77	0.0500	mg/kg wet	2.500		111	70-130	1	25	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503512

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Methanol										
Batch CD50244 - 5035										
1,3,5-Trimethylbenzene	2.38	0.0500	mg/kg wet	2.500		95	70-130	0.5	25	
1,3-Dichlorobenzene	2.33	0.0500	mg/kg wet	2.500		93	70-130	1	25	
1,3-Dichloropropane	2.47	0.0500	mg/kg wet	2.500		99	70-130	0.4	25	
1,4-Dichlorobenzene	2.31	0.0500	mg/kg wet	2.500		92	70-130	2	25	
1,4-Dioxane - Screen	65.4	5.00	mg/kg wet	50.00		131	44-241	7	200	
2,2-Dichloropropane	2.91	0.100	mg/kg wet	2.500		116	70-130	0.2	25	
2-Butanone	23.1	0.200	mg/kg wet	12.50		185	70-130	11	25	B+
2-Chlorotoluene	2.45	0.0500	mg/kg wet	2.500		98	70-130	8	25	
2-Hexanone	19.0	0.200	mg/kg wet	12.50		152	70-130	13	25	B+
4-Chlorotoluene	2.28	0.0500	mg/kg wet	2.500		91	70-130	2	25	
4-Isopropyltoluene	2.27	0.0500	mg/kg wet	2.500		91	70-130	3	25	
4-Methyl-2-Pentanone	14.3	0.200	mg/kg wet	12.50		114	70-130	6	25	
Acetone	33.0	0.200	mg/kg wet	12.50		264	70-130	14	25	B+
Benzene	2.40	0.0500	mg/kg wet	2.500		96	70-130	0.5	25	
Bromobenzene	2.37	0.0500	mg/kg wet	2.500		95	70-130	1	25	
Bromochloromethane	2.76	0.0500	mg/kg wet	2.500		110	70-130	0.7	25	
Bromodichloromethane	2.67	0.0500	mg/kg wet	2.500		107	70-130	2	25	
Bromoform	2.58	0.0500	mg/kg wet	2.500		103	70-130	1	25	
Bromomethane	3.10	0.100	mg/kg wet	2.500		124	70-130	2	25	
Carbon Disulfide	2.47	0.0500	mg/kg wet	2.500		99	70-130	14	25	
Carbon Tetrachloride	2.56	0.0500	mg/kg wet	2.500		102	70-130	0.1	25	
Chlorobenzene	2.35	0.0500	mg/kg wet	2.500		94	70-130	0.7	25	
Chloroethane	2.56	0.100	mg/kg wet	2.500		102	70-130	0.1	25	
Chloroform	2.69	0.0500	mg/kg wet	2.500		108	70-130	1	25	
Chloromethane	2.67	0.100	mg/kg wet	2.500		107	70-130	0.9	25	
cis-1,2-Dichloroethene	2.66	0.0500	mg/kg wet	2.500		106	70-130	0	25	
cis-1,3-Dichloropropene	3.01	0.0500	mg/kg wet	2.500		121	70-130	0.6	25	
Dibromochloromethane	2.45	0.0500	mg/kg wet	2.500		98	70-130	1	25	
Dibromomethane	2.81	0.0500	mg/kg wet	2.500		112	70-130	2	25	
Dichlorodifluoromethane	2.76	0.0500	mg/kg wet	2.500		110	70-130	0.2	25	
Diethyl Ether	2.74	0.0500	mg/kg wet	2.500		110	70-130	0.6	25	
Di-isopropyl ether	2.49	0.0500	mg/kg wet	2.500		100	70-130	0.8	25	
Ethyl tertiary-butyl ether	2.50	0.0500	mg/kg wet	2.500		100	70-130	0.4	25	
Ethylbenzene	2.29	0.0500	mg/kg wet	2.500		92	70-130	0.8	25	
Hexachlorobutadiene	2.88	0.0500	mg/kg wet	2.500		115	70-130	6	25	
Isopropylbenzene	2.30	0.0500	mg/kg wet	2.500		92	70-130	1	25	
Methyl tert-Butyl Ether	2.63	0.0500	mg/kg wet	2.500		105	70-130	1	25	
Methylene Chloride	2.65	0.200	mg/kg wet	2.500		106	70-130	2	25	
Naphthalene	2.79	0.0500	mg/kg wet	2.500		112	70-130	1	25	
n-Butylbenzene	2.38	0.0500	mg/kg wet	2.500		95	70-130	2	25	
n-Propylbenzene	2.07	0.0500	mg/kg wet	2.500		83	70-130	10	25	
sec-Butylbenzene	2.32	0.0500	mg/kg wet	2.500		93	70-130	1	25	
Styrene	2.39	0.0500	mg/kg wet	2.500		95	70-130	0.08	25	
tert-Butylbenzene	2.28	0.0500	mg/kg wet	2.500		91	70-130	1	25	
Tertiary-amyl methyl ether	2.28	0.0500	mg/kg wet	2.500		91	70-130	0.7	25	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503512

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Methanol										
Batch CD50244 - 5035										
Tetrachloroethene	2.50	0.0500	mg/kg wet	2.500		100	70-130	0.2	25	
Tetrahydrofuran	2.72	0.200	mg/kg wet	2.500		109	70-130	5	25	
Toluene	2.72	0.0500	mg/kg wet	2.500		109	70-130	0.2	25	
trans-1,2-Dichloroethene	2.37	0.0500	mg/kg wet	2.500		95	70-130	0.4	25	
trans-1,3-Dichloropropene	2.86	0.0500	mg/kg wet	2.500		114	70-130	0.3	25	
Trichloroethene	2.92	0.0500	mg/kg wet	2.500		117	70-130	1	25	
Trichlorofluoromethane	2.05	0.0500	mg/kg wet	2.500		82	70-130	4	25	
Vinyl Chloride	3.00	0.0500	mg/kg wet	2.500		120	70-130	2	25	
Xylene O	2.37	0.0500	mg/kg wet	2.500		95	70-130	1	25	
Xylene P,M	4.69	0.100	mg/kg wet	5.000		94	70-130	0.3	25	
Surrogate: 1,2-Dichloroethane-d4	*2.47*		mg/kg wet	*2.500*		*99*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*2.38*		mg/kg wet	*2.500*		*95*	*70-130*			
Surrogate: Dibromofluoromethane	*2.72*		mg/kg wet	*2.500*		*109*	*70-130*			
Surrogate: Toluene-d8	*2.41*		mg/kg wet	*2.500*		*96*	*70-130*			
8082A Polychlorinated Biphenyls (PCB)										
Batch CD50161 - 3540										
Blank										
Aroclor 1016	ND	0.0080	mg/kg wet							
Aroclor 1221	ND	0.0080	mg/kg wet							
Aroclor 1232	ND	0.0080	mg/kg wet							
Aroclor 1242	ND	0.0080	mg/kg wet							
Aroclor 1248	ND	0.0080	mg/kg wet							
Aroclor 1254	ND	0.0080	mg/kg wet							
Aroclor 1260	ND	0.0080	mg/kg wet							
Aroclor 1262	ND	0.0080	mg/kg wet							
Aroclor 1268	ND	0.0080	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.00430*		mg/kg wet	*0.004000*		*108*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.00363*		mg/kg wet	*0.004000*		*91*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.00268*		mg/kg wet	*0.004000*		*67*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.00255*		mg/kg wet	*0.004000*		*64*	*30-150*			
LCS										
Aroclor 1016	0.0769	0.0080	mg/kg wet	0.08000		96	40-140			
Aroclor 1260	0.0771	0.0080	mg/kg wet	0.08000		96	40-140			
Surrogate: Decachlorobiphenyl	*0.00335*		mg/kg wet	*0.004000*		*84*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.00387*		mg/kg wet	*0.004000*		*97*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.00283*		mg/kg wet	*0.004000*		*71*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.00283*		mg/kg wet	*0.004000*		*71*	*30-150*			
LCS Dup										
Aroclor 1016	0.0751	0.0080	mg/kg wet	0.08000		94	40-140	2	30	
Aroclor 1260	0.0773	0.0080	mg/kg wet	0.08000		97	40-140	0.3	30	
Surrogate: Decachlorobiphenyl	*0.00325*		mg/kg wet	*0.004000*		*81*	*30-150*			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503512

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch CD50161 - 3540										
Surrogate: Decachlorobiphenyl [2C]	*0.00377*		mg/kg wet	*0.004000*		*94*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.00279*		mg/kg wet	*0.004000*		*70*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.00270*		mg/kg wet	*0.004000*		*67*	*30-150*			
Batch CD50221 - 3540C										
Blank										
Aroclor 1016	ND	0.0100	mg/kg wet							
Aroclor 1221	ND	0.0100	mg/kg wet							
Aroclor 1232	ND	0.0100	mg/kg wet							
Aroclor 1242	ND	0.0100	mg/kg wet							
Aroclor 1248	ND	0.0100	mg/kg wet							
Aroclor 1254	ND	0.0100	mg/kg wet							
Aroclor 1260	ND	0.0100	mg/kg wet							
Aroclor 1262	ND	0.0100	mg/kg wet							
Aroclor 1268	ND	0.0100	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.00433*		mg/kg wet	*0.005000*		*87*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.00465*		mg/kg wet	*0.005000*		*93*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.00387*		mg/kg wet	*0.005000*		*77*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.00364*		mg/kg wet	*0.005000*		*73*	*30-150*			
LCS										
Aroclor 1016	0.121	0.0100	mg/kg wet	0.1000		121	40-140			
Aroclor 1260	0.109	0.0100	mg/kg wet	0.1000		109	40-140			
Surrogate: Decachlorobiphenyl	*0.00454*		mg/kg wet	*0.005000*		*91*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.00512*		mg/kg wet	*0.005000*		*102*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.00475*		mg/kg wet	*0.005000*		*95*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.00489*		mg/kg wet	*0.005000*		*98*	*30-150*			
LCS Dup										
Aroclor 1016	0.114	0.0100	mg/kg wet	0.1000		114	40-140	6	30	
Aroclor 1260	0.106	0.0100	mg/kg wet	0.1000		106	40-140	3	30	
Surrogate: Decachlorobiphenyl	*0.00423*		mg/kg wet	*0.005000*		*85*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.00517*		mg/kg wet	*0.005000*		*103*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.00414*		mg/kg wet	*0.005000*		*83*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.00420*		mg/kg wet	*0.005000*		*84*	*30-150*			
Batch CD50616 - 3540C										
Blank										
Aroclor 1016	ND	0.0100	mg/kg wet							
Aroclor 1221	ND	0.0100	mg/kg wet							
Aroclor 1232	ND	0.0100	mg/kg wet							
Aroclor 1242	ND	0.0100	mg/kg wet							
Aroclor 1248	ND	0.0100	mg/kg wet							
Aroclor 1254	ND	0.0100	mg/kg wet							
Aroclor 1260	ND	0.0100	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503512

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch CD50616 - 3540C										
Aroclor 1262	ND	0.0100	mg/kg wet							
Aroclor 1268	ND	0.0100	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.00429*		mg/kg wet	*0.005000*		*86*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.00467*		mg/kg wet	*0.005000*		*93*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.00393*		mg/kg wet	*0.005000*		*79*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.00365*		mg/kg wet	*0.005000*		*73*	*30-150*			
LCS										
Aroclor 1016	0.126	0.0100	mg/kg wet	0.1000		126	40-140			
Aroclor 1260	0.118	0.0100	mg/kg wet	0.1000		118	40-140			
Surrogate: Decachlorobiphenyl	*0.00426*		mg/kg wet	*0.005000*		*85*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.00497*		mg/kg wet	*0.005000*		*99*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.00393*		mg/kg wet	*0.005000*		*79*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.00396*		mg/kg wet	*0.005000*		*79*	*30-150*			
LCS Dup										
Aroclor 1016	0.139	0.0100	mg/kg wet	0.1000		139	40-140	9	30	
Aroclor 1260	0.130	0.0100	mg/kg wet	0.1000		130	40-140	10	30	
Surrogate: Decachlorobiphenyl	*0.00441*		mg/kg wet	*0.005000*		*88*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.00506*		mg/kg wet	*0.005000*		*101*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.00411*		mg/kg wet	*0.005000*		*82*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.00414*		mg/kg wet	*0.005000*		*83*	*30-150*			
8270D Semi-Volatile Organic Compounds										
Batch CD50642 - 3546										
Blank										
1,2,4-Trichlorobenzene	ND	0.333	mg/kg wet							
1,2-Dichlorobenzene	ND	0.333	mg/kg wet							
1,3-Dichlorobenzene	ND	0.333	mg/kg wet							
1,4-Dichlorobenzene	ND	0.333	mg/kg wet							
2,4,5-Trichlorophenol	ND	0.333	mg/kg wet							
2,4,6-Trichlorophenol	ND	0.333	mg/kg wet							
2,4-Dichlorophenol	ND	0.333	mg/kg wet							
2,4-Dimethylphenol	ND	0.333	mg/kg wet							
2,4-Dinitrophenol	ND	1.67	mg/kg wet							
2,4-Dinitrotoluene	ND	0.333	mg/kg wet							
2,6-Dinitrotoluene	ND	0.333	mg/kg wet							
2-Chloronaphthalene	ND	0.333	mg/kg wet							
2-Chlorophenol	ND	0.333	mg/kg wet							
2-Methylphenol	ND	0.333	mg/kg wet							
2-Nitrophenol	ND	0.333	mg/kg wet							
3,3´-Dichlorobenzidine	ND	0.667	mg/kg wet							
3+4-Methylphenol	ND	0.667	mg/kg wet							
4-Bromophenyl-phenylether	ND	0.333	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503512

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch CD50642 - 3546										
4-Chloroaniline	ND	0.667	mg/kg wet							
4-Nitrophenol	ND	1.67	mg/kg wet							
Acetophenone	ND	0.667	mg/kg wet							
Aniline	ND	1.67	mg/kg wet							
Azobenzene	ND	0.333	mg/kg wet							
bis(2-Chloroethoxy)methane	ND	0.333	mg/kg wet							
bis(2-Chloroethyl)ether	ND	0.333	mg/kg wet							
bis(2-chloroisopropyl)Ether	ND	0.333	mg/kg wet							
bis(2-Ethylhexyl)phthalate	ND	0.333	mg/kg wet							
Butylbenzylphthalate	ND	0.333	mg/kg wet							
Dibenzofuran	ND	0.333	mg/kg wet							
Diethylphthalate	ND	0.333	mg/kg wet							
Dimethylphthalate	ND	0.333	mg/kg wet							
Di-n-butylphthalate	ND	0.333	mg/kg wet							
Di-n-octylphthalate	ND	0.333	mg/kg wet							
Hexachlorobutadiene	ND	0.333	mg/kg wet							
Hexachloroethane	ND	0.333	mg/kg wet							
Isophorone	ND	0.333	mg/kg wet							
Nitrobenzene	ND	0.333	mg/kg wet							
N-Nitrosodimethylamine	ND	0.333	mg/kg wet							
Pentachlorophenol	ND	1.67	mg/kg wet							
Phenol	ND	0.333	mg/kg wet							
Surrogate: 1,2-Dichlorobenzene-d4	*2.06*		mg/kg wet	*3.333*		*62*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*3.70*		mg/kg wet	*5.000*		*74*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*3.23*		mg/kg wet	*5.000*		*65*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*2.17*		mg/kg wet	*3.333*		*65*	*30-130*			
Surrogate: 2-Fluorophenol	*3.33*		mg/kg wet	*5.000*		*67*	*30-130*			
Surrogate: Nitrobenzene-d5	*2.07*		mg/kg wet	*3.333*		*62*	*30-130*			
Surrogate: Phenol-d6	*3.48*		mg/kg wet	*5.000*		*70*	*30-130*			
Surrogate: p-Terphenyl-d14	*2.92*		mg/kg wet	*3.333*		*88*	*30-130*			
LCS										
1,2,4-Trichlorobenzene	1.74	0.333	mg/kg wet	3.333		52	40-140			
1,2-Dichlorobenzene	1.78	0.333	mg/kg wet	3.333		53	40-140			
1,3-Dichlorobenzene	1.76	0.333	mg/kg wet	3.333		53	40-140			
1,4-Dichlorobenzene	1.72	0.333	mg/kg wet	3.333		52	40-140			
2,4,5-Trichlorophenol	2.37	0.333	mg/kg wet	3.333		71	30-130			
2,4,6-Trichlorophenol	2.22	0.333	mg/kg wet	3.333		67	30-130			
2,4-Dichlorophenol	1.88	0.333	mg/kg wet	3.333		56	30-130			
2,4-Dimethylphenol	2.01	0.333	mg/kg wet	3.333		60	30-130			
2,4-Dinitrophenol	1.94	1.67	mg/kg wet	3.333		58	30-130			
2,4-Dinitrotoluene	2.47	0.333	mg/kg wet	3.333		74	40-140			
2,6-Dinitrotoluene	2.32	0.333	mg/kg wet	3.333		70	40-140			
2-Chloronaphthalene	1.55	0.333	mg/kg wet	3.333		47	40-140			
2-Chlorophenol	1.84	0.333	mg/kg wet	3.333		55	30-130			
2-Methylphenol	1.93	0.333	mg/kg wet	3.333		58	30-130			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503512

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch CD50642 - 3546										
2-Nitrophenol	1.81	0.333	mg/kg wet	3.333		54	30-130			
3,3´-Dichlorobenzidine	0.816	0.667	mg/kg wet	3.333		24	40-140			B-
3+4-Methylphenol	3.98	0.667	mg/kg wet	6.667		60	30-130			
4-Bromophenyl-phenylether	2.25	0.333	mg/kg wet	3.333		67	40-140			
4-Chloroaniline	1.25	0.667	mg/kg wet	3.333		38	40-140			B-
4-Nitrophenol	2.23	1.67	mg/kg wet	3.333		67	30-130			
Acetophenone	2.05	0.667	mg/kg wet	3.333		61	40-140			
Aniline	1.32	1.67	mg/kg wet	3.333		39	40-140			B-
Azobenzene	2.14	0.333	mg/kg wet	3.333		64	40-140			
bis(2-Chloroethoxy)methane	1.83	0.333	mg/kg wet	3.333		55	40-140			
bis(2-Chloroethyl)ether	1.83	0.333	mg/kg wet	3.333		55	40-140			
bis(2-chloroisopropyl)Ether	1.96	0.333	mg/kg wet	3.333		59	40-140			
bis(2-Ethylhexyl)phthalate	2.60	0.333	mg/kg wet	3.333		78	40-140			
Butylbenzylphthalate	2.65	0.333	mg/kg wet	3.333		79	40-140			
Dibenzofuran	2.09	0.333	mg/kg wet	3.333		63	40-140			
Diethylphthalate	2.39	0.333	mg/kg wet	3.333		72	40-140			
Dimethylphthalate	2.30	0.333	mg/kg wet	3.333		69	40-140			
Di-n-butylphthalate	2.39	0.333	mg/kg wet	3.333		72	40-140			
Di-n-octylphthalate	2.84	0.333	mg/kg wet	3.333		85	40-140			
Hexachlorobutadiene	1.70	0.333	mg/kg wet	3.333		51	40-140			
Hexachloroethane	1.68	0.333	mg/kg wet	3.333		50	40-140			
Isophorone	1.82	0.333	mg/kg wet	3.333		55	40-140			
Nitrobenzene	1.88	0.333	mg/kg wet	3.333		56	40-140			
N-Nitrosodimethylamine	1.91	0.333	mg/kg wet	3.333		57	40-140			
Pentachlorophenol	2.22	1.67	mg/kg wet	3.333		67	30-130			
Phenol	1.97	0.333	mg/kg wet	3.333		59	30-130			
Surrogate: 1,2-Dichlorobenzene-d4	*2.00*		mg/kg wet	*3.333*		*60*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*3.63*		mg/kg wet	*5.000*		*73*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*3.06*		mg/kg wet	*5.000*		*61*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*2.10*		mg/kg wet	*3.333*		*63*	*30-130*			
Surrogate: 2-Fluorophenol	*3.24*		mg/kg wet	*5.000*		*65*	*30-130*			
Surrogate: Nitrobenzene-d5	*2.04*		mg/kg wet	*3.333*		*61*	*30-130*			
Surrogate: Phenol-d6	*3.32*		mg/kg wet	*5.000*		*66*	*30-130*			
Surrogate: p-Terphenyl-d14	*2.82*		mg/kg wet	*3.333*		*84*	*30-130*			
LCS Dup										
1,2,4-Trichlorobenzene	1.79	0.333	mg/kg wet	3.333		54	40-140	3	30	
1,2-Dichlorobenzene	1.71	0.333	mg/kg wet	3.333		51	40-140	4	30	
1,3-Dichlorobenzene	1.75	0.333	mg/kg wet	3.333		52	40-140	0.5	30	
1,4-Dichlorobenzene	1.70	0.333	mg/kg wet	3.333		51	40-140	1	30	
2,4,5-Trichlorophenol	2.55	0.333	mg/kg wet	3.333		76	30-130	7	30	
2,4,6-Trichlorophenol	2.44	0.333	mg/kg wet	3.333		73	30-130	9	30	
2,4-Dichlorophenol	1.94	0.333	mg/kg wet	3.333		58	30-130	3	30	
2,4-Dimethylphenol	2.04	0.333	mg/kg wet	3.333		61	30-130	1	30	
2,4-Dinitrophenol	2.35	1.67	mg/kg wet	3.333		71	30-130	19	30	
2,4-Dinitrotoluene	2.70	0.333	mg/kg wet	3.333		81	40-140	9	30	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503512

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch CD50642 - 3546										
2,6-Dinitrotoluene	2.48	0.333	mg/kg wet	3.333		75	40-140	7	30	
2-Chloronaphthalene	1.66	0.333	mg/kg wet	3.333		50	40-140	7	30	
2-Chlorophenol	1.83	0.333	mg/kg wet	3.333		55	30-130	0.6	30	
2-Methylphenol	1.91	0.333	mg/kg wet	3.333		57	30-130	1	30	
2-Nitrophenol	1.90	0.333	mg/kg wet	3.333		57	30-130	5	30	
3,3´-Dichlorobenzidine	1.33	0.667	mg/kg wet	3.333		40	40-140	48	30	D+
3+4-Methylphenol	3.84	0.667	mg/kg wet	6.667		58	30-130	4	30	
4-Bromophenyl-phenylether	2.35	0.333	mg/kg wet	3.333		71	40-140	5	30	
4-Chloroaniline	1.27	0.667	mg/kg wet	3.333		38	40-140	1	30	B-
4-Nitrophenol	2.43	1.67	mg/kg wet	3.333		73	30-130	9	30	
Acetophenone	1.91	0.667	mg/kg wet	3.333		57	40-140	7	30	
Aniline	1.23	1.67	mg/kg wet	3.333		37	40-140	6	30	B-
Azobenzene	2.28	0.333	mg/kg wet	3.333		68	40-140	6	30	
bis(2-Chloroethoxy)methane	1.98	0.333	mg/kg wet	3.333		59	40-140	8	30	
bis(2-Chloroethyl)ether	1.91	0.333	mg/kg wet	3.333		57	40-140	5	30	
bis(2-chloroisopropyl)Ether	1.90	0.333	mg/kg wet	3.333		57	40-140	3	30	
bis(2-Ethylhexyl)phthalate	2.64	0.333	mg/kg wet	3.333		79	40-140	1	30	
Butylbenzylphthalate	2.63	0.333	mg/kg wet	3.333		79	40-140	0.7	30	
Dibenzofuran	2.20	0.333	mg/kg wet	3.333		66	40-140	5	30	
Diethylphthalate	2.49	0.333	mg/kg wet	3.333		75	40-140	4	30	
Dimethylphthalate	2.36	0.333	mg/kg wet	3.333		71	40-140	3	30	
Di-n-butylphthalate	2.56	0.333	mg/kg wet	3.333		77	40-140	7	30	
Di-n-octylphthalate	2.79	0.333	mg/kg wet	3.333		84	40-140	2	30	
Hexachlorobutadiene	1.77	0.333	mg/kg wet	3.333		53	40-140	4	30	
Hexachloroethane	1.62	0.333	mg/kg wet	3.333		49	40-140	4	30	
Isophorone	1.87	0.333	mg/kg wet	3.333		56	40-140	2	30	
Nitrobenzene	1.98	0.333	mg/kg wet	3.333		59	40-140	5	30	
N-Nitrosodimethylamine	1.85	0.333	mg/kg wet	3.333		55	40-140	3	30	
Pentachlorophenol	2.61	1.67	mg/kg wet	3.333		78	30-130	16	30	
Phenol	1.89	0.333	mg/kg wet	3.333		57	30-130	4	30	
Surrogate: 1,2-Dichlorobenzene-d4	*1.88*		mg/kg wet	*3.333*		*56*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*4.07*		mg/kg wet	*5.000*		*81*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*2.84*		mg/kg wet	*5.000*		*57*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*2.12*		mg/kg wet	*3.333*		*64*	*30-130*			
Surrogate: 2-Fluorophenol	*2.96*		mg/kg wet	*5.000*		*59*	*30-130*			
Surrogate: Nitrobenzene-d5	*2.03*		mg/kg wet	*3.333*		*61*	*30-130*			
Surrogate: Phenol-d6	*3.09*		mg/kg wet	*5.000*		*62*	*30-130*			
Surrogate: p-Terphenyl-d14	*2.74*		mg/kg wet	*3.333*		*82*	*30-130*			
Batch CD50643 - 3546										
Blank										
1,2,4-Trichlorobenzene	ND	0.333	mg/kg wet							
1,2-Dichlorobenzene	ND	0.333	mg/kg wet							
1,3-Dichlorobenzene	ND	0.333	mg/kg wet							
1,4-Dichlorobenzene	ND	0.333	mg/kg wet							
2,4,5-Trichlorophenol	ND	0.333	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503512

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch CD50643 - 3546										
2,4,6-Trichlorophenol	ND	0.333	mg/kg wet							
2,4-Dichlorophenol	ND	0.333	mg/kg wet							
2,4-Dimethylphenol	ND	0.333	mg/kg wet							
2,4-Dinitrophenol	ND	1.67	mg/kg wet							
2,4-Dinitrotoluene	ND	0.333	mg/kg wet							
2,6-Dinitrotoluene	ND	0.333	mg/kg wet							
2-Chloronaphthalene	ND	0.333	mg/kg wet							
2-Chlorophenol	ND	0.333	mg/kg wet							
2-Methylphenol	ND	0.333	mg/kg wet							
2-Nitrophenol	ND	0.333	mg/kg wet							
3,3´-Dichlorobenzidine	ND	0.667	mg/kg wet							
3+4-Methylphenol	ND	0.667	mg/kg wet							
4-Bromophenyl-phenylether	ND	0.333	mg/kg wet							
4-Chloroaniline	ND	0.667	mg/kg wet							
4-Nitrophenol	ND	1.67	mg/kg wet							
Acetophenone	ND	0.667	mg/kg wet							
Aniline	ND	1.67	mg/kg wet							
Azobenzene	ND	0.333	mg/kg wet							
bis(2-Chloroethoxy)methane	ND	0.333	mg/kg wet							
bis(2-Chloroethyl)ether	ND	0.333	mg/kg wet							
bis(2-chloroisopropyl)Ether	ND	0.333	mg/kg wet							
bis(2-Ethylhexyl)phthalate	ND	0.333	mg/kg wet							
Butylbenzylphthalate	ND	0.333	mg/kg wet							
Dibenzofuran	ND	0.333	mg/kg wet							
Diethylphthalate	ND	0.333	mg/kg wet							
Dimethylphthalate	ND	0.333	mg/kg wet							
Di-n-butylphthalate	ND	0.333	mg/kg wet							
Di-n-octylphthalate	ND	0.333	mg/kg wet							
Hexachlorobutadiene	ND	0.333	mg/kg wet							
Hexachloroethane	ND	0.333	mg/kg wet							
Isophorone	ND	0.333	mg/kg wet							
Nitrobenzene	ND	0.333	mg/kg wet							
N-Nitrosodimethylamine	ND	0.333	mg/kg wet							
Pentachlorophenol	ND	1.67	mg/kg wet							
Phenol	ND	0.333	mg/kg wet							
Surrogate: 1,2-Dichlorobenzene-d4	*2.82*		mg/kg wet	*3.333*		*85*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*3.78*		mg/kg wet	*5.000*		*76*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*4.34*		mg/kg wet	*5.000*		*87*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*2.86*		mg/kg wet	*3.333*		*86*	*30-130*			
Surrogate: 2-Fluorophenol	*4.23*		mg/kg wet	*5.000*		*85*	*30-130*			
Surrogate: Nitrobenzene-d5	*2.91*		mg/kg wet	*3.333*		*87*	*30-130*			
Surrogate: Phenol-d6	*4.58*		mg/kg wet	*5.000*		*92*	*30-130*			
Surrogate: p-Terphenyl-d14	*3.85*		mg/kg wet	*3.333*		*116*	*30-130*			
LCS										
1,2,4-Trichlorobenzene	2.64	0.333	mg/kg wet	3.333		79	40-140			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503512

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch CD50643 - 3546										
1,2-Dichlorobenzene	2.65	0.333	mg/kg wet	3.333		79	40-140			
1,3-Dichlorobenzene	2.61	0.333	mg/kg wet	3.333		78	40-140			
1,4-Dichlorobenzene	2.59	0.333	mg/kg wet	3.333		78	40-140			
2,4,5-Trichlorophenol	3.05	0.333	mg/kg wet	3.333		91	30-130			
2,4,6-Trichlorophenol	3.17	0.333	mg/kg wet	3.333		95	30-130			
2,4-Dichlorophenol	2.87	0.333	mg/kg wet	3.333		86	30-130			
2,4-Dimethylphenol	2.98	0.333	mg/kg wet	3.333		89	30-130			
2,4-Dinitrophenol	2.18	1.67	mg/kg wet	3.333		65	30-130			
2,4-Dinitrotoluene	2.25	0.333	mg/kg wet	3.333		68	40-140			
2,6-Dinitrotoluene	2.47	0.333	mg/kg wet	3.333		74	40-140			
2-Chloronaphthalene	2.67	0.333	mg/kg wet	3.333		80	40-140			
2-Chlorophenol	2.89	0.333	mg/kg wet	3.333		87	30-130			
2-Methylphenol	3.02	0.333	mg/kg wet	3.333		91	30-130			
2-Nitrophenol	3.01	0.333	mg/kg wet	3.333		90	30-130			
3,3´-Dichlorobenzidine	2.12	0.667	mg/kg wet	3.333		64	40-140			
3+4-Methylphenol	5.92	0.667	mg/kg wet	6.667		89	30-130			
4-Bromophenyl-phenylether	3.25	0.333	mg/kg wet	3.333		98	40-140			
4-Chloroaniline	1.57	0.667	mg/kg wet	3.333		47	40-140			
4-Nitrophenol	2.01	1.67	mg/kg wet	3.333		60	30-130			
Acetophenone	3.13	0.667	mg/kg wet	3.333		94	40-140			
Aniline	2.16	1.67	mg/kg wet	3.333		65	40-140			
Azobenzene	3.35	0.333	mg/kg wet	3.333		100	40-140			
bis(2-Chloroethoxy)methane	2.84	0.333	mg/kg wet	3.333		85	40-140			
bis(2-Chloroethyl)ether	2.98	0.333	mg/kg wet	3.333		90	40-140			
bis(2-chloroisopropyl)Ether	2.86	0.333	mg/kg wet	3.333		86	40-140			
bis(2-Ethylhexyl)phthalate	2.94	0.333	mg/kg wet	3.333		88	40-140			
Butylbenzylphthalate	2.82	0.333	mg/kg wet	3.333		85	40-140			
Dibenzofuran	2.59	0.333	mg/kg wet	3.333		78	40-140			
Diethylphthalate	2.31	0.333	mg/kg wet	3.333		69	40-140			
Dimethylphthalate	2.47	0.333	mg/kg wet	3.333		74	40-140			
Di-n-butylphthalate	2.73	0.333	mg/kg wet	3.333		82	40-140			
Di-n-octylphthalate	2.90	0.333	mg/kg wet	3.333		87	40-140			
Hexachlorobutadiene	2.70	0.333	mg/kg wet	3.333		81	40-140			
Hexachloroethane	2.50	0.333	mg/kg wet	3.333		75	40-140			
Isophorone	2.56	0.333	mg/kg wet	3.333		77	40-140			
Nitrobenzene	2.75	0.333	mg/kg wet	3.333		82	40-140			
N-Nitrosodimethylamine	2.53	0.333	mg/kg wet	3.333		76	40-140			
Pentachlorophenol	3.05	1.67	mg/kg wet	3.333		91	30-130			
Phenol	2.87	0.333	mg/kg wet	3.333		86	30-130			
Surrogate: 1,2-Dichlorobenzene-d4	*2.89*		mg/kg wet	*3.333*		*87*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*5.10*		mg/kg wet	*5.000*		*102*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*4.70*		mg/kg wet	*5.000*		*94*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*3.32*		mg/kg wet	*3.333*		*100*	*30-130*			
Surrogate: 2-Fluorophenol	*4.55*		mg/kg wet	*5.000*		*91*	*30-130*			
Surrogate: Nitrobenzene-d5	*2.98*		mg/kg wet	*3.333*		*89*	*30-130*			
Surrogate: Phenol-d6	*4.90*		mg/kg wet	*5.000*		*98*	*30-130*			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503512

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch CD50643 - 3546										
Surrogate: p-Terphenyl-d14	*3.02*		mg/kg wet	*3.333*		*91*	*30-130*			
LCS Dup										
1,2,4-Trichlorobenzene	2.51	0.333	mg/kg wet	3.333		75	40-140	5	30	
1,2-Dichlorobenzene	2.54	0.333	mg/kg wet	3.333		76	40-140	4	30	
1,3-Dichlorobenzene	2.52	0.333	mg/kg wet	3.333		76	40-140	4	30	
1,4-Dichlorobenzene	2.48	0.333	mg/kg wet	3.333		74	40-140	4	30	
2,4,5-Trichlorophenol	2.98	0.333	mg/kg wet	3.333		90	30-130	2	30	
2,4,6-Trichlorophenol	2.98	0.333	mg/kg wet	3.333		89	30-130	6	30	
2,4-Dichlorophenol	2.84	0.333	mg/kg wet	3.333		85	30-130	1	30	
2,4-Dimethylphenol	2.90	0.333	mg/kg wet	3.333		87	30-130	3	30	
2,4-Dinitrophenol	2.35	1.67	mg/kg wet	3.333		70	30-130	8	30	
2,4-Dinitrotoluene	2.47	0.333	mg/kg wet	3.333		74	40-140	9	30	
2,6-Dinitrotoluene	2.62	0.333	mg/kg wet	3.333		79	40-140	6	30	
2-Chloronaphthalene	2.38	0.333	mg/kg wet	3.333		72	40-140	11	30	
2-Chlorophenol	2.69	0.333	mg/kg wet	3.333		81	30-130	7	30	
2-Methylphenol	2.86	0.333	mg/kg wet	3.333		86	30-130	5	30	
2-Nitrophenol	2.88	0.333	mg/kg wet	3.333		86	30-130	5	30	
3,3´-Dichlorobenzidine	2.15	0.667	mg/kg wet	3.333		65	40-140	1	30	
3+4-Methylphenol	5.79	0.667	mg/kg wet	6.667		87	30-130	2	30	
4-Bromophenyl-phenylether	3.05	0.333	mg/kg wet	3.333		91	40-140	6	30	
4-Chloroaniline	1.82	0.667	mg/kg wet	3.333		55	40-140	15	30	
4-Nitrophenol	2.16	1.67	mg/kg wet	3.333		65	30-130	7	30	
Acetophenone	2.97	0.667	mg/kg wet	3.333		89	40-140	5	30	
Aniline	1.96	1.67	mg/kg wet	3.333		59	40-140	10	30	
Azobenzene	3.04	0.333	mg/kg wet	3.333		91	40-140	10	30	
bis(2-Chloroethoxy)methane	2.72	0.333	mg/kg wet	3.333		81	40-140	5	30	
bis(2-Chloroethyl)ether	2.80	0.333	mg/kg wet	3.333		84	40-140	6	30	
bis(2-chloroisopropyl)Ether	2.66	0.333	mg/kg wet	3.333		80	40-140	7	30	
bis(2-Ethylhexyl)phthalate	2.84	0.333	mg/kg wet	3.333		85	40-140	3	30	
Butylbenzylphthalate	2.79	0.333	mg/kg wet	3.333		84	40-140	1	30	
Dibenzofuran	2.58	0.333	mg/kg wet	3.333		77	40-140	0.2	30	
Diethylphthalate	2.53	0.333	mg/kg wet	3.333		76	40-140	9	30	
Dimethylphthalate	2.58	0.333	mg/kg wet	3.333		77	40-140	4	30	
Di-n-butylphthalate	2.66	0.333	mg/kg wet	3.333		80	40-140	3	30	
Di-n-octylphthalate	2.73	0.333	mg/kg wet	3.333		82	40-140	6	30	
Hexachlorobutadiene	2.49	0.333	mg/kg wet	3.333		75	40-140	8	30	
Hexachloroethane	2.42	0.333	mg/kg wet	3.333		73	40-140	3	30	
Isophorone	2.58	0.333	mg/kg wet	3.333		77	40-140	0.7	30	
Nitrobenzene	2.60	0.333	mg/kg wet	3.333		78	40-140	5	30	
N-Nitrosodimethylamine	2.49	0.333	mg/kg wet	3.333		75	40-140	2	30	
Pentachlorophenol	2.91	1.67	mg/kg wet	3.333		87	30-130	5	30	
Phenol	2.72	0.333	mg/kg wet	3.333		82	30-130	5	30	
Surrogate: 1,2-Dichlorobenzene-d4	*2.69*		mg/kg wet	*3.333*		*81*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*4.74*		mg/kg wet	*5.000*		*95*	*30-130*			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503512

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch CD50643 - 3546										
Surrogate: 2-Chlorophenol-d4	*4.29*		mg/kg wet	*5.000*		*86*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*2.85*		mg/kg wet	*3.333*		*85*	*30-130*			
Surrogate: 2-Fluorophenol	*4.12*		mg/kg wet	*5.000*		*82*	*30-130*			
Surrogate: Nitrobenzene-d5	*2.77*		mg/kg wet	*3.333*		*83*	*30-130*			
Surrogate: Phenol-d6	*4.45*		mg/kg wet	*5.000*		*89*	*30-130*			
Surrogate: p-Terphenyl-d14	*3.00*		mg/kg wet	*3.333*		*90*	*30-130*			
8270D(SIM) Polynuclear Aromatic Hydrocarbons										
Batch CD50136 - 3546										
Blank										
2-Methylnaphthalene	ND	0.012	mg/kg wet							
Acenaphthene	ND	0.012	mg/kg wet							
Acenaphthylene	ND	0.012	mg/kg wet							
Anthracene	ND	0.012	mg/kg wet							
Benzo(a)anthracene	ND	0.012	mg/kg wet							
Benzo(a)pyrene	ND	0.012	mg/kg wet							
Benzo(b)fluoranthene	ND	0.012	mg/kg wet							
Benzo(g,h,i)perylene	ND	0.012	mg/kg wet							
Benzo(k)fluoranthene	ND	0.012	mg/kg wet							
Chrysene	ND	0.012	mg/kg wet							
Dibenzo(a,h)Anthracene	ND	0.012	mg/kg wet							
Fluoranthene	ND	0.012	mg/kg wet							
Fluorene	ND	0.012	mg/kg wet							
Hexachlorobenzene	ND	0.012	mg/kg wet							
Indeno(1,2,3-cd)Pyrene	ND	0.012	mg/kg wet							
Naphthalene	ND	0.012	mg/kg wet							
Phenanthrene	ND	0.012	mg/kg wet							
Pyrene	ND	0.012	mg/kg wet							
Surrogate: 1,2-Dichlorobenzene-d4	*0.165*		mg/kg wet	*0.2500*		*66*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*0.193*		mg/kg wet	*0.2500*		*77*	*30-130*			
Surrogate: Nitrobenzene-d5	*0.214*		mg/kg wet	*0.2500*		*85*	*30-130*			
Surrogate: p-Terphenyl-d14	*0.235*		mg/kg wet	*0.2500*		*94*	*30-130*			
LCS										
2-Methylnaphthalene	0.103	0.012	mg/kg wet	0.2000		52	40-140			
Acenaphthene	0.120	0.012	mg/kg wet	0.2000		60	40-140			
Acenaphthylene	0.118	0.012	mg/kg wet	0.2000		59	40-140			
Anthracene	0.134	0.012	mg/kg wet	0.2000		67	40-140			
Benzo(a)anthracene	0.143	0.012	mg/kg wet	0.2000		72	40-140			
Benzo(a)pyrene	0.148	0.012	mg/kg wet	0.2000		74	40-140			
Benzo(b)fluoranthene	0.152	0.012	mg/kg wet	0.2000		76	40-140			
Benzo(g,h,i)perylene	0.149	0.012	mg/kg wet	0.2000		74	40-140			
Benzo(k)fluoranthene	0.151	0.012	mg/kg wet	0.2000		75	40-140			
Chrysene	0.153	0.012	mg/kg wet	0.2000		77	40-140			
Dibenzo(a,h)Anthracene	0.158	0.012	mg/kg wet	0.2000		79	40-140			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D(SIM) Polynuclear Aromatic Hydrocarbons										
Batch CD50136 - 3546										
Fluoranthene	0.147	0.012	mg/kg wet	0.2000		73	40-140			
Fluorene	0.133	0.012	mg/kg wet	0.2000		66	40-140			
Hexachlorobenzene	0.138	0.012	mg/kg wet	0.2000		69	40-140			
Indeno(1,2,3-cd)Pyrene	0.147	0.012	mg/kg wet	0.2000		73	40-140			
Naphthalene	0.100	0.012	mg/kg wet	0.2000		50	40-140			
Phenanthrene	0.127	0.012	mg/kg wet	0.2000		63	40-140			
Pyrene	0.151	0.012	mg/kg wet	0.2000		75	40-140			
Surrogate: 1,2-Dichlorobenzene-d4	*0.148*		mg/kg wet	*0.2500*		*59*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*0.181*		mg/kg wet	*0.2500*		*72*	*30-130*			
Surrogate: Nitrobenzene-d5	*0.184*		mg/kg wet	*0.2500*		*74*	*30-130*			
Surrogate: p-Terphenyl-d14	*0.238*		mg/kg wet	*0.2500*		*95*	*30-130*			
LCS Dup										
2-Methylnaphthalene	0.110	0.012	mg/kg wet	0.2000		55	40-140	7	30	
Acenaphthene	0.129	0.012	mg/kg wet	0.2000		65	40-140	7	30	
Acenaphthylene	0.126	0.012	mg/kg wet	0.2000		63	40-140	6	30	
Anthracene	0.132	0.012	mg/kg wet	0.2000		66	40-140	2	30	
Benzo(a)anthracene	0.144	0.012	mg/kg wet	0.2000		72	40-140	0.3	30	
Benzo(a)pyrene	0.144	0.012	mg/kg wet	0.2000		72	40-140	3	30	
Benzo(b)fluoranthene	0.157	0.012	mg/kg wet	0.2000		78	40-140	3	30	
Benzo(g,h,i)perylene	0.156	0.012	mg/kg wet	0.2000		78	40-140	4	30	
Benzo(k)fluoranthene	0.160	0.012	mg/kg wet	0.2000		80	40-140	6	30	
Chrysene	0.160	0.012	mg/kg wet	0.2000		80	40-140	4	30	
Dibenzo(a,h)Anthracene	0.162	0.012	mg/kg wet	0.2000		81	40-140	3	30	
Fluoranthene	0.149	0.012	mg/kg wet	0.2000		74	40-140	2	30	
Fluorene	0.142	0.012	mg/kg wet	0.2000		71	40-140	7	30	
Hexachlorobenzene	0.153	0.012	mg/kg wet	0.2000		77	40-140	11	30	
Indeno(1,2,3-cd)Pyrene	0.158	0.012	mg/kg wet	0.2000		79	40-140	8	30	
Naphthalene	0.110	0.012	mg/kg wet	0.2000		55	40-140	9	30	
Phenanthrene	0.129	0.012	mg/kg wet	0.2000		64	40-140	2	30	
Pyrene	0.149	0.012	mg/kg wet	0.2000		75	40-140	1	30	
Surrogate: 1,2-Dichlorobenzene-d4	*0.146*		mg/kg wet	*0.2500*		*59*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*0.182*		mg/kg wet	*0.2500*		*73*	*30-130*			
Surrogate: Nitrobenzene-d5	*0.184*		mg/kg wet	*0.2500*		*74*	*30-130*			
Surrogate: p-Terphenyl-d14	*0.218*		mg/kg wet	*0.2500*		*87*	*30-130*			
Classical Chemistry										
Batch CC52807 - General Preparation										
Blank										
Hexavalent Chromium	ND	0.7	mg/kg wet							
LCS										
Hexavalent Chromium	32.4	0.7	mg/kg wet	33.32		97	80-120			
LCS Dup										
Hexavalent Chromium	32.6	0.7	mg/kg wet	33.32		98	80-120	0.5	20	
Reference										

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Classical Chemistry										
Batch CC52807 - General Preparation										
Hexavalent Chromium	99.8	2.0	mg/kg wet	125.0		80	61-139			
Batch CC53003 - General Preparation										
Blank										
Reactive Cyanide	ND	2.0	mg/kg							
Reactive Sulfide	ND	2.0	mg/kg							
LCS										
Reactive Cyanide	3.8	2.0	mg/kg	100.3		4	0.68-5.41			
Reactive Sulfide	0.2	2.0	mg/kg	10.00		2	0-44			
MADEP-EPH Extractable Petroleum Hydrocarbons										
Batch CC53112 - 3546										
Blank										
C19-C36 Aliphatics1	ND	15.0	mg/kg wet							
C9-C18 Aliphatics1	ND	15.0	mg/kg wet							
Decane (C10)	ND	0.5	mg/kg wet							
Docosane (C22)	ND	0.5	mg/kg wet							
Dodecane (C12)	ND	0.5	mg/kg wet							
Eicosane (C20)	ND	0.5	mg/kg wet							
Hexacosane (C26)	ND	0.5	mg/kg wet							
Hexadecane (C16)	ND	0.5	mg/kg wet							
Hexatriacontane (C36)	ND	0.5	mg/kg wet							
Nonadecane (C19)	ND	0.5	mg/kg wet							
Nonane (C9)	ND	0.5	mg/kg wet							
Octacosane (C28)	ND	0.5	mg/kg wet							
Octadecane (C18)	ND	0.5	mg/kg wet							
Tetracosane (C24)	ND	0.5	mg/kg wet							
Tetradecane (C14)	ND	0.5	mg/kg wet							
Triacontane (C30)	ND	0.5	mg/kg wet							
Surrogate: 1-Chlorooctadecane	*1.38*		mg/kg wet	*2.000*		*69*	*40-140*			
Blank										
2-Methylnaphthalene	ND	0.20	mg/kg wet							
Acenaphthene	ND	0.40	mg/kg wet							
Acenaphthylene	ND	0.20	mg/kg wet							
Anthracene	ND	0.40	mg/kg wet							
Benzo(a)anthracene	ND	0.40	mg/kg wet							
Benzo(a)pyrene	ND	0.40	mg/kg wet							
Benzo(b)fluoranthene	ND	0.40	mg/kg wet							
Benzo(g,h,i)perylene	ND	0.40	mg/kg wet							
Benzo(k)fluoranthene	ND	0.40	mg/kg wet							
C11-C22 Unadjusted Aromatics1	ND	15.0	mg/kg wet							
Chrysene	ND	0.40	mg/kg wet							
Dibenzo(a,h)Anthracene	ND	0.20	mg/kg wet							
Fluoranthene	ND	0.40	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
MADEP-EPH Extractable Petroleum Hydrocarbons										
Batch CC53112 - 3546										
Fluorene	ND	0.40	mg/kg wet							
Indeno(1,2,3-cd)Pyrene	ND	0.40	mg/kg wet							
Naphthalene	ND	0.40	mg/kg wet							
Phenanthrene	ND	0.40	mg/kg wet							
Pyrene	ND	0.40	mg/kg wet							
Surrogate: 2-Bromonaphthalene	*1.56*		mg/kg wet	*2.000*		*78*	*40-140*			
Surrogate: 2-Fluorobiphenyl	*1.50*		mg/kg wet	*2.000*		*75*	*40-140*			
Surrogate: O-Terphenyl	*1.57*		mg/kg wet	*2.000*		*78*	*40-140*			
LCS										
C19-C36 Aliphatics1	16.5	15.0	mg/kg wet	16.00		103	40-140			
C9-C18 Aliphatics1	10.0	15.0	mg/kg wet	12.00		83	40-140			
Decane (C10)	1.1	0.5	mg/kg wet	2.000		56	40-140			
Docosane (C22)	1.8	0.5	mg/kg wet	2.000		91	40-140			
Dodecane (C12)	1.1	0.5	mg/kg wet	2.000		56	40-140			
Eicosane (C20)	1.8	0.5	mg/kg wet	2.000		89	40-140			
Hexacosane (C26)	1.9	0.5	mg/kg wet	2.000		94	40-140			
Hexadecane (C16)	1.5	0.5	mg/kg wet	2.000		75	40-140			
Hexatriacontane (C36)	1.8	0.5	mg/kg wet	2.000		91	40-140			
Nonadecane (C19)	1.8	0.5	mg/kg wet	2.000		89	40-140			
Nonane (C9)	0.9	0.5	mg/kg wet	2.000		45	30-140			
Octacosane (C28)	1.8	0.5	mg/kg wet	2.000		91	40-140			
Octadecane (C18)	1.7	0.5	mg/kg wet	2.000		84	40-140			
Tetracosane (C24)	1.8	0.5	mg/kg wet	2.000		88	40-140			
Tetradecane (C14)	1.3	0.5	mg/kg wet	2.000		65	40-140			
Triacontane (C30)	1.8	0.5	mg/kg wet	2.000		90	40-140			
Surrogate: 1-Chlorooctadecane	*1.44*		mg/kg wet	*2.000*		*72*	*40-140*			
LCS										
2-Methylnaphthalene	1.33	0.20	mg/kg wet	2.000		67	40-140			
Acenaphthene	1.48	0.40	mg/kg wet	2.000		74	40-140			
Acenaphthylene	1.49	0.20	mg/kg wet	2.000		75	40-140			
Anthracene	1.87	0.40	mg/kg wet	2.000		93	40-140			
Benzo(a)anthracene	1.92	0.40	mg/kg wet	2.000		96	40-140			
Benzo(a)pyrene	2.07	0.40	mg/kg wet	2.000		104	40-140			
Benzo(b)fluoranthene	1.88	0.40	mg/kg wet	2.000		94	40-140			
Benzo(g,h,i)perylene	1.82	0.40	mg/kg wet	2.000		91	40-140			
Benzo(k)fluoranthene	1.87	0.40	mg/kg wet	2.000		94	40-140			
C11-C22 Unadjusted Aromatics1	35.0	15.0	mg/kg wet	34.00		103	40-140			
Chrysene	1.95	0.40	mg/kg wet	2.000		97	40-140			
Dibenzo(a,h)Anthracene	1.78	0.20	mg/kg wet	2.000		89	40-140			
Fluoranthene	1.85	0.40	mg/kg wet	2.000		93	40-140			
Fluorene	1.63	0.40	mg/kg wet	2.000		81	40-140			
Indeno(1,2,3-cd)Pyrene	1.83	0.40	mg/kg wet	2.000		91	40-140			
Naphthalene	1.25	0.40	mg/kg wet	2.000		62	40-140			
Phenanthrene	1.81	0.40	mg/kg wet	2.000		90	40-140			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503512

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
MADEP-EPH Extractable Petroleum Hydrocarbons										
Batch CC53112 - 3546										
Pyrene	1.87	0.40	mg/kg wet	2.000		93	40-140			
Surrogate: 2-Bromonaphthalene	*1.59*		mg/kg wet	*2.000*		*79*	*40-140*			
Surrogate: 2-Fluorobiphenyl	*1.56*		mg/kg wet	*2.000*		*78*	*40-140*			
Surrogate: O-Terphenyl	*1.63*		mg/kg wet	*2.000*		*81*	*40-140*			
LCS										
2-Methylnaphthalene Breakthrough	0.0		%				0-5			
Naphthalene Breakthrough	0.0		%				0-5			
LCS Dup										
C19-C36 Aliphatics1	16.1	15.0	mg/kg wet	16.00		101	40-140	3	25	
C9-C18 Aliphatics1	9.6	15.0	mg/kg wet	12.00		80	40-140	4	25	
Decane (C10)	1.1	0.5	mg/kg wet	2.000		57	40-140	0.6	25	
Docosane (C22)	1.8	0.5	mg/kg wet	2.000		91	40-140	0.6	25	
Dodecane (C12)	1.1	0.5	mg/kg wet	2.000		56	40-140	0.8	25	
Eicosane (C20)	1.8	0.5	mg/kg wet	2.000		88	40-140	0.2	25	
Hexacosane (C26)	1.9	0.5	mg/kg wet	2.000		93	40-140	0.7	25	
Hexadecane (C16)	1.5	0.5	mg/kg wet	2.000		76	40-140	0.2	25	
Hexatriacontane (C36)	1.8	0.5	mg/kg wet	2.000		90	40-140	0.4	25	
Nonadecane (C19)	1.8	0.5	mg/kg wet	2.000		89	40-140	0.3	25	
Nonane (C9)	0.9	0.5	mg/kg wet	2.000		44	30-140	1	25	
Octacosane (C28)	1.8	0.5	mg/kg wet	2.000		91	40-140	0.5	25	
Octadecane (C18)	1.7	0.5	mg/kg wet	2.000		84	40-140	0.08	25	
Tetracosane (C24)	1.8	0.5	mg/kg wet	2.000		88	40-140	0.08	25	
Tetradecane (C14)	1.3	0.5	mg/kg wet	2.000		65	40-140	0.09	25	
Triacontane (C30)	1.8	0.5	mg/kg wet	2.000		90	40-140	0.3	25	
Surrogate: 1-Chlorooctadecane	*1.38*		mg/kg wet	*2.000*		*69*	*40-140*			
LCS Dup										
2-Methylnaphthalene	1.37	0.20	mg/kg wet	2.000		69	40-140	3	20	
Acenaphthene	1.50	0.40	mg/kg wet	2.000		75	40-140	2	20	
Acenaphthylene	1.50	0.20	mg/kg wet	2.000		75	40-140	0.3	20	
Anthracene	1.77	0.40	mg/kg wet	2.000		89	40-140	5	20	
Benzo(a)anthracene	1.80	0.40	mg/kg wet	2.000		90	40-140	6	20	
Benzo(a)pyrene	1.97	0.40	mg/kg wet	2.000		98	40-140	5	20	
Benzo(b)fluoranthene	1.81	0.40	mg/kg wet	2.000		90	40-140	4	20	
Benzo(g,h,i)perylene	1.72	0.40	mg/kg wet	2.000		86	40-140	5	20	
Benzo(k)fluoranthene	1.74	0.40	mg/kg wet	2.000		87	40-140	8	20	
C11-C22 Unadjusted Aromatics1	32.1	15.0	mg/kg wet	34.00		94	40-140	9	25	
Chrysene	1.86	0.40	mg/kg wet	2.000		93	40-140	5	20	
Dibenzo(a,h)Anthracene	1.69	0.20	mg/kg wet	2.000		84	40-140	5	20	
Fluoranthene	1.77	0.40	mg/kg wet	2.000		89	40-140	5	20	
Fluorene	1.60	0.40	mg/kg wet	2.000		80	40-140	1	20	
Indeno(1,2,3-cd)Pyrene	1.74	0.40	mg/kg wet	2.000		87	40-140	5	20	
Naphthalene	1.26	0.40	mg/kg wet	2.000		63	40-140	1	20	
Phenanthrene	1.74	0.40	mg/kg wet	2.000		87	40-140	4	20	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503512

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
MADEP-EPH Extractable Petroleum Hydrocarbons										
Batch CC53112 - 3546										
Pyrene	1.75	0.40	mg/kg wet	2.000		88	40-140	6	20	
Surrogate: 2-Bromonaphthalene	*1.60*		mg/kg wet	*2.000*		*80*	*40-140*			
Surrogate: 2-Fluorobiphenyl	*1.59*		mg/kg wet	*2.000*		*79*	*40-140*			
Surrogate: O-Terphenyl	*1.51*		mg/kg wet	*2.000*		*75*	*40-140*			
LCS Dup										
2-Methylnaphthalene Breakthrough	0.0		%				0-5		200	
Naphthalene Breakthrough	0.0		%				0-5		200	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase ESS Laboratory Work Order: 1503512

Notes and Definitions

Q	Calibration required quadratic regression (Q).
B+	Blank Spike recovery is above upper control limit (B+).
C-	Continuing Calibration recovery is below lower control limit (C-).
C+	Continuing Calibration recovery is above upper control limit (C+).
D	Diluted.
D+	Relative percent difference for duplicate is outside of criteria (D+).
H	Estimated value. Sample hold times were exceeded (H).
B-	Blank Spike recovery is below lower control limit (B-).
P	Percent difference between primary and confirmation results exceeds 40% (P).
Z-10a	Soil pH measured in water at 15.6 ºC.
SC	Surrogate recovery(ies) outside of criteria. Reextraction/Reanalysis confirms results (SC).
SD	Surrogate recovery(ies) diluted below the MRL (SD).
U	Analyte included in the analysis, but not detected
WL	Results obtained from a deionized water leach of the sample.
Z-08	See Attached
Z-10	Soil pH measured in water at 15.1 ºC.
I	Internal Standard(s) outside of criteria (I).
ND	Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
I/V	Initial Volume
F/V	Final Volume
§	Subcontracted analysis; see attached report
1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of target analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.
Avg	Results reported as a mathematical average.
NR	No Recovery
[CALC]	Calculated Analyte
SUB	Subcontracted analysis; see attached report
[2C]	Result was taken from the second column. Dual column analysis.

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503512

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Department of Defense (DoD) Environmental Laboratory Accreditation Program (ELAP)
A2LA Accredited: Testing Cert# 2864.01
http://www.a2la.org/scopepdf/2864-01.pdf

Rhode Island Potable and Non Potable Water: LAI00179
http://www.health.ri.gov/find/labs/analytical/ESS.pdf

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750
http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutofStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI0002
http://www.maine.gov/dhhs/mecdc/environmental-health/water/dwp-services/labcert/documents/AllLabs.xls

Massachusetts Potable and Non Potable Water: M-RI002
http://public.dep.state.ma.us/Labcert/Labcert.aspx

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424
http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313
http://www.wadsworth.org/labcert/elap/comm.html

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006
http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752
http://www.depweb.state.pa.us/portal/server.pt/community/labs/13780/laboratory_accreditation_program/590095

CHEMISTRY

A2LA Accredited: Testing Cert # 2864.01
Lead in Paint, Phthalates, Lead in Children's Metals Products (Including Jewelry)
http://www.A2LA.org/dirsearchnew/newsearch.cfm

CPSC ID# 1141
Lead Paint, Lead in Children's Metals Jewelry
http://www.cpsc.gov/cgi-bin/labapplist.aspx

LABORATORY TESTING DATA SHEET

Project Name Wynn Everett | Project Location Everett, MA | Reviewed By [signature]

Project No. 01.0171521.13 **ESS-1503512** | Assigned By D. Scanlon

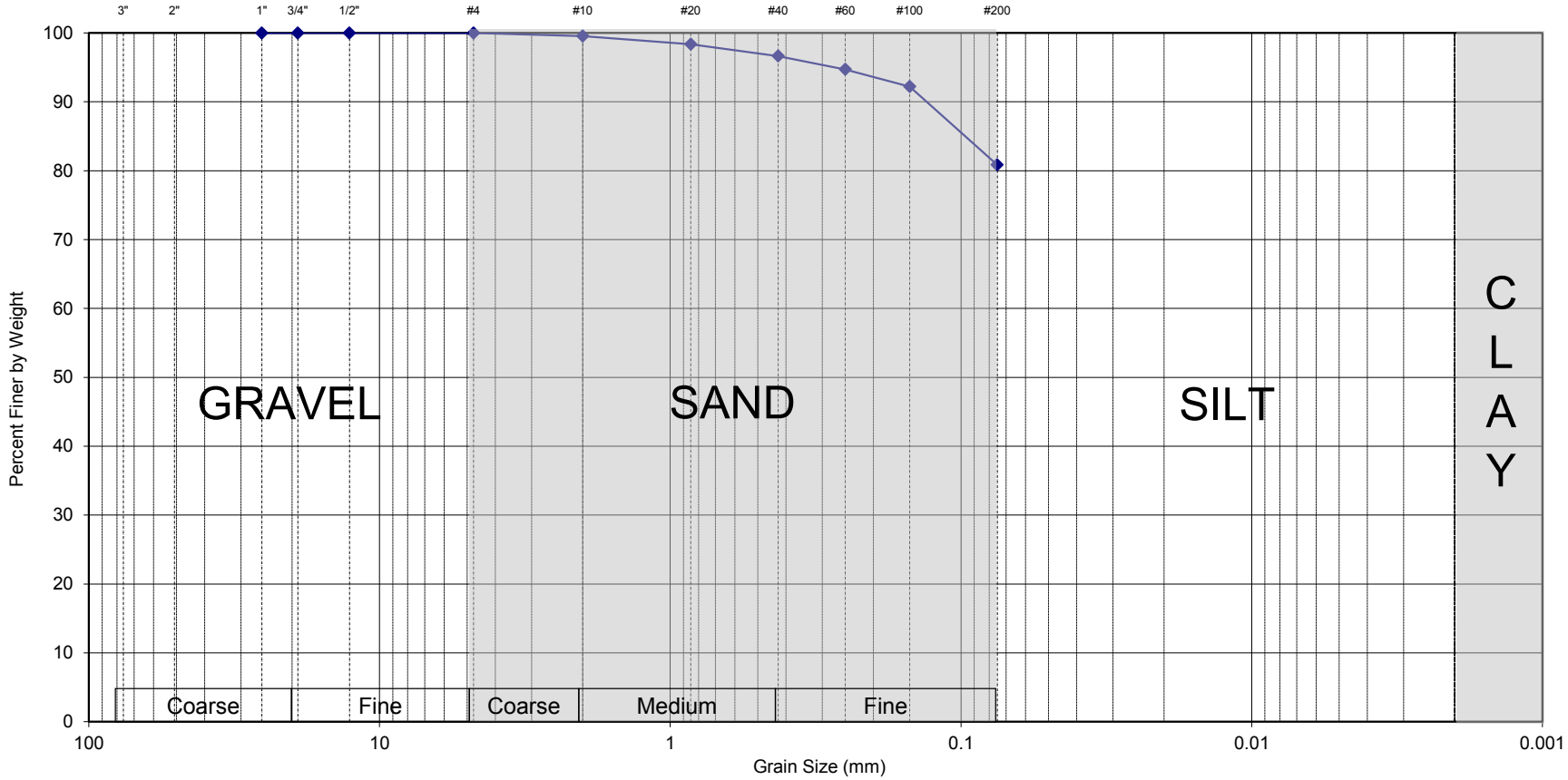
Project Manager D. Leone/C. Taylor | Report Date 4/1/15 | Date Reviewed *4/1/15*

Boring ID	Depth (ft)	ESS Sample ID	Lab No.	Identification Tests								Strength Tests				Laboratory Log and Soil Description
				Water Content %	LL %	PL %	Sieve -200 %	Hyd -2µ %	ORG %	G_s	Dry unit wt. pcf	Torvane or Type Test	Failure Criteria	$\sigma_1 - \sigma_3$ psf	Strain %	
GZ-225	0-3	1503512-04	15-S-254	62.7			80.9									Gray & Black Organic SILT, little fine Sand
GZ-201	0-3	1503512-07	15-S-255	157.6			74.8									Gray & Black Organic SILT, some f-m Sand

THIELSCH ENGINEERING

195 Frances Avenue
Cranston, RI 02910 401-467-6454

U.S. STANDARD SIEVE AND HYDROMETER



Gravel	Sand	Fines
0.0%	19.2%	80.8%

Lab #	Sample ID	ESS Sample ID	Sample Date	Description	WC	LL	PL	PI
15-S-254	GZ-225	1503512-04	3/27/15	Gray & Black Organic SILT, little fine Sand	63			

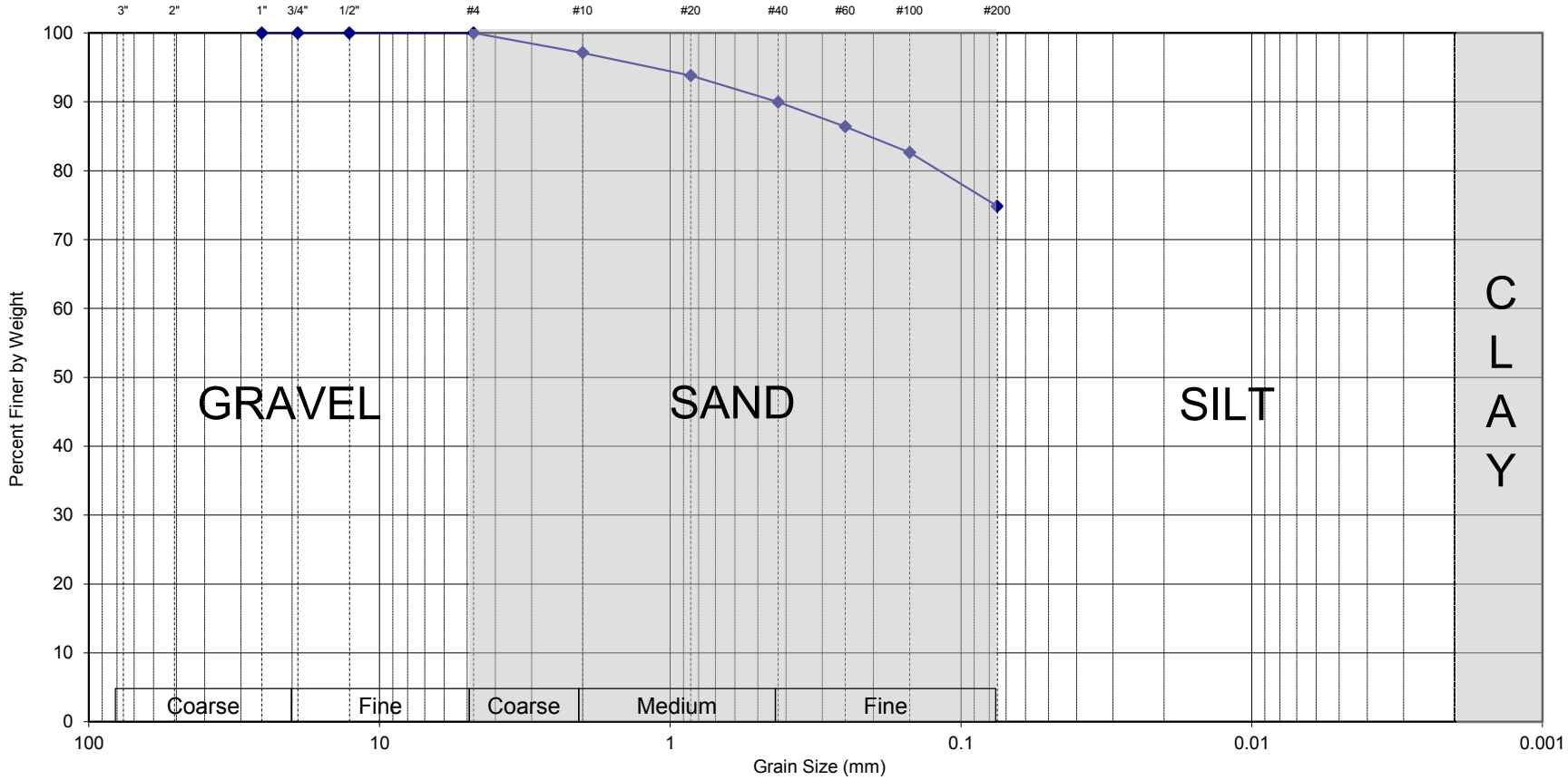
Sieve Size	% Passing
¾"	100.0
½"	100.0
#4	100.0
#10	99.6
#20	98.3
#40	96.7
#60	94.7
#100	92.2
#200	80.8

THIELSCH ENGINEERING
195 Frances Ave., Cranston, RI 02109
401-467-6454

Wynn Everett
ESS Project 1503512
GZA File # 01.0171521.13

Tested by: MP/MK Date: 3/31/15
Reviewed by: MBP Date: 4/1/15

U.S. STANDARD SIEVE AND HYDROMETER



Gravel	Sand	Fines
0.0%	25.2%	74.8%

Lab #	Sample ID	ESS Sample ID	Sample Date	Description	WC	LL	PL	PI
15-S-255	GZ-201	1503512-07	3/27/15	Gray & Black Organic SILT, some f-m Sand	158			

Sieve Size	% Passing
¾"	100.0
½"	100.0
#4	100.0
#10	97.1
#20	93.8
#40	90.0
#60	86.4
#100	82.6
#200	74.8

THIELSCH ENGINEERING
195 Frances Ave., Cranston, RI 02109
401-467-6454

Wynn Everett
ESS Project 1503512
GZA File # 01.0171521.13

Tested by: MP/MK Date: 3/31/15
Reviewed by: MBP Date: 4/1/15

Sample and Cooler Receipt Checklist

Client: GZA GeoEnvironmental, Inc.
Client Project ID: _____
Shipped/Delivered Via: ESS Courier

ESS Project ID: 15030512
Date Project Due: 4/3/15
Days For Project: 5 Day

Items to be checked upon receipt:

1. Air Bill Manifest Present?	* No	10. Are the samples properly preserved?	Yes
Air No.:		11. Proper sample containers used?	Yes
2. Were Custody Seals Present?	No	12. Any air bubbles in the VOA vials?	N/A
3. Were Custody Seals Intact?	N/A	13. Holding times exceeded?	No
4. Is Radiation count < 100 CPM?	Yes	14. Sufficient sample volumes?	Yes
5. Is a cooler present?	Yes	15. Any Subcontracting needed?	* Yes
Cooler Temp: **3.5**		16. Are ESS labels on correct containers?	**Yes|No**
Iced With: **Ice**		17. Were samples received intact?	**Yes|No**
6. Was COC included with samples?	Yes	ESS Sample IDs:	04, 07
7. Was COC signed and dated by client?	Yes	Sub Lab:	CTS
8. Does the COC match the sample	Yes	Analysis:	Grain Size / % water
9. Is COC complete and correct?	Yes	TAT:	5 DAY

18. Was there need to call project manager to discuss status? If yes, please explain.

LL vials frozen 1954 3/27/15 LW

Who was called?:_____ By whom? _____

Sample Number	Properly Preserved	Container Type	# of Containers	Preservative
1	Yes	8 oz Soil Jar	2	NP
2	Yes	2 oz Soil Jar	1	NP
2	Yes	8 oz Soil Jar	2	NP
3	Yes	2 oz Soil Jar	1	NP
3	Yes	8 oz Soil Jar	2	NP
4	Yes	4 oz Soil Jar	1	NP
4	Yes	40 ml - VOA	1	MeOH
4	Yes	40 ml - VOA	2	other
4	Yes	8 oz Soil Jar	2	NP
4	Yes	Other Glass	1	NP
5	Yes	8 oz Soil Jar	2	NP
6	Yes	2 oz Soil Jar	1	NP
6	Yes	8 oz Soil Jar	2	NP
7	Yes	4 oz Soil Jar	1	NP
7	Yes	40 ml - VOA	1	MeOH
7	Yes	40 ml - VOA	2	other
7	Yes	8 oz Soil Jar	2	NP
7	Yes	Other Glass	1	NP
8	Yes	8 oz Soil Jar	2	NP
9	Yes	8 oz Soil Jar	2	NP
10	Yes	4 oz Soil Jar	1	NP
10	Yes	8 oz Soil Jar	2	NP
11	Yes	8 oz Soil Jar	2	NP
12	Yes	2 oz Soil Jar	1	NP
12	Yes	8 oz Soil Jar	2	NP

Sample and Cooler Receipt Checklist

Client: GZA GeoEnvironmental, Inc. ESS Project ID: 15030512

13	Yes	8 oz Soil Jar	2	NP
14	Yes	2 oz Soil Jar	1	NP
14	Yes	8 oz Soil Jar	2	NP
15	Yes	2 oz Soil Jar	1	NP
15	Yes	8 oz Soil Jar	2	NP
16	Yes	8 oz Soil Jar	2	NP
17	Yes	8 oz Soil Jar	2	NP

Completed By: _____ Date/Time: 3/27/15 1929

Reviewed By: Dana a Rose Date/Time: 3/27/15 1954

SOILS LABORATORY TESTING ASSIGNMENT SHEET

THIELSCH ENGINEERING 401-467-6454 195 Frances Ave., Cranston, RI 02910

Project Name **Wynn Everett** Client _____ Assigned By _____

CTS Project No. **74-14-0002.01** Site Location _____ Collected By _____

ESS Project No. **1503512** Date Assigned _____ Received By _____

Project Manager **Christine Taylor** Date Received _____ Date Required **5 DAY - 4/3/15**

Sample Information					Lab No.	Identification Tests							Permeability		Compaction			Strength		Consol.	Notes
Boring/ Test Pit No.	Sample No.	Depth Ft.	Sample Date	ESS SAMPLE ID		Water Cont. %	LL & PL %	Org. %	Sieve -200 %	Hyd -2μ %	G_s	γ_t pcf	Sand	Clay	Mod.	Std.	CBR	Tor-vane	Type Test $\frac{\sigma_c}{}$ or σ^c	Cc/ 1+eo	#
						D2216	D4318	D2974	D422		D854		D2434	D5084	D1557	D698	D1883		D2166/ D4767/ D2850	D2435	
GZ-225	0'-3'		3/27/15	1503512-04		X			X												
GZ-201	0'-3'		3/27/15	1503512-07		X			X												

Notes: _____

ESS Laboratory

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS LAB PROJECT ID: 150 3512

Turn Time ___X___ Standard Rush_____ Approved By: _____

Reporting Limits -

State where samples were collected: **MA** RI CT NH NJ NY ME Other_____

Is this project for any of the following: (please circle)
MA-MCP CT-RCP NJ-DKQP RGP DOD Other___

Electonic Deliverable Yes ✓ No___
Format: Excel ✓ Access___ PDF ✓ Other_____

GZA Project Manager: David E. Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Ave
Norwood, MA 02062
(781) 278-3700

Project No.: 01.0171521.13 Task 001

Project Name: Wynn - Everett

Contract Pricing _____
Special Pricing WO#: _____

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	MCP-14 Metals	PAHs by SIM	TOC	SVOCs	PCBs (Aroclors)	EPH	Hexavalent Chromium	Reactivity (Sulfide and Cyanide)	VOCs	% water	Grain Size Analysis	Comment #
1	3/27/15	0849	G	S	GZ-225 (0'-0.5')		X	X	X	X	X	X						
					GZ-225 (0.5'-2')		HOLD	AND	FREEZE									
					GZ-225 (2'-4')		HOLD	AND	FREEZE									
2					GZ-225 (4'-6')		X	X										
3					GZ-225 (6'-7'2")		X	X										
4		↓			GZ-225 (0'-3')		X		X	X	X	X	X	X	X	X	X	(1)
5		09:24			GZ-201 (0'-0.5')		X	X	X	X	X	X						
					GZ-201 (0.5'-2')		HOLD	AND	FREEZE									
					GZ-201 (2'-4')		HOLD	AND	FREEZE									
6	↓	↓	↓	↓	GZ-201 (4'-5')		X	X										

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-_____

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present ___Yes ___No

Seals Intact ___ Yes ___No NA: ✓

Cooler Temperature: 3.5 & 2.8 ice ice

Sampled by : Daniel Scanlon (Daniel.Scanlon@gza.com)

Comments: (1) TCLP 20X Rule Applies ONLY if noted in the comment column

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
[signature]	3/27/15 @ 1430	[signature] 3/27/15 1447	[signature] 3/27/15	1643	[signature] 3/27/15 1816

ESS Laboratory

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS LAB PROJECT ID 503512

Turn Time ___X___Standard Rush_____ Approved By: _____

Reporting Limits -

State where samples were collected: **MA** RI CT NH NJ NY ME Other_____

Is this project for any of the following: (please circle)
MA-MCP CT-RCP NJ-DKQP RGP DOD Other____

Electonic Deliverable Yes ✓ No____
Format: Excel ✓ Access___ PDF ✓ Other_____

GZA Project Manager: David E. Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Ave
Norwood, MA 02062
(781) 278-3700

Project No.: 01.0171521.13 Task 001
Project Name: Wynn - Everett
Contract Pricing ____
Special Pricing WO#: _____

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	Analysis: MCP-14 Metals	PAHs by SIM	TOC	SVOCs	PCBs (Aroclors)	EPH	Hexavalent Chromium	Reactivity (Sulfide and Cyanide)	VOCs	% water	Grain Size Analysis	Comment #
7	3-27-15	09:24	G	S	GZ-201 (0'-3')		X		X	X	X	X	X	X	X	X	X	(1)
8					LC-106 (0'-0.5')		X	X	X	X	X	X						
9					LC-106 (0.5'-2')		X	X	X	X	X	X						
					LC-~~106~~ 110 (2'-4')		HOLD AND FREEZE											
10					LC-106 (4'-6')		X	X										
		↓			LC-106 (6'-7')		HOLD AND FREEZE											
11		1027			LC-110 (0'-0.5')		X	X	X	X	X	X						
					LC-110 (0.5'-2')		HOLD AND FREEZE											
12					LC-110 (2'-4')		X	X										
	↓	↓	↓	↓	LC-110 (4'-6')		HOLD AND FREEZE											

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-_____

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present ✓ Yes ____No

Seals Intact _____Yes ____No NA: ✓

Cooler Temperature: 3.5 + 2.8 in ice

Sampled by : Daniel Scanlon (Daniel.Scanlon@gza.com)

Comments: (1) TCLP 20X Rule Applies ONLY if noted in comments column

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
[signature]	3/27/15 @ 1430	[signature] 3/27/15 1417	[signature] 3/27/15	1643	[signature] 3/27/15 1816

ESS Laboratory
Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS LAB PROJECT ID 1503512

Turn Time ___X___Standard Rush_____ Approved By: _____

Reporting Limits -

State where samples were collected: **MA** RI CT NH NJ NY ME Other_____

Is this project for any of the following: (please circle)
MA-MCP CT-RCP NJ-DKQP RGP DOD Other____

Electonic Deliverable Yes ✓ No____
Format: Excel ✓ Access___ PDF ✓ Other_____

GZA Project Manager: David E. Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Ave
Norwood, MA 02062
(781) 278-3700

Project No.: 01.0171521.13 Task 001
Project Name: Wynn - Everett
Contract Pricing ____
Special Pricing WO#: _____

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	Analysis: MCP-14 Metals	PAHs by SIM	TOC	SVOCs	PCBs (Aroclors)	EPH	Hexavalent Chromium	Reactivity (Sulfide and Cyanide)	VOCs	% water	Grain Size Analysis	Comment #
	3-27-15	1027	G	S	LC-110 (6'-8')		HOLD	AND	FREEZE									
13		1046			LC-111 (0'-0.5')		X	X	X	X	X	X						
14					LC-111 (0.5'-2')		X	X										
					LC-111 (2'-4')		HOLD	AND	FREEZE									
15					LC-111 (4'-6')		X	X										
					LC-111 (6'-7½')		HOLD		AND	FREEZE								
16		1116			LC-112 (0'-0.5')		X	X	X	X	X	X						
					LC-112 (0.5'-2')		HOLD	AND	FREEZE									
					LC-112 (2'-4')		HOLD	AND	FREEZE									
17					LC-112 (4'-6')		X	X	X	X	X	X						

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-_____

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present _____Yes _____No
Seals Intact _____ Yes _____No NA: _____
Cooler Temperature: 3.5 + 2.8

Sampled by : Daniel Scanlon (Daniel.Scanlon@gza.com)

Comments: (1) TCLP 20X Rule Applies ONLY as noted in comments column

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
[signature]	3/27/15 @ 1430	[signature] 3/27/15 1447	[signature] 3/27/15	1643	[signature] 3/27/15 1816

Page 3 of 3

CERTIFICATE OF ANALYSIS

David E Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Avenue
Norwood, MA 02062

RE: Wynn Everett Sediment Phase (01.0171521.13 Task 001)
ESS Laboratory Work Order Number: 1503556

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.



Laurel Stoddard
Laboratory Director

REVIEWED
By ESS Laboratory at 1:19 pm, Apr 09, 2015

Analytical Summary
The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with NELAC Standards, A2LA and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.

Subcontracted Analyses

TestAmerica Laboratories, Inc. - Burlington, VT	Total Organic Carbon

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503556

SAMPLE RECEIPT

The following samples were received on March 31, 2015 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has performed and reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Data Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

For EPH soil samples, the aromatic range results have been corrected for identified cartridge contaminant in accordance with the CAM protocol.

Lab Number	Sample Name	Matrix	Analysis
1503556-01	GZ-226 0ft-0.5ft	Soil	TOC-LK
1503556-02	GZ-220 0ft-0.5ft	Soil	TOC-LK
1503556-03	GZ-220 0.5ft-2ft	Soil	TOC-LK
1503556-04	GZ-221 0ft-0.5ft	Soil	TOC-LK
1503556-05	GZ-221 0ft-3ft	Soil	TOC-LK
1503556-06	GZ-222 0ft-0.5ft	Soil	TOC-LK
1503556-07	GZ-223 0ft-0.5ft	Soil	TOC-LK
1503556-08	GZ-223 0ft-3ft	Soil	TOC-LK
1503556-09	GZ-224 0ft-0.5ft	Soil	TOC-LK
1503556-10	GZ-224 0.5ft-2ft	Soil	TOC-LK
1503556-11	GZ-214 0ft-0.5ft	Soil	TOC-LK
1503556-12	GZ-214 2ft-4ft	Soil	TOC-LK
1503556-13	GZ-214 4ft-6ft	Soil	TOC-LK
1503556-14	GZ-215 0ft-0.5ft	Soil	TOC-LK
1503556-15	GZ-215 0ft-3ft	Soil	TOC-LK

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503556

PROJECT NARRATIVE

No unusual observations noted.

End of Project Narrative.

DATA USABILITY LINKS

Definitions of Quality Control Parameters

Semivolatile Organics Internal Standard Information

Semivolatile Organics Surrogate Information

Volatile Organics Internal Standard Information

Volatile Organics Surrogate Information

EPH and VPH Alkane Lists

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503556

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

1010A - Flashpoint
6010C - ICP
6020A - ICP MS
7010 - Graphite Furnace
7196A - Hexavalent Chromium
7470A - Aqueous Mercury
7471B - Solid Mercury
8011 - EDB/DBCP/TCP
8015D - GRO/DRO
8081B - Pesticides
8082A - PCB
8100M - TPH
8151A - Herbicides
8260B - VOA
8270D - SVOA
8270D SIM - SVOA Low Level
9014 - Cyanide
9038 - Sulfate
9040C - Aqueous pH
9045D - Solid pH (Corrosivity)
9050A - Specific Conductance
9056A - Anions (IC)
9060A - TOC
9095B - Paint Filter
MADEP 04-1.1 - EPH / VPH

Prep Methods

3005A - Aqueous ICP and Graphite Furnace Digestion
3020A - Aqueous ICP MS Digestion
3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
3060A - Solid Hexavalent Chromium Digestion
3510C - Separatory Funnel Extraction
3520C - Liquid / Liquid Extraction
3540C - Manual Soxhlet Extraction
3541 - Automated Soxhlet Extraction
3546 - Microwave Extraction
3580A - Waste Dilution
5030B - Aqueous Purge and Trap
5030C - Aqueous Purge and Trap
5035 - Solid Purge and Trap

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-226 0ft-0.5ft
Date Sampled: 03/30/15 07:58
Percent Solids: N/A

ESS Laboratory Work Order: 1503556
ESS Laboratory Sample ID: 1503556-01
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**31100** (1000)		TOC-LK		1	SUB	04/02/15 22:51	mg/kg	CD50906

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-220 0ft-0.5ft
Date Sampled: 03/30/15 08:11
Percent Solids: N/A

ESS Laboratory Work Order: 1503556
ESS Laboratory Sample ID: 1503556-02
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**42800** (1000)		TOC-LK		1	SUB	04/02/15 22:57	mg/kg	CD50906

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-220 0.5ft-2ft
Date Sampled: 03/30/15 08:11
Percent Solids: N/A

ESS Laboratory Work Order: 1503556
ESS Laboratory Sample ID: 1503556-03
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**56200** (1000)		TOC-LK		1	SUB	04/02/15 23:04	mg/kg	CD50906

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-221 0ft-0.5ft
Date Sampled: 03/30/15 08:30
Percent Solids: N/A

ESS Laboratory Work Order: 1503556
ESS Laboratory Sample ID: 1503556-04
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**40800** (1000)		TOC-LK		1	SUB	04/02/15 23:10	mg/kg	CD50906

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-221 0ft-3ft
Date Sampled: 03/30/15 08:30
Percent Solids: N/A

ESS Laboratory Work Order: 1503556
ESS Laboratory Sample ID: 1503556-05
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**117000** (1000)		TOC-LK		1	SUB	04/02/15 21:23	mg/kg	CD50906

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-222 0ft-0.5ft
Date Sampled: 03/30/15 09:05
Percent Solids: N/A

ESS Laboratory Work Order: 1503556
ESS Laboratory Sample ID: 1503556-06
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**57100** (1000)		TOC-LK		1	SUB	04/02/15 23:23	mg/kg	CD50906

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-223 0ft-0.5ft
Date Sampled: 03/30/15 09:18
Percent Solids: N/A

ESS Laboratory Work Order: 1503556
ESS Laboratory Sample ID: 1503556-07
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**43200** (1000)		TOC-LK		1	SUB	04/02/15 23:29	mg/kg	CD50906

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-223 0ft-3ft
Date Sampled: 03/30/15 09:18
Percent Solids: N/A

ESS Laboratory Work Order: 1503556
ESS Laboratory Sample ID: 1503556-08
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**47200** (1000)		TOC-LK		1	SUB	04/02/15 23:35	mg/kg	CD50906

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-224 0ft-0.5ft
Date Sampled: 03/30/15 09:45
Percent Solids: N/A

ESS Laboratory Work Order: 1503556
ESS Laboratory Sample ID: 1503556-09
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**28600** (1000)		TOC-LK		1	SUB	04/02/15 23:42	mg/kg	CD50906

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-224 0.5ft-2ft
Date Sampled: 03/30/15 09:45
Percent Solids: N/A

ESS Laboratory Work Order: 1503556
ESS Laboratory Sample ID: 1503556-10
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**38400** (1000)		TOC-LK		1	SUB	04/02/15 23:48	mg/kg	CD50906

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-214 0ft-0.5ft
Date Sampled: 03/30/15 10:10
Percent Solids: N/A

ESS Laboratory Work Order: 1503556
ESS Laboratory Sample ID: 1503556-11
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**39900** (1000)		TOC-LK		1	SUB	04/02/15 23:55	mg/kg	CD50906

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-214 2ft-4ft
Date Sampled: 03/30/15 10:10
Percent Solids: N/A

ESS Laboratory Work Order: 1503556
ESS Laboratory Sample ID: 1503556-12
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**19000** (1000)		TOC-LK		1	SUB	04/03/15 0:01	mg/kg	CD50906

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-214 4ft-6ft
Date Sampled: 03/30/15 10:10
Percent Solids: N/A

ESS Laboratory Work Order: 1503556
ESS Laboratory Sample ID: 1503556-13
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**16300** (1000)		TOC-LK		1	SUB	04/03/15 0:07	mg/kg	CD50906

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-215 0ft-0.5ft
Date Sampled: 03/30/15 10:40
Percent Solids: N/A

ESS Laboratory Work Order: 1503556
ESS Laboratory Sample ID: 1503556-14
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**29800** (1000)		TOC-LK		1	SUB	04/03/15 0:27	mg/kg	CD50906

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-215 0ft-3ft
Date Sampled: 03/30/15 10:40
Percent Solids: N/A

ESS Laboratory Work Order: 1503556
ESS Laboratory Sample ID: 1503556-15
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**9910** (1000)		TOC-LK		1	SUB	04/03/15 0:33	mg/kg	CD50906

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase ESS Laboratory Work Order: 1503556

Notes and Definitions

ND	Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
I/V	Initial Volume
F/V	Final Volume
§	Subcontracted analysis; see attached report
1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of target analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.
Avg	Results reported as a mathematical average.
NR	No Recovery
[CALC]	Calculated Analyte
SUB	Subcontracted analysis; see attached report
[2C]	Result was taken from the second column. Dual column analysis.

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503556

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Department of Defense (DoD) Environmental Laboratory Accreditation Program (ELAP)
A2LA Accredited: Testing Cert# 2864.01
http://www.a2la.org/scopepdf/2864-01.pdf

Rhode Island Potable and Non Potable Water: LAI00179
http://www.health.ri.gov/find/labs/analytical/ESS.pdf

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750
http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutofStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI0002
http://www.maine.gov/dhhs/mecdc/environmental-health/water/dwp-services/labcert/documents/AllLabs.xls

Massachusetts Potable and Non Potable Water: M-RI002
http://public.dep.state.ma.us/Labcert/Labcert.aspx

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424
http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313
http://www.wadsworth.org/labcert/elap/comm.html

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006
http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752
http://www.depweb.state.pa.us/portal/server.pt/community/labs/13780/laboratory_accreditation_program/590095

CHEMISTRY

A2LA Accredited: Testing Cert # 2864.01
Lead in Paint, Phthalates, Lead in Children's Metals Products (Including Jewelry)
http://www.A2LA.org/dirsearchnew/newsearch.cfm

CPSC ID# 1141
Lead Paint, Lead in Children's Metals Jewelry
http://www.cpsc.gov/cgi-bin/labapplist.aspx

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING



ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Burlington
30 Community Drive
Suite 11
South Burlington, VT 05403
Tel: (802)660-1990

TestAmerica Job ID: 200-27360-1
TestAmerica Sample Delivery Group: 1503556
Client Project/Site: 1503556
Revision: 1

For:
ESS Laboratory
185 Frances Ave.
Cranston, Rhode Island 02910

Attn: Ms. Elizabeth Ouk

Authorized for release by:
4/9/2015 10:38:42 AM

Kathryn Kelly, Project Manager I
(802)660-1990
kathryn.kelly@testamericainc.com

LINKS
Review your project results through TotalAccess
Have a Question? Ask The Expert
Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Qualifiers

General Chemistry

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
U	Indicates the analyte was analyzed for but not detected.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Job ID: 200-27360-1

Laboratory: TestAmerica Burlington

Narrative

CASE NARRATIVE

Client: ESS Laboratory

Project: 1503556

Report Number: 200-27360-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The samples were received on 04/02/2015; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 5.2º C.

TOTAL ORGANIC CARBON

Samples 1503556-01, 1503556-02, 1503556-03, 1503556-04, 1503556-05, 1503556-06, 1503556-07, 1503556-08, 1503556-09, 1503556-10, 1503556-11, 1503556-12, 1503556-13, 1503556-14, and 1503556-15 were analyzed for total organic carbon in accordance with Lloyd Kahn Method. The samples were analyzed on 04/02/2015 and 04/03/2015.

Total Organic Carbon was detected in method blank MB 200-86491/5 at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. Refer to the QC report for details.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: ESS Laboratory
Project/Site: 1503556

TestAmerica Job ID: 200-27360-1
SDG: 1503556

Client Sample ID: 1503556-01 — Lab Sample ID: 200-27360-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	31100		1000	120	mg/Kg	1		Lloyd Kahn	Total/NA

Client Sample ID: 1503556-02 — Lab Sample ID: 200-27360-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	42800		1000	120	mg/Kg	1		Lloyd Kahn	Total/NA

Client Sample ID: 1503556-03 — Lab Sample ID: 200-27360-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	56200		1000	120	mg/Kg	1		Lloyd Kahn	Total/NA

Client Sample ID: 1503556-04 — Lab Sample ID: 200-27360-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	40800		1000	120	mg/Kg	1		Lloyd Kahn	Total/NA

Client Sample ID: 1503556-05 — Lab Sample ID: 200-27360-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	117000	B	1000	120	mg/Kg	1		Lloyd Kahn	Total/NA

Client Sample ID: 1503556-06 — Lab Sample ID: 200-27360-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	57100		1000	120	mg/Kg	1		Lloyd Kahn	Total/NA

Client Sample ID: 1503556-07 — Lab Sample ID: 200-27360-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	43200		1000	120	mg/Kg	1		Lloyd Kahn	Total/NA

Client Sample ID: 1503556-08 — Lab Sample ID: 200-27360-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	47200		1000	120	mg/Kg	1		Lloyd Kahn	Total/NA

Client Sample ID: 1503556-09 — Lab Sample ID: 200-27360-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	28600		1000	120	mg/Kg	1		Lloyd Kahn	Total/NA

Client Sample ID: 1503556-10 — Lab Sample ID: 200-27360-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	38400		1000	120	mg/Kg	1		Lloyd Kahn	Total/NA

Client Sample ID: 1503556-11 — Lab Sample ID: 200-27360-11

This Detection Summary does not include radiochemical test results.

Client Sample ID: 1503556-11 (Continued) — Lab Sample ID: 200-27360-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	39900		1000	120	mg/Kg	1		Lloyd Kahn	Total/NA

Client Sample ID: 1503556-12 — Lab Sample ID: 200-27360-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	19000		1000	120	mg/Kg	1		Lloyd Kahn	Total/NA

Client Sample ID: 1503556-13 — Lab Sample ID: 200-27360-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	16300		1000	120	mg/Kg	1		Lloyd Kahn	Total/NA

Client Sample ID: 1503556-14 — Lab Sample ID: 200-27360-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	29800		1000	120	mg/Kg	1		Lloyd Kahn	Total/NA

Client Sample ID: 1503556-15 — Lab Sample ID: 200-27360-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	9910		1000	120	mg/Kg	1		Lloyd Kahn	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: 1503556-01 — **Lab Sample ID: 200-27360-1**
Date Collected: 03/30/15 07:58
Date Received: 04/02/15 11:00
Matrix: Sediment

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	31100		1000	120	mg/Kg			04/02/15 22:51	1

Client Sample ID: 1503556-02 — **Lab Sample ID: 200-27360-2**
Date Collected: 03/30/15 08:11
Date Received: 04/02/15 11:00
Matrix: Sediment

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	42800		1000	120	mg/Kg			04/02/15 22:57	1

Client Sample ID: 1503556-03 — **Lab Sample ID: 200-27360-3**
Date Collected: 03/30/15 08:11
Date Received: 04/02/15 11:00
Matrix: Sediment

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	56200		1000	120	mg/Kg			04/02/15 23:04	1

Client Sample ID: 1503556-04 — **Lab Sample ID: 200-27360-4**
Date Collected: 03/30/15 08:30
Date Received: 04/02/15 11:00
Matrix: Sediment

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	40800		1000	120	mg/Kg			04/02/15 23:10	1

Client Sample ID: 1503556-05 — **Lab Sample ID: 200-27360-5**
Date Collected: 03/30/15 08:30
Date Received: 04/02/15 11:00
Matrix: Sediment

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	117000	B	1000	120	mg/Kg			04/03/15 21:23	1

Client Sample ID: 1503556-06 — **Lab Sample ID: 200-27360-6**
Date Collected: 03/30/15 09:05
Date Received: 04/02/15 11:00
Matrix: Sediment

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	57100		1000	120	mg/Kg			04/02/15 23:23	1

Client Sample ID: 1503556-07 — **Lab Sample ID: 200-27360-7**
Date Collected: 03/30/15 09:18
Date Received: 04/02/15 11:00
Matrix: Sediment

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	43200		1000	120	mg/Kg			04/02/15 23:29	1

Client Sample ID: 1503556-08 — **Lab Sample ID: 200-27360-8**
Date Collected: 03/30/15 09:18 — **Matrix: Sediment**
Date Received: 04/02/15 11:00

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	47200		1000	120	mg/Kg			04/02/15 23:35	1

Client Sample ID: 1503556-09 — **Lab Sample ID: 200-27360-9**
Date Collected: 03/30/15 09:45 — **Matrix: Sediment**
Date Received: 04/02/15 11:00

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	28600		1000	120	mg/Kg			04/02/15 23:42	1

Client Sample ID: 1503556-10 — **Lab Sample ID: 200-27360-10**
Date Collected: 03/30/15 09:45 — **Matrix: Sediment**
Date Received: 04/02/15 11:00

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	38400		1000	120	mg/Kg			04/02/15 23:48	1

Client Sample ID: 1503556-11 — **Lab Sample ID: 200-27360-11**
Date Collected: 03/30/15 10:10 — **Matrix: Sediment**
Date Received: 04/02/15 11:00

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	39900		1000	120	mg/Kg			04/02/15 23:55	1

Client Sample ID: 1503556-12 — **Lab Sample ID: 200-27360-12**
Date Collected: 03/30/15 10:10 — **Matrix: Sediment**
Date Received: 04/02/15 11:00

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	19000		1000	120	mg/Kg			04/03/15 00:01	1

Client Sample ID: 1503556-13 — **Lab Sample ID: 200-27360-13**
Date Collected: 03/30/15 10:10 — **Matrix: Sediment**
Date Received: 04/02/15 11:00

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	16300		1000	120	mg/Kg			04/03/15 00:07	1

Client Sample ID: 1503556-14 — **Lab Sample ID: 200-27360-14**
Date Collected: 03/30/15 10:40 — **Matrix: Sediment**
Date Received: 04/02/15 11:00

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	29800		1000	120	mg/Kg			04/03/15 00:27	1

Client: ESS Laboratory
Project/Site: 1503556

TestAmerica Job ID: 200-27360-1
SDG: 1503556

Client Sample ID: 1503556-15
Date Collected: 03/30/15 10:40
Date Received: 04/02/15 11:00

Lab Sample ID: 200-27360-15
Matrix: Sediment

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	9910		1000	120	mg/Kg			04/03/15 00:33	1

Method: Lloyd Kahn - Organic Carbon, Total (TOC)

Lab Sample ID: MB 200-86423/5
Matrix: Sediment
Analysis Batch: 86423

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	1000	U	1000	120	mg/Kg			04/02/15 22:13	1

Lab Sample ID: LCS 200-86423/6
Matrix: Sediment
Analysis Batch: 86423

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	20100	20170		mg/Kg		100	75 - 125

Lab Sample ID: MB 200-86491/5
Matrix: Sediment
Analysis Batch: 86491

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	245.0	J	1000	120	mg/Kg			04/03/15 20:45	1

Lab Sample ID: LCS 200-86491/6
Matrix: Sediment
Analysis Batch: 86491

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	20100	20080		mg/Kg		100	75 - 125

QC Association Summary

Client: ESS Laboratory
Project/Site: 1503556

TestAmerica Job ID: 200-27360-1
SDG: 1503556

General Chemistry

Analysis Batch: 86423

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
200-27360-1	1503556-01	Total/NA	Sediment	Lloyd Kahn	
200-27360-2	1503556-02	Total/NA	Sediment	Lloyd Kahn	
200-27360-3	1503556-03	Total/NA	Sediment	Lloyd Kahn	
200-27360-4	1503556-04	Total/NA	Sediment	Lloyd Kahn	
200-27360-6	1503556-06	Total/NA	Sediment	Lloyd Kahn	
200-27360-7	1503556-07	Total/NA	Sediment	Lloyd Kahn	
200-27360-8	1503556-08	Total/NA	Sediment	Lloyd Kahn	
200-27360-9	1503556-09	Total/NA	Sediment	Lloyd Kahn	
200-27360-10	1503556-10	Total/NA	Sediment	Lloyd Kahn	
200-27360-11	1503556-11	Total/NA	Sediment	Lloyd Kahn	
200-27360-12	1503556-12	Total/NA	Sediment	Lloyd Kahn	
200-27360-13	1503556-13	Total/NA	Sediment	Lloyd Kahn	
200-27360-14	1503556-14	Total/NA	Sediment	Lloyd Kahn	
200-27360-15	1503556-15	Total/NA	Sediment	Lloyd Kahn	
LCS 200-86423/6	Lab Control Sample	Total/NA	Sediment	Lloyd Kahn	
MB 200-86423/5	Method Blank	Total/NA	Sediment	Lloyd Kahn	

Analysis Batch: 86491

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
200-27360-5	1503556-05	Total/NA	Sediment	Lloyd Kahn	
LCS 200-86491/6	Lab Control Sample	Total/NA	Sediment	Lloyd Kahn	
MB 200-86491/5	Method Blank	Total/NA	Sediment	Lloyd Kahn	

Lab Chronicle

Client: ESS Laboratory
Project/Site: 1503556

TestAmerica Job ID: 200-27360-1
SDG: 1503556

Client Sample ID: 1503556-01
Lab Sample ID: 200-27360-1
Date Collected: 03/30/15 07:58
Matrix: Sediment
Date Received: 04/02/15 11:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Lloyd Kahn		1	86423	04/02/15 22:51	MDK	TAL BUR

Client Sample ID: 1503556-02
Lab Sample ID: 200-27360-2
Date Collected: 03/30/15 08:11
Matrix: Sediment
Date Received: 04/02/15 11:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Lloyd Kahn		1	86423	04/02/15 22:57	MDK	TAL BUR

Client Sample ID: 1503556-03
Lab Sample ID: 200-27360-3
Date Collected: 03/30/15 08:11
Matrix: Sediment
Date Received: 04/02/15 11:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Lloyd Kahn		1	86423	04/02/15 23:04	MDK	TAL BUR

Client Sample ID: 1503556-04
Lab Sample ID: 200-27360-4
Date Collected: 03/30/15 08:30
Matrix: Sediment
Date Received: 04/02/15 11:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Lloyd Kahn		1	86423	04/02/15 23:10	MDK	TAL BUR

Client Sample ID: 1503556-05
Lab Sample ID: 200-27360-5
Date Collected: 03/30/15 08:30
Matrix: Sediment
Date Received: 04/02/15 11:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Lloyd Kahn		1	86491	04/03/15 21:23	MDK	TAL BUR

Client Sample ID: 1503556-06
Lab Sample ID: 200-27360-6
Date Collected: 03/30/15 09:05
Matrix: Sediment
Date Received: 04/02/15 11:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Lloyd Kahn		1	86423	04/02/15 23:23	MDK	TAL BUR

Lab Chronicle

Client: ESS Laboratory
Project/Site: 1503556

TestAmerica Job ID: 200-27360-1
SDG: 1503556

Client Sample ID: 1503556-07 — Lab Sample ID: 200-27360-7

Date Collected: 03/30/15 09:18 — **Matrix: Sediment**
Date Received: 04/02/15 11:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Lloyd Kahn		1	86423	04/02/15 23:29	MDK	TAL BUR

Client Sample ID: 1503556-08 — Lab Sample ID: 200-27360-8

Date Collected: 03/30/15 09:18 — **Matrix: Sediment**
Date Received: 04/02/15 11:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Lloyd Kahn		1	86423	04/02/15 23:35	MDK	TAL BUR

Client Sample ID: 1503556-09 — Lab Sample ID: 200-27360-9

Date Collected: 03/30/15 09:45 — **Matrix: Sediment**
Date Received: 04/02/15 11:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Lloyd Kahn		1	86423	04/02/15 23:42	MDK	TAL BUR

Client Sample ID: 1503556-10 — Lab Sample ID: 200-27360-10

Date Collected: 03/30/15 09:45 — **Matrix: Sediment**
Date Received: 04/02/15 11:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Lloyd Kahn		1	86423	04/02/15 23:48	MDK	TAL BUR

Client Sample ID: 1503556-11 — Lab Sample ID: 200-27360-11

Date Collected: 03/30/15 10:10 — **Matrix: Sediment**
Date Received: 04/02/15 11:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Lloyd Kahn		1	86423	04/02/15 23:55	MDK	TAL BUR

Client Sample ID: 1503556-12 — Lab Sample ID: 200-27360-12

Date Collected: 03/30/15 10:10 — **Matrix: Sediment**
Date Received: 04/02/15 11:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Lloyd Kahn		1	86423	04/03/15 00:01	MDK	TAL BUR

Lab Chronicle

Client: ESS Laboratory
Project/Site: 1503556

TestAmerica Job ID: 200-27360-1
SDG: 1503556

Client Sample ID: 1503556-13

Date Collected: 03/30/15 10:10
Date Received: 04/02/15 11:00

Lab Sample ID: 200-27360-13

Matrix: Sediment

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Lloyd Kahn		1	86423	04/03/15 00:07	MDK	TAL BUR

Client Sample ID: 1503556-14

Date Collected: 03/30/15 10:40
Date Received: 04/02/15 11:00

Lab Sample ID: 200-27360-14

Matrix: Sediment

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Lloyd Kahn		1	86423	04/03/15 00:27	MDK	TAL BUR

Client Sample ID: 1503556-15

Date Collected: 03/30/15 10:40
Date Received: 04/02/15 11:00

Lab Sample ID: 200-27360-15

Matrix: Sediment

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Lloyd Kahn		1	86423	04/03/15 00:33	MDK	TAL BUR

Laboratory References:

TAL BUR = TestAmerica Burlington, 30 Community Drive, Suite 11, South Burlington, VT 05403, TEL (802)660-1990

Certification Summary

Client: ESS Laboratory
Project/Site: 1503556

TestAmerica Job ID: 200-27360-1
SDG: 1503556

Laboratory: TestAmerica Burlington

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Connecticut	State Program	1	PH-0751	09-30-15
DE Haz. Subst. Cleanup Act (HSCA)	State Program	3	NA	02-13-16
Florida	NELAP	4	E87467	06-30-15
L-A-B	DoD ELAP		L2336	02-26-17
Maine	State Program	1	VT00008	04-17-15 *
Minnesota	NELAP	5	050-999-436	12-31-15
New Hampshire	NELAP	1	2006	12-18-15
New Jersey	NELAP	2	VT972	06-30-15
New York	NELAP	2	10391	03-31-16
Pennsylvania	NELAP	3	68-00489	04-30-15 *
Rhode Island	State Program	1	LAO00298	12-30-15
US Fish & Wildlife	Federal		LE-058448-0	02-28-16
USDA	Federal		P330-11-00093	10-28-16
Vermont	State Program	1	VT-4000	12-31-15
Virginia	NELAP	3	460209	12-14-15

* Certification renewal pending - certification considered valid.

Method Summary

Client: ESS Laboratory
Project/Site: 1503556

TestAmerica Job ID: 200-27360-1
SDG: 1503556

Method	Method Description	Protocol	Laboratory
Lloyd Kahn	Organic Carbon, Total (TOC)	EPA	TAL BUR

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

TAL BUR = TestAmerica Burlington, 30 Community Drive, Suite 11, South Burlington, VT 05403, TEL (802)660-1990

Sample Summary

Client: ESS Laboratory
Project/Site: 1503556

TestAmerica Job ID: 200-27360-1
SDG: 1503556

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
200-27360-1	1503556-01	Sediment	03/30/15 07:58	04/02/15 11:00
200-27360-2	1503556-02	Sediment	03/30/15 08:11	04/02/15 11:00
200-27360-3	1503556-03	Sediment	03/30/15 08:11	04/02/15 11:00
200-27360-4	1503556-04	Sediment	03/30/15 08:30	04/02/15 11:00
200-27360-5	1503556-05	Sediment	03/30/15 08:30	04/02/15 11:00
200-27360-6	1503556-06	Sediment	03/30/15 09:05	04/02/15 11:00
200-27360-7	1503556-07	Sediment	03/30/15 09:18	04/02/15 11:00
200-27360-8	1503556-08	Sediment	03/30/15 09:18	04/02/15 11:00
200-27360-9	1503556-09	Sediment	03/30/15 09:45	04/02/15 11:00
200-27360-10	1503556-10	Sediment	03/30/15 09:45	04/02/15 11:00
200-27360-11	1503556-11	Sediment	03/30/15 10:10	04/02/15 11:00
200-27360-12	1503556-12	Sediment	03/30/15 10:10	04/02/15 11:00
200-27360-13	1503556-13	Sediment	03/30/15 10:10	04/02/15 11:00
200-27360-14	1503556-14	Sediment	03/30/15 10:40	04/02/15 11:00
200-27360-15	1503556-15	Sediment	03/30/15 10:40	04/02/15 11:00

ESS Laboratory — T. America — CHAIN OF CUSTODY

Division of Thielsch Engineering, Inc.
185 Frances Avenue,Cranston RI 02910-2211
Tel. (401)461-7181 Fax (401)461-4486
www.esslaboratory.com

ESS Lab # 1503556

Turn Time _____Standard Other **5 DAY**

Reporting Limits - _____

Regulatory State: **MA** RI CT NH NJ NY ME Other_____

Is this project for any of the following:(please circle)
MA-MCP Navy USACE CT DEP Other_____

Electonic Deliverables **Excel** Access **PDF** *

Co. Name	Project #	Project Name
ESS Laboratory		

Contact Person	Proj. Location
Christine Taylor	

Address	City , State	Zip	PO #
			B02192

Tel.	email:	email:
ext. 3039	ctaylor@thielsch.com	smorrell@thielsch.com

ESS Lab ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample ID	Pres Code	# of Containers	Type of Container	Vol of Container	Analysis: TOC Lloyd Kahn								
	3/30/15	0758	G	SED	1503556-01	1	1	G	2oz	X								
	3/30/15	0811	G	SED	1503556-02	1	1	G	2oz	X								
	3/30/15	0811	G	SED	1503556-03	1	1	G	2oz	X								
	3/30/15	0830	G	SED	1503556-04	1	1	G	2oz	X								
	3/30/15	0830	G	SED	1503556-05	1	1	G	2oz	X								
	3/30/15	0905	G	SED	1503556-06	1	1	G	2oz	X								
	3/30/15	0918	G	SED	1503556-07	1	1	G	2oz	X								
	3/30/15	0918	G	SED	1503556-08	1	1	G	2oz	X								
	3/30/15	0945	G	SED	1503556-09	1	1	G	2oz	X								
	3/30/15	0945	G	SED	1503556-10	1	1	G	2oz	X								
	3/30/15	1010	G	SED	1503556-11	1	1	G	2oz	X								
	3/30/15	1010	G	SED	1503556-12	1	1	G	2oz	X								
	3/30/15	1010	G	SED	1503556-13	1	1	G	2oz	X								
	3/30/15	1040	G	SED	1503556-14	1	1	G	2oz	X								
	3/30/15	1040	G	SED	1503556-15	1	1	G	2oz	X								

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present _____Yes _____No

Seals Intact ____ Yes _____No NA:____

Cooler Temperature: _____

Internal Use Only

[ ] Pickup

[ ] Technician____

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-_____

Sampled by :

Comments:

Relinquished by: (Signature, Date & Time)	Received by: (Signature, Date & Time)	Relinquished by: (Signature, Date & Time)	Received by: (Signature, Date & Time)
4/1/15 1410	4/1/15 1615	16:00 4/1/15	*
Relinquished by: (Signature, Date & Time)	Received by: (Signature, Date & Time)	Relinquished by: (Signature, Date & Time)	Received by: (Signature, Date & Time)
	* 4/2/15 TABLV 1100		

* By circling MA-MCP, client acknowledges sampels were collected in accordance with MADEP CAM VIIA

Please fax to the laboratory all changes to Chain of Custody

Report Method Blank & Laboratory Control Sample Results

200-27360 Chain of Custody



ORIGIN ID:BXCA (781) 466-6900
PAUL HOBART
TESTAMERICA
240 BEAR HILL ROAD
SUITE 104
WALTHAM, MA 02451
UNITED STATES US

SHIP DATE: 01APR15
ACTWGT: 49.3 LB
CAD: 590687/CAFE2807

BILL RECIPIENT

TO SAMPLE RECEIVING
TESTAMERICA BURLINGTON
30 COMMUNITY DRIVE
SUITE 11
SOUTH BURLINGTON VT 05403
(802) 660-1990 REF:
INV:
PO: DEPT:

FedEx Express

THU - 02 APR AA
STANDARD OVERNIGHT

TRK# 0201 4258 8388 7934

EK BTVA

05403
VT-US BTV

Part # 156148-43-1 RIT2 07/14 ea

Login Sample Receipt Checklist

Client: ESS Laboratory

Job Number: 200-27360-1
SDG Number: 1503556

Login Number: 27360
List Number: 1
Creator: Atherton, Joel E

List Source: TestAmerica Burlington

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	TAMPER EVIDENT TAPE
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	5.2ºC
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	IDs on containers do not match the COC. Logged in per COC.
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Sample and Cooler Receipt Checklist

Client: GZA GeoEnvironmental, Inc.
Client Project ID: _____
Shipped/Delivered Via: ESS Courier

ESS Project ID: 15030556
Date Project Due: 4/7/15
Days For Project: 5 Day

Items to be checked upon receipt:

1. Air Bill Manifest Present?	* No	10. Are the samples properly preserved:	Yes
Air No.:		11. Proper sample containers used?	Yes
2. Were Custody Seals Present?	No	12. Any air bubbles in the VOA vials?	N/A
3. Were Custody Seals Intact?	N/A	13. Holding times exceeded?	No
4. Is Radiation count < 100 CPM?	Yes	14. Sufficient sample volumes?	Yes
5. Is a cooler present?	Yes	15. Any Subcontracting needed?	* Yes
Cooler Temp: **4.6**		16. Are ESS labels on correct containers?	**Yes|No**
Iced With: **Ice**		17. Were samples received intact?	**Yes|No**
6. Was COC included with samples?	Yes	ESS Sample IDs: 01-15	
7. Was COC signed and dated by client?	Yes	Sub Lab: Test America	
8. Does the COC match the sample	Yes	Analysis: TOC - LK	
9. Is COC complete and correct?	Yes	TAT: 5DAY	

18. Was there need to call project manager to discuss status? If yes, please explain.

No labels on jars, sample IDs on caps. TA 3/31/15

Who was called?:_____ By whom? _____

Sample Number	Properly Preserved	Container Type	# of Containers	Preservative
1	Yes	2 oz Soil Jar	1	NP
2	Yes	2 oz Soil Jar	1	NP
3	Yes	2 oz Soil Jar	1	NP
4	Yes	2 oz Soil Jar	1	NP
5	Yes	2 oz Soil Jar	1	NP
6	Yes	2 oz Soil Jar	1	NP
7	Yes	2 oz Soil Jar	1	NP
8	Yes	2 oz Soil Jar	1	NP
9	Yes	2 oz Soil Jar	1	NP
10	Yes	2 oz Soil Jar	1	NP
11	Yes	2 oz Soil Jar	1	NP
12	Yes	2 oz Soil Jar	1	NP
13	Yes	2 oz Soil Jar	1	NP
14	Yes	2 oz Soil Jar	1	NP
15	Yes	2 oz Soil Jar	1	NP

Completed By: _____ Date/Time: 3/31/15 1250
Reviewed By: _____ Date/Time: 3/31/15 1320

ESS Laboratory

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS LAB PROJECT ID: 503536

Turn Time ___X___ Standard Rush_____ Approved By: _____

Reporting Limits -

State where samples were collected: **MA** RI CT NH NJ NY ME Other_____

Is this project for any of the following: (please circle)
MA-MCP CT-RCP NJ-DKQP RGP DOD Other___

Electonic Deliverable Yes ✓ No___
Format: Excel ✓ Access___ PDF ✓ Other_____

GZA Project Manager: David E. Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Ave
Norwood, MA 02062
(781) 278-3700

Project No.: 01.0171521.13 Task 001

Project Name: Wynn - Everett

Contract Pricing _____
Special Pricing WO#: _____

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	MCP 14 Metals	PAHs by SIM	TOC	SVOCs	PCBs (Aroclors)	EPH	Hexavalent Chromium	Reactivity (Sulfide and Cyanide)	VOCs	% water	Grain Size Analysis	Comment #
1	3-30-15	0758	G	S	GZ-226 (0'-0.5')		X	X	X	X	X	X						
					GZ-226 (0.5'-2')		X	X										
		↓			GZ-226 (2'-4')		X	X										
2		08:11			GZ-220 (0'-0.5')		X	X	X	X	X	X						
3					GZ-220 (0.5'-2')		X	X	X	X	X	X						
					GZ-220 (2'-4')		X	X										
		↓			GZ-220 (4'-6')		HOLD AND FREEZE											
4		0830			GZ-221 (0'-0.5')		X	X	X	X	X							
					GZ-221 (0.5'-2')		HOLD AND FREEZE											
		↓	↓	↓	GZ-221 (2'-4')		HOLD AND FREEZE											

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-_____

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present ___X___Yes _____No

Seals Intact _____ Yes _____No NA: X

Cooler Temperature: 3.1°/4.6°ICE

Sampled by : Daniel Scanlon (Daniel.Scanlon@gza.com)

Comments: (1) TCLP 20X Rule Applies ONLY if noted in the comments column
TOC only to be reported with this WO - cmt 4/1/15

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
	3/30/15 @ 1400	0700 Bill Burcan 3/31/15	0830 Bill Burcan 3/31/15		3/31/15 1227

Page 1 of 4

ESS Laboratory

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS LAB PROJECT ID: 1503556

Turn Time ___X___ Standard Rush_____ Approved By: _____

Reporting Limits -

State where samples were collected: **MA** RI CT NH NJ NY ME Other_____

Is this project for any of the following: (please circle)
MA-MCP CT-RCP NJ-DKQP RGP DOD Other____

Electonic Deliverable Yes ✓ No___
Format: Excel ✓ Access___ PDF ✓ Other____

GZA Project Manager: David E. Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Ave
Norwood, MA 02062
(781) 278-3700

Project No.: 01.0171521.13 Task 001

Project Name: Wynn - Everett

Contract Pricing ____
Special Pricing WO#: _____

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	Analysis: MCP 14 Metals	PAHs by SIM	TOC	SVOCs	PCBs (Aroclors)	EPH	Hexavalent Chromium	Reactivity (Sulfide and Cyanide)	VOCs	% water	Grain Size Analysis	Comment #
	3/30/15	0830	G	S	GZ-221 (4'-6')		X	X										
5		0830			GZ-221 (0'-3')		X		X	X	X	X	X	X	X	X	X	(1)
6		09:05			GZ-222 (0'-0.5')		X	X	X	X	X	X						
					GZ-222 (0.5'-2')		X	X										
					GZ-222 (2'-4')		X	X										
		↓			GZ-222 (4'-6')		HOLD AND FREEZE											
7		09:18			GZ-223 (0'-0.5')		X	X	X	X	X	X						
					GZ-223 (0.5'-2')		HOLD AND FREEZE											
					GZ-223 (2'-4')		X	X										
8	↓	↓	↓	↓	GZ-223 (0'-3')		X		X	X	X	X	X	X	X	X	X	(1)

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-____

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present ___X___ Yes _____ No

Seals Intact _____ Yes _____ No NA: X

Cooler Temperature: 3.1°/4.6° ICE MC 3/31/15

Sampled by : Daniel Scanlon (Daniel.Scanlon@gza.com)

Comments: (1) TCLP 20X Rule Applies ONLY if noted in comments column.

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
[signature]	3/30/15 @ 1400	Bill Buscon 3/31/15 0730	Bill Buscon 3/31/15 0930		[signature] 3/31/15 1227

ESS Laboratory

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS LAB PROJECT ID: 153536

Turn Time ___X___ Standard Rush_____ Approved By: _____

Reporting Limits -

State where samples were collected: **MA** RI CT NH NJ NY ME Other_____

Is this project for any of the following: (please circle)
MA-MCP CT-RCP NJ-DKQP RGP DOD Other___

Electonic Deliverable Yes ✓ No___
Format: Excel ✓ Access___ PDF ✓ Other___

GZA Project Manager: David E. Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Ave
Norwood, MA 02062
(781) 278-3700

Project No.: 01.0171521.13 Task 001

Project Name: Wynn - Everett

Contract Pricing ____
Special Pricing WO#: _____

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	MCP-14 Metals	PAHs by SIM	TOC	SVOCs	PCBs (Aroclors)	EPH	Hexavalent Chromium	Reactivity (Sulfide and Cyanide)	VOCs	% Water	Grain Size Analysis	Comment #
9	3/30/15	0945	G	S	GZ-224 (0'-0.5')		X	X	X	X	X	X						
10					GZ-224 (0.5'-2')		X	X	X	X	X	X						
		↓			GZ-224 (2'-3')		HOLD	AND	PRESERVE									
11		1010			GZ-214 (0'-0.5')		X	X	X	X	X	X						
					GZ-214 (0.5'-2')		HOLD	AND	PRESERVE									
12					GZ-214 (2'-4')		X	X	X	X	X	X						
13					GZ-214 (4'-6')		X	X	X	X	X	X						
		↓			GZ-214 (6'-8')		HOLD	AND	PRESERVE									
14		1040			GZ-215 (0'-0.5')		X	X										
		1040	↓	↓	GZ-215 (0.5'-2')		X	X	X	X	X	X						
							HOLD	AND	PRESERVE									

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-____

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present ___X___ Yes _____ No

Seals Intact _____ Yes _____ No NA: X

Cooler Temperature: 3.1°/4.6° ICE @ 3/31/15

Sampled by : Daniel Scanlon (Daniel.Scanlon@gza.com)

Comments: (1) TCLP 20X Rule Applies ONLY if noted in comments column.

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Daniel Scanlon	3/30/15 @ 1400	0700 B. Bisson 3/31/15	0830 B. Bisson 3/31/15		3/31/15 1227

ESS Laboratory

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS LAB PROJECT ID: 1503556

Turn Time ___X___Standard Rush_____ Approved By: _____

Reporting Limits -

State where samples were collected: **MA** RI CT NH NJ NY ME Other_____

Is this project for any of the following: (please circle)
MA-MCP CT-RCP NJ-DKQP RGP DOD Other____

Electonic Deliverable Yes ✓ No___
Format: Excel ✓ Access___ PDF ✓ Other____

GZA Project Manager: David E. Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Ave
Norwood, MA 02062
(781) 278-3700

Project No.: 01.0171521.13 Task 001

Project Name: Wynn - Everett

Contract Pricing ____
Special Pricing WO#: _____

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	MCP 14 Metals	PAHs by SIM	TOC	SVOCs	PCBs (Aroclors)	EPH	Hexavalent Chromium	Reactivity (Sulfide and Cyanide)	VOCs	% water	Grain Size Analysis	Comment #
	3/30/15	1040	G	S	GZ-215 (2'-4')		HOLD	AND				FREEZE						
	↓	↓	G	S	GZ-215 (4'-6')		X	X										
15	↓	↓	G	S	GZ-215 (0'-3')		X	X	X	X	X	X	X	X	X	X	X	(1)

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-_____
Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA
Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present ___X___Yes _____No
Seals Intact _____Yes _____No NA: X
Cooler Temperature: 3.1°/4.6°C IR 3/31/15

Sampled by : Daniel Scanlon (Daniel.Scanlon@gza.com)

Comments: (1) TCLP 20X Rule Applies ONLY if indicated in comments column

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
	3/30/15 1400	0700 3/31/15	0850		3/31/15 1227

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ESS Laboratory — T. America — CHAIN OF CUSTODY

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston RI 02910-2211
Tel. (401)461-7181 Fax (401)461-4486
www.esslaboratory.com

ESS Lab # 1503556

Turn Time _____Standard Other **5 DAY**

Regulatory State: **MA** RI CT NH NJ NY ME Other_____

Is this project for any of the following:(please circle)
MA-MCP Navy USACE CT DEP Other_____

Reporting Limits - _____

Electonic Deliverables **Excel** Access **PDF** *

Co. Name: **ESS Laboratory** | Project # | Project Name

Contact Person: **Christine Taylor** | Proj. Location

Address | City , State | Zip | PO # B02192

Tel. ext. 3039 | email: ctaylor@thielsch.com | email: smorrell@thielsch.com

ESS Lab ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample ID	Pres Code	# of Containers	Type of Container	Vol of Container	Analysis: TOC Lloyd Kahn								
	3/30/15	0758	G	SED	1503556-01	1	1	G	2oz	X								
	3/30/15	0811	G	SED	1503556-02	1	1	G	2oz	X								
	3/30/15	0811	G	SED	1503556-03	1	1	G	2oz	X								
	3/30/15	0830	G	SED	1503556-04	1	1	G	2oz	X								
	3/30/15	0830	G	SED	1503556-05	1	1	G	2oz	X								
	3/30/15	0905	G	SED	1503556-06	1	1	G	2oz	X								
	3/30/15	0918	G	SED	1503556-07	1	1	G	2oz	X								
	3/30/15	0918	G	SED	1503556-08	1	1	G	2oz	X								
	3/30/15	0945	G	SED	1503556-09	1	1	G	2oz	X								
	3/30/15	0945	G	SED	1503556-10	1	1	G	2oz	X								
	3/30/15	1010	G	SED	1503556-11	1	1	G	2oz	X								
	3/30/15	1010	G	SED	1503556-12	1	1	G	2oz	X								
	3/30/15	1010	G	SED	1503556-13	1	1	G	2oz	X								
	3/30/15	1040	G	SED	1503556-14	1	1	G	2oz	X								
	3/30/15	1040	G	SED	1503556-15	1	1	G	2oz	X								

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present _____Yes _____No

Seals Intact ____ Yes _____No NA:____

Cooler Temperature: _____

Internal Use Only

[ ] Pickup

[ ] Technician____

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-_____

Sampled by :

Comments:

Relinquished by: (Signature, Date & Time)	Received by: (Signature, Date & Time)	Relinquished by: (Signature, Date & Time)	Received by: (Signature, Date & Time)
4/1/15 1410	4/1/15 14:10		
Relinquished by: (Signature, Date & Time)	Received by: (Signature, Date & Time)	Relinquished by: (Signature, Date & Time)	Received by: (Signature, Date & Time)

* By circling MA-MCP, client acknowledges sampels were collected in accordance with MADEP CAM VIIA

Please fax to the laboratory all changes to Chain of Custody

Report Method Blank & Laboratory Control Sample Results

ESS Laboratory

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS LAB PROJECT ID: 503536

Turn Time ___X___ Standard Rush_____ Approved By: _____

Reporting Limits -

State where samples were collected: **MA** RI CT NH NJ NY ME Other_____

Is this project for any of the following: (please circle)
MA-MCP CT-RCP NJ-DKQP RGP DOD Other___

Electonic Deliverable Yes ✓ No___
Format: Excel ✓ Access___ PDF ✓ Other_____

GZA Project Manager: David E. Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Ave
Norwood, MA 02062
(781) 278-3700

Project No.: 01.0171521.13 Task 001

Project Name: Wynn - Everett

Contract Pricing ____
Special Pricing WO#: _____

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	MCP-14 Metals	PAHs by SIM	TOC	SVOCs	PCBs (Aroclors)	EPH	Hexavalent Chromium	Reactivity (Sulfide and Cyanide)	VOCs	% water	Grain Size Analysis	Comment #
1	3-30-15	0758	G	S	GZ-226 (0'-0.5')		X	X	X	X	X	X						
					GZ-226 (0.5'-2')		X	X										
		↓			GZ-226 (2'-4')		X	X										
2		08:11			GZ-220 (0'-0.5')		X	X	X	X	X	X						
3					GZ-220 (0.5'-2')		X	X	X	X	X	X						
					GZ-220 (2'-4')		X	X										
		↓			GZ-220 (4'-6')		HOLD AND FREEZE											
4		0830			GZ-221 (0'-0.5')		X	X	X	X	X							
					GZ-221 (0.5'-2')		HOLD AND FREEZE											
	↓	↓	↓	↓	GZ-221 (2'-4')		HOLD AND FREEZE											

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-_____

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present ___X___Yes _____No

Seals Intact _____ Yes _____No NA: X

Cooler Temperature: 3.1°/4.6°ICE

Sampled by : Daniel Scanlon (Daniel.Scanlon@gza.com)

Comments: (1) TCLP 20X Rule Applies ONLY if note in the comments column

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
	3/30/15 @ 1400	0700 Bill Buccan 3/31/15	0830 Bill Buccan 3/31/15		3/31/15 1227

Page 1 of 4

ESS Laboratory

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS LAB PROJECT ID: 1503556

Turn Time ___X___Standard Rush_____ Approved By: _____

Reporting Limits -

State where samples were collected: **MA** RI CT NH NJ NY ME Other_____

Is this project for any of the following: (please circle)
MA-MCP CT-RCP NJ-DKQP RGP DOD Other____

Electonic Deliverable Yes ✓ No___
Format: Excel ✓ Access___ PDF ✓ Other____

GZA Project Manager: David E. Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Ave
Norwood, MA 02062
(781) 278-3700

Project No.: 01.0171521.13 Task 001

Project Name: Wynn - Everett

Contract Pricing ____
Special Pricing WO#: _____

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	Analysis: MCP-14 Metals	PAHs by SIM	TOC	SVOCs	PCBs (Aroclors)	EPH	Hexavalent Chromium	Reactivity (Sulfide and Cyanide)	VOCs	% water	Grain Size Analysis	Comment #
	3/30/15	0830	G	S	GZ-221 (4'-6')		X	X										
5		0830			GZ-221 (0'-3')		X		X	X	X	X	X	X	X	X	X	(1)
6		09:05			GZ-222 (0'-0.5')		X	X	X	X	X	X						
					GZ-222 (0.5'-2')		X	X										
					GZ-222 (2'-4')		X	X										
					GZ-222 (4'-6')		HOLD AND FREEZE											
7		09:18			GZ-223 (0'-0.5')		X	X	X	X	X	X						
					GZ-223 (0.5'-2')		HOLD AND FREEZE											
					GZ-223 (2'-4')		X	X										
8					GZ-223 (0'-3')		X		X	X	X	X	X	X	X	X	X	(1)

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-____

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present ___X___Yes _____No

Seals Intact _____Yes _____No NA: X

Cooler Temperature: 3.1°/4.6° ICE MC 3/31/15

Sampled by : Daniel Scanlon (Daniel.Scanlon@gza.com)

Comments: (1) TCLP 20X Rule Applies ONLY if noted in comments column.

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
[signature]	3/30/15 @ 1400	Bill Buscon 3/31/15 0730	Bill Buscon 3/31/15 0930		[signature] 3/31/15 1227

ESS Laboratory

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS LAB PROJECT ID: 503556

Turn Time ___X___ Standard Rush_____ Approved By: _____

Reporting Limits -

State where samples were collected: **MA** RI CT NH NJ NY ME Other_____

Is this project for any of the following: (please circle)
MA-MCP CT-RCP NJ-DKQP RGP DOD Other___

Electonic Deliverable Yes ✓ No___
Format: Excel ✓ Access___ PDF ✓ Other___

GZA Project Manager: David E. Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Ave
Norwood, MA 02062
(781) 278-3700

Project No.: 01.0171521.13 Task 001

Project Name: Wynn - Everett

Contract Pricing ____
Special Pricing WO#: _____

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	MCP-14 Metals	PAHs by SIM	TOC	SVOCs	PCBs (Aroclors)	EPH	Hexavalent Chromium	Reactivity (Sulfide and Cyanide)	VOCs	% water	Grain Size Analysis	Comment #
9	3/30/15	0945	G	S	GZ-224 (0'-0.5')		X	X	X	X	X	X						
10					GZ-224 (0.5'-2')		X	X	X	X	X	X						
		↓			GZ-224 (2'-3')		HOLD	AND	FREEZE									
11		1010			GZ-214 (0'-0.5')		X	X	X	X	X	X						
					GZ-214 (0.5'-2')		HOLD	AND	FREEZE									
12					GZ-214 (2'-4')		X	X	X	X	X	X						
13					GZ-214 (4'-6')		X	X	X	X	X	X						
		↓			GZ-214 (6'-8')		X	X										
14		1040			GZ-215 (0'-0.5')		X	X	X	X	X	X						
	↓	1040	↓	↓	GZ-215 (0.5'-2')		HOLD	AND	FREEZE									

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-____

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present ✓ Yes ____ No

Seals Intact ____ Yes ____ No NA: X

Cooler Temperature: 3.1°/4.6° ICE @ 3/31/15

Sampled by : Daniel Scanlon (Daniel.Scanlon@gza.com)

Comments: (1) TCLP 20X Rule Applies ONLY if noted in comments column.

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
[signature]	3/30/15 @ 1400	[signature] 0700 3/31/15	[signature] 0800 3/31/15		[signature] 3/31/15 1227

ESS Laboratory

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185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS LAB PROJECT ID: 1503556

Turn Time ___X___Standard Rush_____ Approved By: _____

Reporting Limits -

State where samples were collected: **MA** RI CT NH NJ NY ME Other_____

Is this project for any of the following: (please circle)
MA-MCP CT-RCP NJ-DKQP RGP DOD Other____

Electonic Deliverable Yes ✓ No___
Format: Excel ✓ Access___ PDF ✓ Other____

GZA Project Manager: David E. Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Ave
Norwood, MA 02062
(781) 278-3700

Project No.: 01.0171521.13 Task 001

Project Name: Wynn - Everett

Contract Pricing _____
Special Pricing WO#: _____

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	Analysis: MCP-14 Metals	PAHs by SIM	TOC	SVOCs	PCBs (Aroclors)	EPH	Hexavalent Chromium	Reactivity (Sulfide and Cyanide)	VOCs	% water	Grain Size Analysis	Comment #
	3/30/15	1040	G	S	GZ-215 (2'-4')		HOLD			AND		FREEZE						
	↓	↓	G	S	GZ-215 (4'-6')		X	X										
15	↓	↓	G	S	GZ-215 (0'-3')		X		X	X	X	X	X	X	X	X	X	(1)

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-_____
Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA
Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present ___X___Yes _____No
Seals Intact _____Yes _____No NA: X
Cooler Temperature: 3.1°/4.6°C IR 3/31/15

Sampled by : Daniel Scanlon (Daniel.Scanlon@gza.com)

Comments: (1) TCLP 20X Rule Applies ONLY if indicated in comments column

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
	3/30/15 1400	0700 3/31/15	0850		3/31/15 1227

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CERTIFICATE OF ANALYSIS

David E Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Avenue
Norwood, MA 02062

RE: Wynn Everett Sediment Phase (01.0171521.13 Task 001)
ESS Laboratory Work Order Number: 1503558

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director

REVIEWED
By ESS Laboratory at 9:02 am, Apr 14, 2015

Analytical Summary
The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with NELAC Standards, A2LA and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.

Subcontracted Analyses
CTS - Cranston, RI — Grain Size Analysis, Percent Water

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503558

SAMPLE RECEIPT

The following samples were received on March 31, 2015 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has performed and reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Data Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

For EPH soil samples, the aromatic range results have been corrected for identified cartridge contaminant in accordance with the CAM protocol.

Low Level VOA vials were frozen by <Client/ESS Laboratory> on <Date> at <time>.

Question I: Samples GZ-226 0.5ft-2ft, GZ-226 2ft-4ft, GZ-220 2ft-4ft, GZ-221 4ft-6ft, GZ-222 0.5ft-2ft, GZ-222 2ft-4ft and GZ-223 2ft-4ft (1503558-02, 1503558-03, 1503558-06, 1503558-08, 1503558-11, 1503558-12 and 1503558-14) for SVOA were analyzed for a subset of the required MCP list per the client's request.

Samples were decanted by ESS, per client request, upon receipt.

Lab Number	Sample Name	Matrix	Analysis
1503558-01	GZ-226 0ft-0.5ft	Soil	8270D, EPH8270, MADEP-EPH
1503558-02	GZ-226 0.5ft-2ft	Soil	8270D
1503558-03	GZ-226 2ft-4ft	Soil	8270D
1503558-04	GZ-220 0ft-0.5ft	Soil	8270D, EPH8270, MADEP-EPH
1503558-05	GZ-220 0.5ft-2ft	Soil	8270D, EPH8270, MADEP-EPH
1503558-06	GZ-220 2ft-4ft	Soil	8270D
1503558-07	GZ-221 0ft-0.5ft	Soil	8270D, EPH8270, MADEP-EPH
1503558-08	GZ-221 4ft-6ft	Soil	8270D
1503558-09	GZ-221 0ft-3ft	Soil	§, 2580, 7.3.3.2, 7.3.4.1, 7196A, 8260B Low, 8270D, 9045, EPH8270, MADEP-EPH
1503558-10	GZ-222 0ft-0.5ft	Soil	8270D, EPH8270, MADEP-EPH
1503558-11	GZ-222 0.5ft-2ft	Soil	8270D
1503558-12	GZ-222 2ft-4ft	Soil	8270D
1503558-13	GZ-223 0ft-0.5ft	Soil	8270D, EPH8270, MADEP-EPH

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
ESS Laboratory Work Order: 1503558

1503558-14	GZ-223 2ft-4ft	Soil	8270D
1503558-15	GZ-223 0ft-3ft	Soil	§, 2580, 7.3.3.2, 7.3.4.1, 7196A, 8260B Low, 8270D, 9045, EPH8270, MADEP-EPH
1503558-16	GZ-226 0ft-0.5ft	Soil	6010C, 6020A, 7010, 7471B
1503558-17	GZ-226 0.5ft-2ft	Soil	6010C, 6020A, 7010, 7471B
1503558-18	GZ-226 2ft-4ft	Soil	6010C, 6020A, 7010, 7471B
1503558-19	GZ-220 0ft-0.5ft	Soil	6010C, 6020A, 7010, 7471B
1503558-20	GZ-220 0.5ft-2ft	Soil	6010C, 6020A, 7010, 7471B
1503558-21	GZ-220 2ft-4ft	Soil	6010C, 6020A, 7010, 7471B
1503558-22	GZ-221 0ft-0.5ft	Soil	6010C, 6020A, 7010, 7471B
1503558-23	GZ-221 4ft-6ft	Soil	6010C, 6020A, 7010, 7471B
1503558-24	GZ-221 0ft-3ft	Soil	6010C, 6020A, 7010, 7471B
1503558-25	GZ-222 0ft-0.5ft	Soil	6010C, 6020A, 7010, 7471B
1503558-26	GZ-222 0.5ft-2ft	Soil	6010C, 6020A, 7010, 7471B
1503558-27	GZ-222 2ft-4ft	Soil	6010C, 6020A, 7010, 7471B
1503558-28	GZ-223 0ft-0.5ft	Soil	6010C, 6020A, 7010, 7471B
1503558-29	GZ-223 2ft-4ft	Soil	6010C, 6020A, 7010, 7471B
1503558-30	GZ-223 0ft-3ft	Soil	6010C, 6020A, 7010, 7471B
1503558-31	GZ-226 0ft-0.5ft	Soil	8082A
1503558-32	GZ-220 0ft-0.5ft	Soil	8082A
1503558-33	GZ-220 0.5ft-2ft	Soil	8082A
1503558-34	GZ-221 0ft-0.5ft	Soil	8082A
1503558-35	GZ-221 0ft-3ft	Soil	8082A
1503558-36	GZ-222 0ft-0.5ft	Soil	8082A
1503558-37	GZ-223 0ft-0.5ft	Soil	8082A
1503558-38	GZ-223 0ft-3ft	Soil	8082A

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase ESS Laboratory Work Order: 1503558

PROJECT NARRATIVE

5035/8260B Volatile Organic Compounds / Low Level

CD50146-BSD1 **Blank Spike recovery is above upper control limit (B+).**
Acetone (180% @ 70-130%), Bromomethane (134% @ 70-130%)

CD50146-BSD1 **Relative percent difference for duplicate is outside of criteria (D+).**
Acetone (61% @ 25%)

CD50239-BS1 **Blank Spike recovery is above upper control limit (B+).**
Bromomethane (175% @ 70-130%)

CD50239-BSD1 **Blank Spike recovery is above upper control limit (B+).**
Bromomethane (157% @ 70-130%)

CYD0007-CCV1 **Continuing Calibration recovery is above upper control limit (C+).**
1,2-Dibromo-3-Chloropropane (253% @ 70-130%), Bromomethane (152% @ 70-130%)

CYD0007-CCV1 **Continuing Calibration recovery is below lower control limit (C-).**
1,2-Dichloropropane (79% @ 80-120%)

CYD0025-CCV1 **Continuing Calibration recovery is above upper control limit (C+).**
Bromomethane (168% @ 70-130%)

8082A Polychlorinated Biphenyls (PCB)

1503558-32 **Percent difference between primary and confirmation results exceeds 40% (P).**
Aroclor 1248

1503558-35 **Lower value is used due to matrix interferences (LC).**
Aroclor 1248

1503558-35 **Percent difference between primary and confirmation results exceeds 40% (P).**
Aroclor 1248

1503558-36 **Lower value is used due to matrix interferences (LC).**
Aroclor 1248

1503558-36 **Percent difference between primary and confirmation results exceeds 40% (P).**
Aroclor 1248

1503558-38 **Surrogate recovery(ies) below lower control limit (S-).**
Tetrachloro-m-xylene [2C] (21% @ 30-150%)

8270D Semi-Volatile Organic Compounds

CD50739-BS1 **Blank Spike recovery is below lower control limit (B-).**
Aniline (39% @ 40-140%)

CD50739-BSD1 **Blank Spike recovery is below lower control limit (B-).**
Aniline (38% @ 40-140%)

CYD0041-CCV1 **Continuing Calibration recovery is above upper control limit (C+).**
Di-n-octylphthalate (123% @ 80-120%), p-Terphenyl-d14 (122% @ 80-120%), Pyrene (122% @ 80-120%)

8270D(SIM) Polynuclear Aromatic Hydrocarbons

CD50227-BS1 **Blank Spike recovery is below lower control limit (B-).**

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase ESS Laboratory Work Order: 1503558

Acenaphthylene (10% @ 40-140%)

CD50227-BSD1 **Relative percent difference for duplicate is outside of criteria (D+).**
Acenaphthylene (151% @ 30%), Anthracene (44% @ 30%), Benzo(a)pyrene (49% @ 30%)

CYD0151-CCV1 **Continuing Calibration recovery is above upper control limit (C+).**
Indeno(1,2,3-cd)Pyrene (132% @ 70-130%)

Classical Chemistry

1503558-09 **Estimated value. Sample hold times were exceeded (H).**
Corrosivity (pH) , Corrosivity (pH) Sample Temp , Eh (ORP)

1503558-15 **Estimated value. Sample hold times were exceeded (H).**
Corrosivity (pH) , Corrosivity (pH) Sample Temp , Eh (ORP)

MADEP-EPH Extractable Petroleum Hydrocarbons

CD50135-BSD2 **Relative percent difference for duplicate is outside of criteria (D+).**
2-Methylnaphthalene (39% @ 20%), Acenaphthene (35% @ 20%), Acenaphthylene (39% @ 20%), Anthracene (36% @ 20%), Benzo(a)anthracene (36% @ 20%), Benzo(a)pyrene (34% @ 20%), Benzo(b)fluoranthene (34% @ 20%), Benzo(g,h,i)perylene (34% @ 20%), Benzo(k)fluoranthene (36% @ 20%), C11-C22 Unadjusted Aromatics1 (49% @ 25%), Chrysene (34% @ 20%), Dibenzo(a,h)Anthracene (35% @ 20%), Fluoranthene (34% @ 20%), Fluorene (36% @ 20%), Indeno(1,2,3-cd)Pyrene (35% @ 20%), Naphthalene (37% @ 20%), Phenanthrene (35% @ 20%), Pyrene (34% @ 20%)

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

Definitions of Quality Control Parameters

Semivolatile Organics Internal Standard Information

Semivolatile Organics Surrogate Information

Volatile Organics Internal Standard Information

Volatile Organics Surrogate Information

EPH and VPH Alkane Lists

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503558

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

1010A - Flashpoint
6010C - ICP
6020A - ICP MS
7010 - Graphite Furnace
7196A - Hexavalent Chromium
7470A - Aqueous Mercury
7471B - Solid Mercury
8011 - EDB/DBCP/TCP
8015D - GRO/DRO
8081B - Pesticides
8082A - PCB
8100M - TPH
8151A - Herbicides
8260B - VOA
8270D - SVOA
8270D SIM - SVOA Low Level
9014 - Cyanide
9038 - Sulfate
9040C - Aqueous pH
9045D - Solid pH (Corrosivity)
9050A - Specific Conductance
9056A - Anions (IC)
9060A - TOC
9095B - Paint Filter
MADEP 04-1.1 - EPH / VPH

Prep Methods

3005A - Aqueous ICP and Graphite Furnace Digestion
3020A - Aqueous ICP MS Digestion
3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
3060A - Solid Hexavalent Chromium Digestion
3510C - Separatory Funnel Extraction
3520C - Liquid / Liquid Extraction
3540C - Manual Soxhlet Extraction
3541 - Automated Soxhlet Extraction
3546 - Microwave Extraction
3580A - Waste Dilution
5030B - Aqueous Purge and Trap
5030C - Aqueous Purge and Trap
5035 - Solid Purge and Trap

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase ESS Laboratory Work Order: 1503558

MassDEP Analytical Protocol Certification Form

MADEP RTN: _____

This form provides certification for the following data set: **1503558-01 through 1503558-38**

Matrices: ( ) Ground Water/Surface Water (X) Soil/Sediment ( ) Drinking Water ( ) Air ( ) Other:_____

CAM Protocol (check all that apply below):

(X) 8260 VOC CAM II A	(X) 7470/7471 Hg CAM III B	( ) MassDEP VPH CAM IV A	( ) 8081 Pesticides CAM V B	(X) 7196 Hex Cr CAM VI B	( ) MassDEP APH CAM IX A
(X) 8270 SVOC CAM II B	(X) 7010 Metals CAM III C	(X) MassDEP EPH CAM IV B	( ) 8151 Herbicides CAM V C	( ) 8330 Explosives CAM VIII A	( ) TO-15 VOC CAM IX B
(X) 6010 Metals CAM III A	(X) 6020 Metals CAM III D	(X) 8082 PCB CAM V A	( ) 6860 Perchlorate CAM VIII B	( ) 9014 Total Cyanide/PAC CAM VI A	

Affirmative responses to questions A through F are required for Presumptive Certainty status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	Yes ( ) No (X)
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	Yes (X) No ( )
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	Yes (X) No ( )
D	Does the laboratory report comply with all the reporting requirements specified in the CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	Yes (X) No ( )
E	a. VPH, EPH, APH and TO-15 only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	Yes (X) No ( )
	b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	Yes ( ) No ( )
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	Yes (X) No ( )

Responses to Questions G, H and I below are required for Presumptive Certainty status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocols(s)? ***Data User Note:*** ***Data that achieve Presumptive Certainty status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.***	Yes (X) No ( )*
H	Were **all** QC performance standards specified in the CAM protocol(s) achieved?	Yes ( ) No (X)*
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	Yes ( ) No (X)*

****All negative responses must be addressed in an attached laboratory narrative.***

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: _____ Date: April 14, 2015
Printed Name: Lauren Stoddard Position: Laboratory Director

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-226 0ft-0.5ft
Date Sampled: 03/30/15 07:58
Percent Solids: 55
Initial Volume: 30.1
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503558
ESS Laboratory Sample ID: 1503558-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 4/2/15 15:23

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.304)		8270D		1	04/06/15 20:57	CYD0082	CD50739
1,2-Dichlorobenzene	ND (0.304)		8270D		1	04/06/15 20:57	CYD0082	CD50739
1,3-Dichlorobenzene	ND (0.304)		8270D		1	04/06/15 20:57	CYD0082	CD50739
1,4-Dichlorobenzene	ND (0.304)		8270D		1	04/06/15 20:57	CYD0082	CD50739
2,4,5-Trichlorophenol	ND (0.304)		8270D		1	04/06/15 20:57	CYD0082	CD50739
2,4,6-Trichlorophenol	ND (0.304)		8270D		1	04/06/15 20:57	CYD0082	CD50739
2,4-Dichlorophenol	ND (0.304)		8270D		1	04/06/15 20:57	CYD0082	CD50739
2,4-Dimethylphenol	ND (0.304)		8270D		1	04/06/15 20:57	CYD0082	CD50739
2,4-Dinitrophenol	ND (1.52)		8270D		1	04/06/15 20:57	CYD0082	CD50739
2,4-Dinitrotoluene	ND (0.304)		8270D		1	04/06/15 20:57	CYD0082	CD50739
2,6-Dinitrotoluene	ND (0.304)		8270D		1	04/06/15 20:57	CYD0082	CD50739
2-Chloronaphthalene	ND (0.304)		8270D		1	04/06/15 20:57	CYD0082	CD50739
2-Chlorophenol	ND (0.304)		8270D		1	04/06/15 20:57	CYD0082	CD50739
2-Methylphenol	ND (0.304)		8270D		1	04/06/15 20:57	CYD0082	CD50739
2-Nitrophenol	ND (0.304)		8270D		1	04/06/15 20:57	CYD0082	CD50739
3,3´-Dichlorobenzidine	ND (0.608)		8270D		1	04/06/15 20:57	CYD0082	CD50739
3+4-Methylphenol	ND (0.608)		8270D		1	04/06/15 20:57	CYD0082	CD50739
4-Bromophenyl-phenylether	ND (0.304)		8270D		1	04/06/15 20:57	CYD0082	CD50739
4-Chloroaniline	ND (0.608)		8270D		1	04/06/15 20:57	CYD0082	CD50739
4-Nitrophenol	ND (1.52)		8270D		1	04/06/15 20:57	CYD0082	CD50739
Acetophenone	ND (0.608)		8270D		1	04/06/15 20:57	CYD0082	CD50739
Aniline	ND (1.52)		8270D		1	04/06/15 20:57	CYD0082	CD50739
Azobenzene	ND (0.304)		8270D		1	04/06/15 20:57	CYD0082	CD50739
bis(2-Chloroethoxy)methane	ND (0.304)		8270D		1	04/06/15 20:57	CYD0082	CD50739
bis(2-Chloroethyl)ether	ND (0.304)		8270D		1	04/06/15 20:57	CYD0082	CD50739
bis(2-chloroisopropyl)Ether	ND (0.304)		8270D		1	04/06/15 20:57	CYD0082	CD50739
bis(2-Ethylhexyl)phthalate	**1.54** (0.304)		8270D		1	04/06/15 20:57	CYD0082	CD50739
Butylbenzylphthalate	ND (0.304)		8270D		1	04/06/15 20:57	CYD0082	CD50739
Dibenzofuran	ND (0.304)		8270D		1	04/06/15 20:57	CYD0082	CD50739
Diethylphthalate	ND (0.304)		8270D		1	04/06/15 20:57	CYD0082	CD50739
Dimethylphthalate	ND (0.304)		8270D		1	04/06/15 20:57	CYD0082	CD50739

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-226 0ft-0.5ft
Date Sampled: 03/30/15 07:58
Percent Solids: 55
Initial Volume: 30.1
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503558
ESS Laboratory Sample ID: 1503558-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 4/2/15 15:23

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Di-n-butylphthalate	ND (0.304)		8270D		1	04/06/15 20:57	CYD0082	CD50739
Di-n-octylphthalate	ND (0.304)		8270D		1	04/06/15 20:57	CYD0082	CD50739
Hexachlorobutadiene	ND (0.304)		8270D		1	04/06/15 20:57	CYD0082	CD50739
Hexachloroethane	ND (0.304)		8270D		1	04/06/15 20:57	CYD0082	CD50739
Isophorone	ND (0.304)		8270D		1	04/06/15 20:57	CYD0082	CD50739
Nitrobenzene	ND (0.304)		8270D		1	04/06/15 20:57	CYD0082	CD50739
N-Nitrosodimethylamine	ND (0.304)		8270D		1	04/06/15 20:57	CYD0082	CD50739
Pentachlorophenol	ND (1.52)		8270D		1	04/06/15 20:57	CYD0082	CD50739
Phenol	ND (0.304)		8270D		1	04/06/15 20:57	CYD0082	CD50739

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*43 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*77 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*49 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*57 %*		*30-130*
Surrogate: 2-Fluorophenol	*46 %*		*30-130*
Surrogate: Nitrobenzene-d5	*46 %*		*30-130*
Surrogate: Phenol-d6	*54 %*		*30-130*
Surrogate: p-Terphenyl-d14	*74 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-226 0ft-0.5ft
Date Sampled: 03/30/15 07:58
Percent Solids: 55
Initial Volume: 20.1
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503558
ESS Laboratory Sample ID: 1503558-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 4/2/15 12:56

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	**0.030** (0.023)		8270D		1	04/09/15 9:39	CYD0127	CD50136
Acenaphthene	**0.037** (0.023)		8270D		1	04/09/15 9:39	CYD0127	CD50136
Acenaphthylene	**0.144** (0.023)		8270D		1	04/09/15 9:39	CYD0127	CD50136
Anthracene	**0.183** (0.023)		8270D		1	04/09/15 9:39	CYD0127	CD50136
Benzo(a)anthracene	**0.392** (0.023)		8270D		1	04/09/15 9:39	CYD0127	CD50136
Benzo(a)pyrene	**0.545** (0.023)		8270D		1	04/09/15 9:39	CYD0127	CD50136
Benzo(b)fluoranthene	**0.823** (0.023)		8270D		1	04/09/15 9:39	CYD0127	CD50136
Benzo(g,h,i)perylene	**0.237** (0.023)		8270D		1	04/09/15 9:39	CYD0127	CD50136
Benzo(k)fluoranthene	**0.268** (0.023)		8270D		1	04/09/15 9:39	CYD0127	CD50136
Chrysene	**0.486** (0.023)		8270D		1	04/09/15 9:39	CYD0127	CD50136
Dibenzo(a,h)Anthracene	**0.076** (0.023)		8270D		1	04/09/15 9:39	CYD0127	CD50136
Fluoranthene	**0.764** (0.023)		8270D		1	04/09/15 9:39	CYD0127	CD50136
Fluorene	**0.057** (0.023)		8270D		1	04/09/15 9:39	CYD0127	CD50136
Hexachlorobenzene	ND (0.023)		8270D		1	04/09/15 9:39	CYD0127	CD50136
Indeno(1,2,3-cd)Pyrene	**0.319** (0.023)		8270D		1	04/09/15 9:39	CYD0127	CD50136
Naphthalene	**0.136** (0.023)		8270D		1	04/09/15 9:39	CYD0127	CD50136
Phenanthrene	**0.314** (0.023)		8270D		1	04/09/15 9:39	CYD0127	CD50136
Pyrene	**0.853** (0.023)		8270D		1	04/09/15 9:39	CYD0127	CD50136

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*40 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*66 %*		*30-130*
Surrogate: Nitrobenzene-d5	*45 %*		*30-130*
Surrogate: p-Terphenyl-d14	*77 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-226 0ft-0.5ft
Date Sampled: 03/30/15 07:58
Percent Solids: 55
Initial Volume: 30
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1503558
ESS Laboratory Sample ID: 1503558-01
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 4/2/15 13:31

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	ND (22.9)		MADEP-EPH		1	JXS	04/04/15 19:34	CYD0058	CD50135
C19-C36 Aliphatics1	ND (22.9)		MADEP-EPH		1	JXS	04/04/15 19:34	CYD0058	CD50135
C11-C22 Unadjusted Aromatics1	**25.9** (22.9)		EPH8270		1	JXS	04/04/15 2:39	CYD0054	CD50135
C11-C22 Aromatics1,2	**25.9** (22.9)		EPH8270			JXS	04/04/15 2:39		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*54 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*92 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*83 %*		*40-140*
Surrogate: O-Terphenyl	*74 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-226 0.5ft-2ft
Date Sampled: 03/30/15 07:58
Percent Solids: 62
Initial Volume: 20.2
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503558
ESS Laboratory Sample ID: 1503558-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 4/2/15 12:56

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	**0.024** (0.020)		8270D		1	04/09/15 7:12	CYD0127	CD50136
Acenaphthene	**0.022** (0.020)		8270D		1	04/09/15 7:12	CYD0127	CD50136
Acenaphthylene	**0.128** (0.020)		8270D		1	04/09/15 7:12	CYD0127	CD50136
Anthracene	**0.169** (0.020)		8270D		1	04/09/15 7:12	CYD0127	CD50136
Benzo(a)anthracene	**0.447** (0.020)		8270D		1	04/09/15 7:12	CYD0127	CD50136
Benzo(a)pyrene	**0.516** (0.020)		8270D		1	04/09/15 7:12	CYD0127	CD50136
Benzo(b)fluoranthene	**0.553** (0.020)		8270D		1	04/09/15 7:12	CYD0127	CD50136
Benzo(g,h,i)perylene	**0.212** (0.020)		8270D		1	04/09/15 7:12	CYD0127	CD50136
Benzo(k)fluoranthene	**0.161** (0.020)		8270D		1	04/09/15 7:12	CYD0127	CD50136
Chrysene	**0.449** (0.020)		8270D		1	04/09/15 7:12	CYD0127	CD50136
Dibenzo(a,h)Anthracene	**0.055** (0.020)		8270D		1	04/09/15 7:12	CYD0127	CD50136
Fluoranthene	**0.753** (0.020)		8270D		1	04/09/15 7:12	CYD0127	CD50136
Fluorene	**0.044** (0.020)		8270D		1	04/09/15 7:12	CYD0127	CD50136
Hexachlorobenzene	ND (0.020)		8270D		1	04/09/15 7:12	CYD0127	CD50136
Indeno(1,2,3-cd)Pyrene	**0.244** (0.020)		8270D		1	04/09/15 7:12	CYD0127	CD50136
Naphthalene	**0.071** (0.020)		8270D		1	04/09/15 7:12	CYD0127	CD50136
Phenanthrene	**0.248** (0.020)		8270D		1	04/09/15 7:12	CYD0127	CD50136
Pyrene	**0.720** (0.020)		8270D		1	04/09/15 7:12	CYD0127	CD50136

	%Recovery	*Qualifier*	*Limits*
Surrogate: 1,2-Dichlorobenzene-d4	*57 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*69 %*		*30-130*
Surrogate: Nitrobenzene-d5	*58 %*		*30-130*
Surrogate: p-Terphenyl-d14	*85 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-226 2ft-4ft
Date Sampled: 03/30/15 07:58
Percent Solids: 73
Initial Volume: 20.1
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503558
ESS Laboratory Sample ID: 1503558-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 4/2/15 12:56

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.017)		8270D		1	04/09/15 8:50	CYD0127	CD50136
Acenaphthene	ND (0.017)		8270D		1	04/09/15 8:50	CYD0127	CD50136
Acenaphthylene	ND (0.017)		8270D		1	04/09/15 8:50	CYD0127	CD50136
Anthracene	ND (0.017)		8270D		1	04/09/15 8:50	CYD0127	CD50136
Benzo(a)anthracene	ND (0.017)		8270D		1	04/09/15 8:50	CYD0127	CD50136
Benzo(a)pyrene	ND (0.017)		8270D		1	04/09/15 8:50	CYD0127	CD50136
Benzo(b)fluoranthene	ND (0.017)		8270D		1	04/09/15 8:50	CYD0127	CD50136
Benzo(g,h,i)perylene	ND (0.017)		8270D		1	04/09/15 8:50	CYD0127	CD50136
Benzo(k)fluoranthene	ND (0.017)		8270D		1	04/09/15 8:50	CYD0127	CD50136
Chrysene	**0.019** (0.017)		8270D		1	04/09/15 8:50	CYD0127	CD50136
Dibenzo(a,h)Anthracene	ND (0.017)		8270D		1	04/09/15 8:50	CYD0127	CD50136
Fluoranthene	**0.028** (0.017)		8270D		1	04/09/15 8:50	CYD0127	CD50136
Fluorene	ND (0.017)		8270D		1	04/09/15 8:50	CYD0127	CD50136
Hexachlorobenzene	ND (0.017)		8270D		1	04/09/15 8:50	CYD0127	CD50136
Indeno(1,2,3-cd)Pyrene	ND (0.017)		8270D		1	04/09/15 8:50	CYD0127	CD50136
Naphthalene	ND (0.017)		8270D		1	04/09/15 8:50	CYD0127	CD50136
Phenanthrene	ND (0.017)		8270D		1	04/09/15 8:50	CYD0127	CD50136
Pyrene	**0.033** (0.017)		8270D		1	04/09/15 8:50	CYD0127	CD50136

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*59 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*72 %*		*30-130*
Surrogate: Nitrobenzene-d5	*54 %*		*30-130*
Surrogate: p-Terphenyl-d14	*89 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-220 0ft-0.5ft
Date Sampled: 03/30/15 08:11
Percent Solids: 50
Initial Volume: 30.2
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503558
ESS Laboratory Sample ID: 1503558-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 4/2/15 15:23

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.331)		8270D		1	04/06/15 21:32	CYD0082	CD50739
1,2-Dichlorobenzene	ND (0.331)		8270D		1	04/06/15 21:32	CYD0082	CD50739
1,3-Dichlorobenzene	ND (0.331)		8270D		1	04/06/15 21:32	CYD0082	CD50739
1,4-Dichlorobenzene	ND (0.331)		8270D		1	04/06/15 21:32	CYD0082	CD50739
2,4,5-Trichlorophenol	ND (0.331)		8270D		1	04/06/15 21:32	CYD0082	CD50739
2,4,6-Trichlorophenol	ND (0.331)		8270D		1	04/06/15 21:32	CYD0082	CD50739
2,4-Dichlorophenol	ND (0.331)		8270D		1	04/06/15 21:32	CYD0082	CD50739
2,4-Dimethylphenol	ND (0.331)		8270D		1	04/06/15 21:32	CYD0082	CD50739
2,4-Dinitrophenol	ND (1.66)		8270D		1	04/06/15 21:32	CYD0082	CD50739
2,4-Dinitrotoluene	ND (0.331)		8270D		1	04/06/15 21:32	CYD0082	CD50739
2,6-Dinitrotoluene	ND (0.331)		8270D		1	04/06/15 21:32	CYD0082	CD50739
2-Chloronaphthalene	ND (0.331)		8270D		1	04/06/15 21:32	CYD0082	CD50739
2-Chlorophenol	ND (0.331)		8270D		1	04/06/15 21:32	CYD0082	CD50739
2-Methylphenol	ND (0.331)		8270D		1	04/06/15 21:32	CYD0082	CD50739
2-Nitrophenol	ND (0.331)		8270D		1	04/06/15 21:32	CYD0082	CD50739
3,3´-Dichlorobenzidine	ND (0.663)		8270D		1	04/06/15 21:32	CYD0082	CD50739
3+4-Methylphenol	ND (0.663)		8270D		1	04/06/15 21:32	CYD0082	CD50739
4-Bromophenyl-phenylether	ND (0.331)		8270D		1	04/06/15 21:32	CYD0082	CD50739
4-Chloroaniline	ND (0.663)		8270D		1	04/06/15 21:32	CYD0082	CD50739
4-Nitrophenol	ND (1.66)		8270D		1	04/06/15 21:32	CYD0082	CD50739
Acetophenone	ND (0.663)		8270D		1	04/06/15 21:32	CYD0082	CD50739
Aniline	ND (1.66)		8270D		1	04/06/15 21:32	CYD0082	CD50739
Azobenzene	ND (0.331)		8270D		1	04/06/15 21:32	CYD0082	CD50739
bis(2-Chloroethoxy)methane	ND (0.331)		8270D		1	04/06/15 21:32	CYD0082	CD50739
bis(2-Chloroethyl)ether	ND (0.331)		8270D		1	04/06/15 21:32	CYD0082	CD50739
bis(2-chloroisopropyl)Ether	ND (0.331)		8270D		1	04/06/15 21:32	CYD0082	CD50739
bis(2-Ethylhexyl)phthalate	**1.50** (0.331)		8270D		1	04/06/15 21:32	CYD0082	CD50739
Butylbenzylphthalate	ND (0.331)		8270D		1	04/06/15 21:32	CYD0082	CD50739
Dibenzofuran	ND (0.331)		8270D		1	04/06/15 21:32	CYD0082	CD50739
Diethylphthalate	ND (0.331)		8270D		1	04/06/15 21:32	CYD0082	CD50739
Dimethylphthalate	ND (0.331)		8270D		1	04/06/15 21:32	CYD0082	CD50739

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-220 0ft-0.5ft
Date Sampled: 03/30/15 08:11
Percent Solids: 50
Initial Volume: 30.2
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503558
ESS Laboratory Sample ID: 1503558-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 4/2/15 15:23

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Di-n-butylphthalate	ND (0.331)		8270D		1	04/06/15 21:32	CYD0082	CD50739
Di-n-octylphthalate	ND (0.331)		8270D		1	04/06/15 21:32	CYD0082	CD50739
Hexachlorobutadiene	ND (0.331)		8270D		1	04/06/15 21:32	CYD0082	CD50739
Hexachloroethane	ND (0.331)		8270D		1	04/06/15 21:32	CYD0082	CD50739
Isophorone	ND (0.331)		8270D		1	04/06/15 21:32	CYD0082	CD50739
Nitrobenzene	ND (0.331)		8270D		1	04/06/15 21:32	CYD0082	CD50739
N-Nitrosodimethylamine	ND (0.331)		8270D		1	04/06/15 21:32	CYD0082	CD50739
Pentachlorophenol	ND (1.66)		8270D		1	04/06/15 21:32	CYD0082	CD50739
Phenol	ND (0.331)		8270D		1	04/06/15 21:32	CYD0082	CD50739

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*43 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*84 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*49 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*59 %*		*30-130*
Surrogate: 2-Fluorophenol	*44 %*		*30-130*
Surrogate: Nitrobenzene-d5	*46 %*		*30-130*
Surrogate: Phenol-d6	*55 %*		*30-130*
Surrogate: p-Terphenyl-d14	*76 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-220 0ft-0.5ft
Date Sampled: 03/30/15 08:11
Percent Solids: 50
Initial Volume: 20.3
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503558
ESS Laboratory Sample ID: 1503558-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 4/2/15 12:56

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.025)		8270D		1	04/09/15 8:02	CYD0127	CD50136
Acenaphthene	**0.039** (0.025)		8270D		1	04/09/15 8:02	CYD0127	CD50136
Acenaphthylene	**0.077** (0.025)		8270D		1	04/09/15 8:02	CYD0127	CD50136
Anthracene	**0.138** (0.025)		8270D		1	04/09/15 8:02	CYD0127	CD50136
Benzo(a)anthracene	**0.268** (0.025)		8270D		1	04/09/15 8:02	CYD0127	CD50136
Benzo(a)pyrene	**0.339** (0.025)		8270D		1	04/09/15 8:02	CYD0127	CD50136
Benzo(b)fluoranthene	**0.471** (0.025)		8270D		1	04/09/15 8:02	CYD0127	CD50136
Benzo(g,h,i)perylene	**0.162** (0.025)		8270D		1	04/09/15 8:02	CYD0127	CD50136
Benzo(k)fluoranthene	**0.121** (0.025)		8270D		1	04/09/15 8:02	CYD0127	CD50136
Chrysene	**0.340** (0.025)		8270D		1	04/09/15 8:02	CYD0127	CD50136
Dibenzo(a,h)Anthracene	**0.052** (0.025)		8270D		1	04/09/15 8:02	CYD0127	CD50136
Fluoranthene	**0.602** (0.025)		8270D		1	04/09/15 8:02	CYD0127	CD50136
Fluorene	**0.049** (0.025)		8270D		1	04/09/15 8:02	CYD0127	CD50136
Hexachlorobenzene	ND (0.025)		8270D		1	04/09/15 8:02	CYD0127	CD50136
Indeno(1,2,3-cd)Pyrene	**0.209** (0.025)		8270D		1	04/09/15 8:02	CYD0127	CD50136
Naphthalene	**0.105** (0.025)		8270D		1	04/09/15 8:02	CYD0127	CD50136
Phenanthrene	**0.362** (0.025)		8270D		1	04/09/15 8:02	CYD0127	CD50136
Pyrene	**0.580** (0.025)		8270D		1	04/09/15 8:02	CYD0127	CD50136

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*53 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*67 %*		*30-130*
Surrogate: Nitrobenzene-d5	*55 %*		*30-130*
Surrogate: p-Terphenyl-d14	*84 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-220 0ft-0.5ft
Date Sampled: 03/30/15 08:11
Percent Solids: 50
Initial Volume: 30
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1503558
ESS Laboratory Sample ID: 1503558-04
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 4/2/15 13:31

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	**25.9** (25.0)		MADEP-EPH		1	JXS	04/04/15 20:25	CYD0058	CD50135
C19-C36 Aliphatics1	**130** (25.0)		MADEP-EPH		1	JXS	04/04/15 20:25	CYD0058	CD50135
C11-C22 Unadjusted Aromatics1	**106** (25.0)		EPH8270		1	JXS	04/04/15 3:16	CYD0054	CD50135
C11-C22 Aromatics1,2	**100** (25.0)		EPH8270			JXS	04/04/15 3:16		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*66 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*86 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*77 %*		*40-140*
Surrogate: O-Terphenyl	*74 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-220 0.5ft-2ft
Date Sampled: 03/30/15 08:11
Percent Solids: 46
Initial Volume: 30.2
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1503558
ESS Laboratory Sample ID: 1503558-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 4/2/15 15:23

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.718)		8270D		1	04/06/15 22:08	CYD0082	CD50739
1,2-Dichlorobenzene	ND (0.718)		8270D		1	04/06/15 22:08	CYD0082	CD50739
1,3-Dichlorobenzene	ND (0.718)		8270D		1	04/06/15 22:08	CYD0082	CD50739
1,4-Dichlorobenzene	ND (0.718)		8270D		1	04/06/15 22:08	CYD0082	CD50739
2,4,5-Trichlorophenol	ND (0.718)		8270D		1	04/06/15 22:08	CYD0082	CD50739
2,4,6-Trichlorophenol	ND (0.718)		8270D		1	04/06/15 22:08	CYD0082	CD50739
2,4-Dichlorophenol	ND (0.718)		8270D		1	04/06/15 22:08	CYD0082	CD50739
2,4-Dimethylphenol	ND (0.718)		8270D		1	04/06/15 22:08	CYD0082	CD50739
2,4-Dinitrophenol	ND (3.60)		8270D		1	04/06/15 22:08	CYD0082	CD50739
2,4-Dinitrotoluene	ND (0.718)		8270D		1	04/06/15 22:08	CYD0082	CD50739
2,6-Dinitrotoluene	ND (0.718)		8270D		1	04/06/15 22:08	CYD0082	CD50739
2-Chloronaphthalene	ND (0.718)		8270D		1	04/06/15 22:08	CYD0082	CD50739
2-Chlorophenol	ND (0.718)		8270D		1	04/06/15 22:08	CYD0082	CD50739
2-Methylphenol	ND (0.718)		8270D		1	04/06/15 22:08	CYD0082	CD50739
2-Nitrophenol	ND (0.718)		8270D		1	04/06/15 22:08	CYD0082	CD50739
3,3´-Dichlorobenzidine	ND (1.44)		8270D		1	04/06/15 22:08	CYD0082	CD50739
3+4-Methylphenol	ND (1.44)		8270D		1	04/06/15 22:08	CYD0082	CD50739
4-Bromophenyl-phenylether	ND (0.718)		8270D		1	04/06/15 22:08	CYD0082	CD50739
4-Chloroaniline	ND (1.44)		8270D		1	04/06/15 22:08	CYD0082	CD50739
4-Nitrophenol	ND (3.60)		8270D		1	04/06/15 22:08	CYD0082	CD50739
Acetophenone	ND (1.44)		8270D		1	04/06/15 22:08	CYD0082	CD50739
Aniline	ND (3.60)		8270D		1	04/06/15 22:08	CYD0082	CD50739
Azobenzene	ND (0.718)		8270D		1	04/06/15 22:08	CYD0082	CD50739
bis(2-Chloroethoxy)methane	ND (0.718)		8270D		1	04/06/15 22:08	CYD0082	CD50739
bis(2-Chloroethyl)ether	ND (0.718)		8270D		1	04/06/15 22:08	CYD0082	CD50739
bis(2-chloroisopropyl)Ether	ND (0.718)		8270D		1	04/06/15 22:08	CYD0082	CD50739
bis(2-Ethylhexyl)phthalate	ND (0.718)		8270D		1	04/06/15 22:08	CYD0082	CD50739
Butylbenzylphthalate	ND (0.718)		8270D		1	04/06/15 22:08	CYD0082	CD50739
Dibenzofuran	ND (0.718)		8270D		1	04/06/15 22:08	CYD0082	CD50739
Diethylphthalate	ND (0.718)		8270D		1	04/06/15 22:08	CYD0082	CD50739
Dimethylphthalate	ND (0.718)		8270D		1	04/06/15 22:08	CYD0082	CD50739

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-220 0.5ft-2ft
Date Sampled: 03/30/15 08:11
Percent Solids: 46
Initial Volume: 30.2
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1503558
ESS Laboratory Sample ID: 1503558-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 4/2/15 15:23

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Di-n-butylphthalate	ND (0.718)		8270D		1	04/06/15 22:08	CYD0082	CD50739
Di-n-octylphthalate	ND (0.718)		8270D		1	04/06/15 22:08	CYD0082	CD50739
Hexachlorobutadiene	ND (0.718)		8270D		1	04/06/15 22:08	CYD0082	CD50739
Hexachloroethane	ND (0.718)		8270D		1	04/06/15 22:08	CYD0082	CD50739
Isophorone	ND (0.718)		8270D		1	04/06/15 22:08	CYD0082	CD50739
Nitrobenzene	ND (0.718)		8270D		1	04/06/15 22:08	CYD0082	CD50739
N-Nitrosodimethylamine	ND (0.718)		8270D		1	04/06/15 22:08	CYD0082	CD50739
Pentachlorophenol	ND (3.60)		8270D		1	04/06/15 22:08	CYD0082	CD50739
Phenol	ND (0.718)		8270D		1	04/06/15 22:08	CYD0082	CD50739

	%Recovery	*Qualifier*	*Limits*
Surrogate: 1,2-Dichlorobenzene-d4	*62 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*80 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*67 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*77 %*		*30-130*
Surrogate: 2-Fluorophenol	*63 %*		*30-130*
Surrogate: Nitrobenzene-d5	*67 %*		*30-130*
Surrogate: Phenol-d6	*72 %*		*30-130*
Surrogate: p-Terphenyl-d14	*83 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-220 0.5ft-2ft
Date Sampled: 03/30/15 08:11
Percent Solids: 46
Initial Volume: 20
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503558
ESS Laboratory Sample ID: 1503558-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 4/2/15 12:56

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	**0.423** (0.027)		8270D		1	04/10/15 11:22	CYD0151	CD50136
Acenaphthene	**0.271** (0.027)		8270D		1	04/10/15 11:22	CYD0151	CD50136
Acenaphthylene	**0.925** (0.027)		8270D		1	04/10/15 11:22	CYD0151	CD50136
Anthracene	**1.74** (0.027)		8270D		1	04/10/15 11:22	CYD0151	CD50136
Benzo(a)anthracene	**2.15** (0.027)		8270D		1	04/10/15 11:22	CYD0151	CD50136
Benzo(a)pyrene	**2.18** (0.027)		8270D		1	04/10/15 11:22	CYD0151	CD50136
Benzo(b)fluoranthene	**3.36** (0.271)		8270D		10	04/11/15 9:28	CYD0151	CD50136
Benzo(g,h,i)perylene	**0.902** (0.027)		8270D		1	04/10/15 11:22	CYD0151	CD50136
Benzo(k)fluoranthene	**0.693** (0.027)		8270D		1	04/10/15 11:22	CYD0151	CD50136
Chrysene	**2.33** (0.027)		8270D		1	04/10/15 11:22	CYD0151	CD50136
Dibenzo(a,h)Anthracene	**0.385** (0.027)		8270D		1	04/10/15 11:22	CYD0151	CD50136
Fluoranthene	**5.89** (0.271)		8270D		10	04/11/15 9:28	CYD0151	CD50136
Fluorene	**0.378** (0.027)		8270D		1	04/10/15 11:22	CYD0151	CD50136
Hexachlorobenzene	ND (0.027)		8270D		1	04/10/15 11:22	CYD0151	CD50136
Indeno(1,2,3-cd)Pyrene	**1.24** (0.027)		8270D		1	04/10/15 11:22	CYD0151	CD50136
Naphthalene	**1.41** (0.027)		8270D		1	04/10/15 11:22	CYD0151	CD50136
Phenanthrene	**1.19** (0.027)		8270D		1	04/10/15 11:22	CYD0151	CD50136
Pyrene	**5.17** (0.271)		8270D		10	04/11/15 9:28	CYD0151	CD50136

	%Recovery	*Qualifier*	*Limits*
Surrogate: 1,2-Dichlorobenzene-d4	*54 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*81 %*		*30-130*
Surrogate: Nitrobenzene-d5	*73 %*		*30-130*
Surrogate: p-Terphenyl-d14	*78 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-220 0.5ft-2ft
Date Sampled: 03/30/15 08:11
Percent Solids: 46
Initial Volume: 30.6
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1503558
ESS Laboratory Sample ID: 1503558-05
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 4/2/15 13:31

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	ND (26.6)		MADEP-EPH		1	JXS	04/04/15 21:15	CYD0058	CD50135
C19-C36 Aliphatics1	**58.4** (26.6)		MADEP-EPH		1	JXS	04/04/15 21:15	CYD0058	CD50135
C11-C22 Unadjusted Aromatics1	**179** (26.6)		EPH8270		1	JXS	04/04/15 3:52	CYD0054	CD50135
C11-C22 Aromatics1,2	**179** (26.6)		EPH8270			JXS	04/04/15 3:52		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*54 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*89 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*83 %*		*40-140*
Surrogate: O-Terphenyl	*76 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-220 2ft-4ft
Date Sampled: 03/30/15 08:11
Percent Solids: 64
Initial Volume: 20
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503558
ESS Laboratory Sample ID: 1503558-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 4/2/15 17:09

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.019)		8270D		1	04/08/15 19:54	CYD0116	CD50227
Acenaphthene	ND (0.019)		8270D		1	04/08/15 19:54	CYD0116	CD50227
Acenaphthylene	ND (0.019)		8270D		1	04/08/15 19:54	CYD0116	CD50227
Anthracene	ND (0.019)		8270D		1	04/08/15 19:54	CYD0116	CD50227
Benzo(a)anthracene	**0.023** (0.019)		8270D		1	04/08/15 19:54	CYD0116	CD50227
Benzo(a)pyrene	**0.025** (0.019)		8270D		1	04/08/15 19:54	CYD0116	CD50227
Benzo(b)fluoranthene	**0.030** (0.019)		8270D		1	04/08/15 19:54	CYD0116	CD50227
Benzo(g,h,i)perylene	ND (0.019)		8270D		1	04/08/15 19:54	CYD0116	CD50227
Benzo(k)fluoranthene	ND (0.019)		8270D		1	04/08/15 19:54	CYD0116	CD50227
Chrysene	**0.028** (0.019)		8270D		1	04/08/15 19:54	CYD0116	CD50227
Dibenzo(a,h)Anthracene	ND (0.019)		8270D		1	04/08/15 19:54	CYD0116	CD50227
Fluoranthene	**0.045** (0.019)		8270D		1	04/08/15 19:54	CYD0116	CD50227
Fluorene	ND (0.019)		8270D		1	04/08/15 19:54	CYD0116	CD50227
Hexachlorobenzene	ND (0.019)		8270D		1	04/08/15 19:54	CYD0116	CD50227
Indeno(1,2,3-cd)Pyrene	ND (0.019)		8270D		1	04/08/15 19:54	CYD0116	CD50227
Naphthalene	ND (0.019)		8270D		1	04/08/15 19:54	CYD0116	CD50227
Phenanthrene	ND (0.019)		8270D		1	04/08/15 19:54	CYD0116	CD50227
Pyrene	**0.045** (0.019)		8270D		1	04/08/15 19:54	CYD0116	CD50227

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*55 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*73 %*		*30-130*
Surrogate: Nitrobenzene-d5	*60 %*		*30-130*
Surrogate: p-Terphenyl-d14	*97 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-221 0ft-0.5ft
Date Sampled: 03/30/15 08:30
Percent Solids: 48
Initial Volume: 30.3
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503558
ESS Laboratory Sample ID: 1503558-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 4/2/15 15:23

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.345)		8270D		1	04/06/15 22:44	CYD0082	CD50739
1,2-Dichlorobenzene	ND (0.345)		8270D		1	04/06/15 22:44	CYD0082	CD50739
1,3-Dichlorobenzene	ND (0.345)		8270D		1	04/06/15 22:44	CYD0082	CD50739
1,4-Dichlorobenzene	ND (0.345)		8270D		1	04/06/15 22:44	CYD0082	CD50739
2,4,5-Trichlorophenol	ND (0.345)		8270D		1	04/06/15 22:44	CYD0082	CD50739
2,4,6-Trichlorophenol	ND (0.345)		8270D		1	04/06/15 22:44	CYD0082	CD50739
2,4-Dichlorophenol	ND (0.345)		8270D		1	04/06/15 22:44	CYD0082	CD50739
2,4-Dimethylphenol	ND (0.345)		8270D		1	04/06/15 22:44	CYD0082	CD50739
2,4-Dinitrophenol	ND (1.73)		8270D		1	04/06/15 22:44	CYD0082	CD50739
2,4-Dinitrotoluene	ND (0.345)		8270D		1	04/06/15 22:44	CYD0082	CD50739
2,6-Dinitrotoluene	ND (0.345)		8270D		1	04/06/15 22:44	CYD0082	CD50739
2-Chloronaphthalene	ND (0.345)		8270D		1	04/06/15 22:44	CYD0082	CD50739
2-Chlorophenol	ND (0.345)		8270D		1	04/06/15 22:44	CYD0082	CD50739
2-Methylphenol	ND (0.345)		8270D		1	04/06/15 22:44	CYD0082	CD50739
2-Nitrophenol	ND (0.345)		8270D		1	04/06/15 22:44	CYD0082	CD50739
3,3´-Dichlorobenzidine	ND (0.692)		8270D		1	04/06/15 22:44	CYD0082	CD50739
3+4-Methylphenol	ND (0.692)		8270D		1	04/06/15 22:44	CYD0082	CD50739
4-Bromophenyl-phenylether	ND (0.345)		8270D		1	04/06/15 22:44	CYD0082	CD50739
4-Chloroaniline	ND (0.692)		8270D		1	04/06/15 22:44	CYD0082	CD50739
4-Nitrophenol	ND (1.73)		8270D		1	04/06/15 22:44	CYD0082	CD50739
Acetophenone	ND (0.692)		8270D		1	04/06/15 22:44	CYD0082	CD50739
Aniline	ND (1.73)		8270D		1	04/06/15 22:44	CYD0082	CD50739
Azobenzene	ND (0.345)		8270D		1	04/06/15 22:44	CYD0082	CD50739
bis(2-Chloroethoxy)methane	ND (0.345)		8270D		1	04/06/15 22:44	CYD0082	CD50739
bis(2-Chloroethyl)ether	ND (0.345)		8270D		1	04/06/15 22:44	CYD0082	CD50739
bis(2-chloroisopropyl)Ether	ND (0.345)		8270D		1	04/06/15 22:44	CYD0082	CD50739
bis(2-Ethylhexyl)phthalate	**2.11** (0.345)		8270D		1	04/06/15 22:44	CYD0082	CD50739
Butylbenzylphthalate	ND (0.345)		8270D		1	04/06/15 22:44	CYD0082	CD50739
Dibenzofuran	ND (0.345)		8270D		1	04/06/15 22:44	CYD0082	CD50739
Diethylphthalate	ND (0.345)		8270D		1	04/06/15 22:44	CYD0082	CD50739
Dimethylphthalate	ND (0.345)		8270D		1	04/06/15 22:44	CYD0082	CD50739

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-221 0ft-0.5ft
Date Sampled: 03/30/15 08:30
Percent Solids: 48
Initial Volume: 30.3
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503558
ESS Laboratory Sample ID: 1503558-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 4/2/15 15:23

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Di-n-butylphthalate	ND (0.345)		8270D		1	04/06/15 22:44	CYD0082	CD50739
Di-n-octylphthalate	ND (0.345)		8270D		1	04/06/15 22:44	CYD0082	CD50739
Hexachlorobutadiene	ND (0.345)		8270D		1	04/06/15 22:44	CYD0082	CD50739
Hexachloroethane	ND (0.345)		8270D		1	04/06/15 22:44	CYD0082	CD50739
Isophorone	ND (0.345)		8270D		1	04/06/15 22:44	CYD0082	CD50739
Nitrobenzene	ND (0.345)		8270D		1	04/06/15 22:44	CYD0082	CD50739
N-Nitrosodimethylamine	ND (0.345)		8270D		1	04/06/15 22:44	CYD0082	CD50739
Pentachlorophenol	ND (1.73)		8270D		1	04/06/15 22:44	CYD0082	CD50739
Phenol	ND (0.345)		8270D		1	04/06/15 22:44	CYD0082	CD50739

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*50 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*81 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*54 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*58 %*		*30-130*
Surrogate: 2-Fluorophenol	*50 %*		*30-130*
Surrogate: Nitrobenzene-d5	*51 %*		*30-130*
Surrogate: Phenol-d6	*56 %*		*30-130*
Surrogate: p-Terphenyl-d14	*74 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-221 0ft-0.5ft
Date Sampled: 03/30/15 08:30
Percent Solids: 48
Initial Volume: 20
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503558
ESS Laboratory Sample ID: 1503558-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 4/2/15 17:09

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.026)		8270D		1	04/08/15 20:43	CYD0116	CD50227
Acenaphthene	**0.027** (0.026)		8270D		1	04/08/15 20:43	CYD0116	CD50227
Acenaphthylene	**0.083** (0.026)		8270D		1	04/08/15 20:43	CYD0116	CD50227
Anthracene	**0.107** (0.026)		8270D		1	04/08/15 20:43	CYD0116	CD50227
Benzo(a)anthracene	**0.269** (0.026)		8270D		1	04/08/15 20:43	CYD0116	CD50227
Benzo(a)pyrene	**0.359** (0.026)		8270D		1	04/08/15 20:43	CYD0116	CD50227
Benzo(b)fluoranthene	**0.507** (0.026)		8270D		1	04/08/15 20:43	CYD0116	CD50227
Benzo(g,h,i)perylene	**0.298** (0.026)		8270D		1	04/08/15 20:43	CYD0116	CD50227
Benzo(k)fluoranthene	**0.137** (0.026)		8270D		1	04/08/15 20:43	CYD0116	CD50227
Chrysene	**0.345** (0.026)		8270D		1	04/08/15 20:43	CYD0116	CD50227
Dibenzo(a,h)Anthracene	**0.071** (0.026)		8270D		1	04/08/15 20:43	CYD0116	CD50227
Fluoranthene	**0.578** (0.026)		8270D		1	04/08/15 20:43	CYD0116	CD50227
Fluorene	**0.037** (0.026)		8270D		1	04/08/15 20:43	CYD0116	CD50227
Hexachlorobenzene	ND (0.026)		8270D		1	04/08/15 20:43	CYD0116	CD50227
Indeno(1,2,3-cd)Pyrene	**0.320** (0.026)		8270D		1	04/08/15 20:43	CYD0116	CD50227
Naphthalene	**0.083** (0.026)		8270D		1	04/08/15 20:43	CYD0116	CD50227
Phenanthrene	**0.279** (0.026)		8270D		1	04/08/15 20:43	CYD0116	CD50227
Pyrene	**0.564** (0.026)		8270D		1	04/08/15 20:43	CYD0116	CD50227

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*46 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*70 %*		*30-130*
Surrogate: Nitrobenzene-d5	*52 %*		*30-130*
Surrogate: p-Terphenyl-d14	*86 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-221 0ft-0.5ft
Date Sampled: 03/30/15 08:30
Percent Solids: 48
Initial Volume: 30.3
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1503558
ESS Laboratory Sample ID: 1503558-07
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 4/2/15 13:31

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	ND (25.9)		MADEP-EPH		1	JXS	04/04/15 22:06	CYD0058	CD50135
C19-C36 Aliphatics1	**110** (25.9)		MADEP-EPH		1	JXS	04/04/15 22:06	CYD0058	CD50135
C11-C22 Unadjusted Aromatics1	**192** (25.9)		EPH8270		1	JXS	04/04/15 4:29	CYD0054	CD50135
C11-C22 Aromatics1,2	**133** (25.9)		EPH8270			DPS	04/06/15 18:17		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*61 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*97 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*92 %*		*40-140*
Surrogate: O-Terphenyl	*82 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-221 4ft-6ft
Date Sampled: 03/30/15 08:30
Percent Solids: 68
Initial Volume: 20
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503558
ESS Laboratory Sample ID: 1503558-08
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 4/2/15 17:09

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.018)		8270D		1	04/08/15 21:32	CYD0116	CD50227
Acenaphthene	ND (0.018)		8270D		1	04/08/15 21:32	CYD0116	CD50227
Acenaphthylene	ND (0.018)		8270D		1	04/08/15 21:32	CYD0116	CD50227
Anthracene	ND (0.018)		8270D		1	04/08/15 21:32	CYD0116	CD50227
Benzo(a)anthracene	ND (0.018)		8270D		1	04/08/15 21:32	CYD0116	CD50227
Benzo(a)pyrene	ND (0.018)		8270D		1	04/08/15 21:32	CYD0116	CD50227
Benzo(b)fluoranthene	ND (0.018)		8270D		1	04/08/15 21:32	CYD0116	CD50227
Benzo(g,h,i)perylene	ND (0.018)		8270D		1	04/08/15 21:32	CYD0116	CD50227
Benzo(k)fluoranthene	ND (0.018)		8270D		1	04/08/15 21:32	CYD0116	CD50227
Chrysene	ND (0.018)		8270D		1	04/08/15 21:32	CYD0116	CD50227
Dibenzo(a,h)Anthracene	ND (0.018)		8270D		1	04/08/15 21:32	CYD0116	CD50227
Fluoranthene	ND (0.018)		8270D		1	04/08/15 21:32	CYD0116	CD50227
Fluorene	ND (0.018)		8270D		1	04/08/15 21:32	CYD0116	CD50227
Hexachlorobenzene	ND (0.018)		8270D		1	04/08/15 21:32	CYD0116	CD50227
Indeno(1,2,3-cd)Pyrene	ND (0.018)		8270D		1	04/08/15 21:32	CYD0116	CD50227
Naphthalene	ND (0.018)		8270D		1	04/08/15 21:32	CYD0116	CD50227
Phenanthrene	ND (0.018)		8270D		1	04/08/15 21:32	CYD0116	CD50227
Pyrene	ND (0.018)		8270D		1	04/08/15 21:32	CYD0116	CD50227

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*68 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*86 %*		*30-130*
Surrogate: Nitrobenzene-d5	*73 %*		*30-130*
Surrogate: p-Terphenyl-d14	*95 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-221 0ft-3ft
Date Sampled: 03/30/15 08:30
Percent Solids: 62
Initial Volume: 8.6
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1503558
ESS Laboratory Sample ID: 1503558-09
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.0047)		8260B Low		1	04/02/15 13:35	CYD0025	CD50239
1,1,1-Trichloroethane	ND (0.0047)		8260B Low		1	04/02/15 13:35	CYD0025	CD50239
1,1,2,2-Tetrachloroethane	ND (0.0019)		8260B Low		1	04/02/15 13:35	CYD0025	CD50239
1,1,2-Trichloroethane	ND (0.0047)		8260B Low		1	04/02/15 13:35	CYD0025	CD50239
1,1-Dichloroethane	ND (0.0047)		8260B Low		1	04/02/15 13:35	CYD0025	CD50239
1,1-Dichloroethene	ND (0.0047)		8260B Low		1	04/02/15 13:35	CYD0025	CD50239
1,1-Dichloropropene	ND (0.0047)		8260B Low		1	04/02/15 13:35	CYD0025	CD50239
1,2,3-Trichlorobenzene	ND (0.0047)		8260B Low		1	04/02/15 13:35	CYD0025	CD50239
1,2,3-Trichloropropane	ND (0.0047)		8260B Low		1	04/02/15 13:35	CYD0025	CD50239
1,2,4-Trichlorobenzene	ND (0.0047)		8260B Low		1	04/02/15 13:35	CYD0025	CD50239
1,2,4-Trimethylbenzene	ND (0.0047)		8260B Low		1	04/02/15 13:35	CYD0025	CD50239
1,2-Dibromo-3-Chloropropane	ND (0.0047)		8260B Low		1	04/02/15 13:35	CYD0025	CD50239
1,2-Dibromoethane	ND (0.0047)		8260B Low		1	04/02/15 13:35	CYD0025	CD50239
1,2-Dichlorobenzene	ND (0.0047)		8260B Low		1	04/02/15 13:35	CYD0025	CD50239
1,2-Dichloroethane	ND (0.0047)		8260B Low		1	04/02/15 13:35	CYD0025	CD50239
1,2-Dichloropropane	ND (0.0047)		8260B Low		1	04/02/15 13:35	CYD0025	CD50239
1,3,5-Trimethylbenzene	ND (0.0047)		8260B Low		1	04/02/15 13:35	CYD0025	CD50239
1,3-Dichlorobenzene	ND (0.0047)		8260B Low		1	04/02/15 13:35	CYD0025	CD50239
1,3-Dichloropropane	ND (0.0047)		8260B Low		1	04/02/15 13:35	CYD0025	CD50239
1,4-Dichlorobenzene	ND (0.0047)		8260B Low		1	04/02/15 13:35	CYD0025	CD50239
1,4-Dioxane	ND (0.0939)		8260B Low		1	04/02/15 13:35	CYD0025	CD50239
2,2-Dichloropropane	ND (0.0047)		8260B Low		1	04/02/15 13:35	CYD0025	CD50239
2-Butanone	**0.0095** (0.0094)		8260B Low		1	04/02/15 13:35	CYD0025	CD50239
2-Chlorotoluene	ND (0.0047)		8260B Low		1	04/02/15 13:35	CYD0025	CD50239
2-Hexanone	ND (0.0094)		8260B Low		1	04/02/15 13:35	CYD0025	CD50239
4-Chlorotoluene	ND (0.0047)		8260B Low		1	04/02/15 13:35	CYD0025	CD50239
4-Isopropyltoluene	ND (0.0047)		8260B Low		1	04/02/15 13:35	CYD0025	CD50239
4-Methyl-2-Pentanone	ND (0.0094)		8260B Low		1	04/02/15 13:35	CYD0025	CD50239
Acetone	**0.0742** (0.0094)		8260B Low		1	04/02/15 13:35	CYD0025	CD50239
Benzene	ND (0.0047)		8260B Low		1	04/02/15 13:35	CYD0025	CD50239
Bromobenzene	ND (0.0047)		8260B Low		1	04/02/15 13:35	CYD0025	CD50239

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-221 0ft-3ft
Date Sampled: 03/30/15 08:30
Percent Solids: 62
Initial Volume: 8.6
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1503558
ESS Laboratory Sample ID: 1503558-09
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromochloromethane	ND (0.0047)		8260B Low		1	04/02/15 13:35	CYD0025	CD50239
Bromodichloromethane	ND (0.0047)		8260B Low		1	04/02/15 13:35	CYD0025	CD50239
Bromoform	ND (0.0047)		8260B Low		1	04/02/15 13:35	CYD0025	CD50239
Bromomethane	ND (0.0094)		8260B Low		1	04/02/15 13:35	CYD0025	CD50239
Carbon Disulfide	**0.0083** (0.0047)		8260B Low		1	04/02/15 13:35	CYD0025	CD50239
Carbon Tetrachloride	ND (0.0047)		8260B Low		1	04/02/15 13:35	CYD0025	CD50239
Chlorobenzene	ND (0.0047)		8260B Low		1	04/02/15 13:35	CYD0025	CD50239
Chloroethane	ND (0.0094)		8260B Low		1	04/02/15 13:35	CYD0025	CD50239
Chloroform	ND (0.0047)		8260B Low		1	04/02/15 13:35	CYD0025	CD50239
Chloromethane	ND (0.0094)		8260B Low		1	04/02/15 13:35	CYD0025	CD50239
cis-1,2-Dichloroethene	ND (0.0047)		8260B Low		1	04/02/15 13:35	CYD0025	CD50239
cis-1,3-Dichloropropene	ND (0.0047)		8260B Low		1	04/02/15 13:35	CYD0025	CD50239
Dibromochloromethane	ND (0.0019)		8260B Low		1	04/02/15 13:35	CYD0025	CD50239
Dibromomethane	ND (0.0047)		8260B Low		1	04/02/15 13:35	CYD0025	CD50239
Dichlorodifluoromethane	ND (0.0094)		8260B Low		1	04/02/15 13:35	CYD0025	CD50239
Diethyl Ether	ND (0.0047)		8260B Low		1	04/02/15 13:35	CYD0025	CD50239
Di-isopropyl ether	ND (0.0047)		8260B Low		1	04/02/15 13:35	CYD0025	CD50239
Ethyl tertiary-butyl ether	ND (0.0047)		8260B Low		1	04/02/15 13:35	CYD0025	CD50239
Ethylbenzene	ND (0.0047)		8260B Low		1	04/02/15 13:35	CYD0025	CD50239
Hexachlorobutadiene	ND (0.0047)		8260B Low		1	04/02/15 13:35	CYD0025	CD50239
Isopropylbenzene	ND (0.0047)		8260B Low		1	04/02/15 13:35	CYD0025	CD50239
Methyl tert-Butyl Ether	ND (0.0047)		8260B Low		1	04/02/15 13:35	CYD0025	CD50239
Methylene Chloride	ND (0.0094)		8260B Low		1	04/02/15 13:35	CYD0025	CD50239
Naphthalene	ND (0.0047)		8260B Low		1	04/02/15 13:35	CYD0025	CD50239
n-Butylbenzene	ND (0.0047)		8260B Low		1	04/02/15 13:35	CYD0025	CD50239
n-Propylbenzene	ND (0.0047)		8260B Low		1	04/02/15 13:35	CYD0025	CD50239
sec-Butylbenzene	ND (0.0047)		8260B Low		1	04/02/15 13:35	CYD0025	CD50239
Styrene	ND (0.0047)		8260B Low		1	04/02/15 13:35	CYD0025	CD50239
tert-Butylbenzene	ND (0.0047)		8260B Low		1	04/02/15 13:35	CYD0025	CD50239
Tertiary-amyl methyl ether	ND (0.0047)		8260B Low		1	04/02/15 13:35	CYD0025	CD50239
Tetrachloroethene	ND (0.0047)		8260B Low		1	04/02/15 13:35	CYD0025	CD50239

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-221 0ft-3ft
Date Sampled: 03/30/15 08:30
Percent Solids: 62
Initial Volume: 8.6
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1503558
ESS Laboratory Sample ID: 1503558-09
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Tetrahydrofuran	ND (0.0047)		8260B Low		1	04/02/15 13:35	CYD0025	CD50239
Toluene	ND (0.0047)		8260B Low		1	04/02/15 13:35	CYD0025	CD50239
trans-1,2-Dichloroethene	ND (0.0047)		8260B Low		1	04/02/15 13:35	CYD0025	CD50239
trans-1,3-Dichloropropene	ND (0.0047)		8260B Low		1	04/02/15 13:35	CYD0025	CD50239
Trichloroethene	ND (0.0047)		8260B Low		1	04/02/15 13:35	CYD0025	CD50239
Trichlorofluoromethane	ND (0.0047)		8260B Low		1	04/02/15 13:35	CYD0025	CD50239
Vinyl Chloride	ND (0.0094)		8260B Low		1	04/02/15 13:35	CYD0025	CD50239
Xylene O	ND (0.0047)		8260B Low		1	04/02/15 13:35	CYD0025	CD50239
Xylene P,M	ND (0.0094)		8260B Low		1	04/02/15 13:35	CYD0025	CD50239
Xylenes (Total)	ND (0.0094)		8260B Low		1	04/02/15 13:35		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*92 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*98 %*		*70-130*
Surrogate: Dibromofluoromethane	*90 %*		*70-130*
Surrogate: Toluene-d8	*92 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-221 0ft-3ft
Date Sampled: 03/30/15 08:30
Percent Solids: 62
Initial Volume: 30.2
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503558
ESS Laboratory Sample ID: 1503558-09
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 4/2/15 15:23

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.267)		8270D		1	04/06/15 23:19	CYD0082	CD50739
1,2-Dichlorobenzene	ND (0.267)		8270D		1	04/06/15 23:19	CYD0082	CD50739
1,3-Dichlorobenzene	ND (0.267)		8270D		1	04/06/15 23:19	CYD0082	CD50739
1,4-Dichlorobenzene	ND (0.267)		8270D		1	04/06/15 23:19	CYD0082	CD50739
2,4,5-Trichlorophenol	ND (0.267)		8270D		1	04/06/15 23:19	CYD0082	CD50739
2,4,6-Trichlorophenol	ND (0.267)		8270D		1	04/06/15 23:19	CYD0082	CD50739
2,4-Dichlorophenol	ND (0.267)		8270D		1	04/06/15 23:19	CYD0082	CD50739
2,4-Dimethylphenol	ND (0.267)		8270D		1	04/06/15 23:19	CYD0082	CD50739
2,4-Dinitrophenol	ND (1.34)		8270D		1	04/06/15 23:19	CYD0082	CD50739
2,4-Dinitrotoluene	ND (0.267)		8270D		1	04/06/15 23:19	CYD0082	CD50739
2,6-Dinitrotoluene	ND (0.267)		8270D		1	04/06/15 23:19	CYD0082	CD50739
2-Chloronaphthalene	ND (0.267)		8270D		1	04/06/15 23:19	CYD0082	CD50739
2-Chlorophenol	ND (0.267)		8270D		1	04/06/15 23:19	CYD0082	CD50739
2-Methylphenol	ND (0.267)		8270D		1	04/06/15 23:19	CYD0082	CD50739
2-Nitrophenol	ND (0.267)		8270D		1	04/06/15 23:19	CYD0082	CD50739
3,3´-Dichlorobenzidine	ND (0.535)		8270D		1	04/06/15 23:19	CYD0082	CD50739
3+4-Methylphenol	ND (0.535)		8270D		1	04/06/15 23:19	CYD0082	CD50739
4-Bromophenyl-phenylether	ND (0.267)		8270D		1	04/06/15 23:19	CYD0082	CD50739
4-Chloroaniline	ND (0.535)		8270D		1	04/06/15 23:19	CYD0082	CD50739
4-Nitrophenol	ND (1.34)		8270D		1	04/06/15 23:19	CYD0082	CD50739
Acetophenone	ND (0.535)		8270D		1	04/06/15 23:19	CYD0082	CD50739
Aniline	ND (1.34)		8270D		1	04/06/15 23:19	CYD0082	CD50739
Azobenzene	ND (0.267)		8270D		1	04/06/15 23:19	CYD0082	CD50739
bis(2-Chloroethoxy)methane	ND (0.267)		8270D		1	04/06/15 23:19	CYD0082	CD50739
bis(2-Chloroethyl)ether	ND (0.267)		8270D		1	04/06/15 23:19	CYD0082	CD50739
bis(2-chloroisopropyl)Ether	ND (0.267)		8270D		1	04/06/15 23:19	CYD0082	CD50739
bis(2-Ethylhexyl)phthalate	ND (0.267)		8270D		1	04/06/15 23:19	CYD0082	CD50739
Butylbenzylphthalate	ND (0.267)		8270D		1	04/06/15 23:19	CYD0082	CD50739
Dibenzofuran	ND (0.267)		8270D		1	04/06/15 23:19	CYD0082	CD50739
Diethylphthalate	ND (0.267)		8270D		1	04/06/15 23:19	CYD0082	CD50739
Dimethylphthalate	ND (0.267)		8270D		1	04/06/15 23:19	CYD0082	CD50739

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-221 0ft-3ft
Date Sampled: 03/30/15 08:30
Percent Solids: 62
Initial Volume: 30.2
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503558
ESS Laboratory Sample ID: 1503558-09
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 4/2/15 15:23

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Di-n-butylphthalate	ND (0.267)		8270D		1	04/06/15 23:19	CYD0082	CD50739
Di-n-octylphthalate	ND (0.267)		8270D		1	04/06/15 23:19	CYD0082	CD50739
Hexachlorobutadiene	ND (0.267)		8270D		1	04/06/15 23:19	CYD0082	CD50739
Hexachloroethane	ND (0.267)		8270D		1	04/06/15 23:19	CYD0082	CD50739
Isophorone	ND (0.267)		8270D		1	04/06/15 23:19	CYD0082	CD50739
Nitrobenzene	ND (0.267)		8270D		1	04/06/15 23:19	CYD0082	CD50739
N-Nitrosodimethylamine	ND (0.267)		8270D		1	04/06/15 23:19	CYD0082	CD50739
Pentachlorophenol	ND (1.34)		8270D		1	04/06/15 23:19	CYD0082	CD50739
Phenol	ND (0.267)		8270D		1	04/06/15 23:19	CYD0082	CD50739

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*49 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*76 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*55 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*67 %*		*30-130*
Surrogate: 2-Fluorophenol	*49 %*		*30-130*
Surrogate: Nitrobenzene-d5	*53 %*		*30-130*
Surrogate: Phenol-d6	*59 %*		*30-130*
Surrogate: p-Terphenyl-d14	*66 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-221 0ft-3ft
Date Sampled: 03/30/15 08:30
Percent Solids: 62

ESS Laboratory Work Order: 1503558
ESS Laboratory Sample ID: 1503558-09
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Corrosivity (pH)	**H 8.41** (N/A)		9045		1	JLK	04/01/15 11:12	S.U.	CD50119
Corrosivity (pH) Sample Temp	**Soil pH measured in water at 14.2 ºC.**								
Eh (ORP)	**H, WL 311** (N/A)		2580		1	JLK	04/01/15 11:12	mv	CD50120
Grain Size	**See Attached** (N/A)								
Hexavalent Chromium	ND (0.6)		7196A		1	EEM	04/06/15 14:20	mg/kg dry	CD50609
Percent Water	**See Attached** (N/A)								
Reactive Cyanide	ND (2.0)		7.3.3.2		1	JLK	04/01/15 11:34	mg/kg	CD50128
Reactive Sulfide	ND (2.0)		7.3.4.1		1	JLK	04/01/15 11:34	mg/kg	CD50128

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-221 0ft-3ft
Date Sampled: 03/30/15 08:30
Percent Solids: 62
Initial Volume: 30.2
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1503558
ESS Laboratory Sample ID: 1503558-09
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 4/2/15 13:31

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	**23.8** (20.1)		MADEP-EPH		1	JXS	04/04/15 22:56	CYD0058	CD50135
C19-C36 Aliphatics1	**84.3** (20.1)		MADEP-EPH		1	JXS	04/04/15 22:56	CYD0058	CD50135
C11-C22 Unadjusted Aromatics1	**142** (20.1)		EPH8270		1	JXS	04/04/15 5:05	CYD0054	CD50135
C11-C22 Aromatics1,2	**130** (20.1)		EPH8270			JXS	04/04/15 5:05		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*64 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*87 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*79 %*		*40-140*
Surrogate: O-Terphenyl	*77 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-222 0ft-0.5ft
Date Sampled: 03/30/15 09:05
Percent Solids: 55
Initial Volume: 30.1
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503558
ESS Laboratory Sample ID: 1503558-10
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 4/2/15 15:23

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.302)		8270D		1	04/06/15 23:54	CYD0082	CD50739
1,2-Dichlorobenzene	ND (0.302)		8270D		1	04/06/15 23:54	CYD0082	CD50739
1,3-Dichlorobenzene	ND (0.302)		8270D		1	04/06/15 23:54	CYD0082	CD50739
1,4-Dichlorobenzene	ND (0.302)		8270D		1	04/06/15 23:54	CYD0082	CD50739
2,4,5-Trichlorophenol	ND (0.302)		8270D		1	04/06/15 23:54	CYD0082	CD50739
2,4,6-Trichlorophenol	ND (0.302)		8270D		1	04/06/15 23:54	CYD0082	CD50739
2,4-Dichlorophenol	ND (0.302)		8270D		1	04/06/15 23:54	CYD0082	CD50739
2,4-Dimethylphenol	ND (0.302)		8270D		1	04/06/15 23:54	CYD0082	CD50739
2,4-Dinitrophenol	ND (1.52)		8270D		1	04/06/15 23:54	CYD0082	CD50739
2,4-Dinitrotoluene	ND (0.302)		8270D		1	04/06/15 23:54	CYD0082	CD50739
2,6-Dinitrotoluene	ND (0.302)		8270D		1	04/06/15 23:54	CYD0082	CD50739
2-Chloronaphthalene	ND (0.302)		8270D		1	04/06/15 23:54	CYD0082	CD50739
2-Chlorophenol	ND (0.302)		8270D		1	04/06/15 23:54	CYD0082	CD50739
2-Methylphenol	ND (0.302)		8270D		1	04/06/15 23:54	CYD0082	CD50739
2-Nitrophenol	ND (0.302)		8270D		1	04/06/15 23:54	CYD0082	CD50739
3,3´-Dichlorobenzidine	ND (0.606)		8270D		1	04/06/15 23:54	CYD0082	CD50739
3+4-Methylphenol	ND (0.606)		8270D		1	04/06/15 23:54	CYD0082	CD50739
4-Bromophenyl-phenylether	ND (0.302)		8270D		1	04/06/15 23:54	CYD0082	CD50739
4-Chloroaniline	ND (0.606)		8270D		1	04/06/15 23:54	CYD0082	CD50739
4-Nitrophenol	ND (1.52)		8270D		1	04/06/15 23:54	CYD0082	CD50739
Acetophenone	ND (0.606)		8270D		1	04/06/15 23:54	CYD0082	CD50739
Aniline	ND (1.52)		8270D		1	04/06/15 23:54	CYD0082	CD50739
Azobenzene	ND (0.302)		8270D		1	04/06/15 23:54	CYD0082	CD50739
bis(2-Chloroethoxy)methane	ND (0.302)		8270D		1	04/06/15 23:54	CYD0082	CD50739
bis(2-Chloroethyl)ether	ND (0.302)		8270D		1	04/06/15 23:54	CYD0082	CD50739
bis(2-chloroisopropyl)Ether	ND (0.302)		8270D		1	04/06/15 23:54	CYD0082	CD50739
bis(2-Ethylhexyl)phthalate	**1.33** (0.302)		8270D		1	04/06/15 23:54	CYD0082	CD50739
Butylbenzylphthalate	ND (0.302)		8270D		1	04/06/15 23:54	CYD0082	CD50739
Dibenzofuran	ND (0.302)		8270D		1	04/06/15 23:54	CYD0082	CD50739
Diethylphthalate	ND (0.302)		8270D		1	04/06/15 23:54	CYD0082	CD50739
Dimethylphthalate	ND (0.302)		8270D		1	04/06/15 23:54	CYD0082	CD50739

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-222 0ft-0.5ft
Date Sampled: 03/30/15 09:05
Percent Solids: 55
Initial Volume: 30.1
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503558
ESS Laboratory Sample ID: 1503558-10
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 4/2/15 15:23

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Di-n-butylphthalate	ND (0.302)		8270D		1	04/06/15 23:54	CYD0082	CD50739
Di-n-octylphthalate	ND (0.302)		8270D		1	04/06/15 23:54	CYD0082	CD50739
Hexachlorobutadiene	ND (0.302)		8270D		1	04/06/15 23:54	CYD0082	CD50739
Hexachloroethane	ND (0.302)		8270D		1	04/06/15 23:54	CYD0082	CD50739
Isophorone	ND (0.302)		8270D		1	04/06/15 23:54	CYD0082	CD50739
Nitrobenzene	ND (0.302)		8270D		1	04/06/15 23:54	CYD0082	CD50739
N-Nitrosodimethylamine	ND (0.302)		8270D		1	04/06/15 23:54	CYD0082	CD50739
Pentachlorophenol	ND (1.52)		8270D		1	04/06/15 23:54	CYD0082	CD50739
Phenol	ND (0.302)		8270D		1	04/06/15 23:54	CYD0082	CD50739

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*48 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*82 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*52 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*53 %*		*30-130*
Surrogate: 2-Fluorophenol	*49 %*		*30-130*
Surrogate: Nitrobenzene-d5	*49 %*		*30-130*
Surrogate: Phenol-d6	*55 %*		*30-130*
Surrogate: p-Terphenyl-d14	*73 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-222 0ft-0.5ft
Date Sampled: 03/30/15 09:05
Percent Solids: 55
Initial Volume: 20.3
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503558
ESS Laboratory Sample ID: 1503558-10
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 4/2/15 17:09

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	**0.025** (0.022)		8270D		1	04/10/15 13:00	CYD0151	CD50227
Acenaphthene	**0.026** (0.022)		8270D		1	04/10/15 13:00	CYD0151	CD50227
Acenaphthylene	**0.104** (0.022)		8270D		1	04/10/15 13:00	CYD0151	CD50227
Anthracene	**0.142** (0.022)		8270D		1	04/10/15 13:00	CYD0151	CD50227
Benzo(a)anthracene	**0.347** (0.022)		8270D		1	04/10/15 13:00	CYD0151	CD50227
Benzo(a)pyrene	**0.450** (0.022)		8270D		1	04/10/15 13:00	CYD0151	CD50227
Benzo(b)fluoranthene	**0.673** (0.022)		8270D		1	04/10/15 13:00	CYD0151	CD50227
Benzo(g,h,i)perylene	**0.216** (0.022)		8270D		1	04/10/15 13:00	CYD0151	CD50227
Benzo(k)fluoranthene	**0.174** (0.022)		8270D		1	04/10/15 13:00	CYD0151	CD50227
Chrysene	**0.439** (0.022)		8270D		1	04/10/15 13:00	CYD0151	CD50227
Dibenzo(a,h)Anthracene	**0.063** (0.022)		8270D		1	04/10/15 13:00	CYD0151	CD50227
Fluoranthene	**0.652** (0.022)		8270D		1	04/10/15 13:00	CYD0151	CD50227
Fluorene	**0.045** (0.022)		8270D		1	04/10/15 13:00	CYD0151	CD50227
Hexachlorobenzene	ND (0.022)		8270D		1	04/10/15 13:00	CYD0151	CD50227
Indeno(1,2,3-cd)Pyrene	**0.270** (0.022)		8270D		1	04/10/15 13:00	CYD0151	CD50227
Naphthalene	**0.082** (0.022)		8270D		1	04/10/15 13:00	CYD0151	CD50227
Phenanthrene	**0.299** (0.022)		8270D		1	04/10/15 13:00	CYD0151	CD50227
Pyrene	**0.609** (0.022)		8270D		1	04/10/15 13:00	CYD0151	CD50227

	%Recovery	*Qualifier*	*Limits*
Surrogate: 1,2-Dichlorobenzene-d4	*34 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*59 %*		*30-130*
Surrogate: Nitrobenzene-d5	*33 %*		*30-130*
Surrogate: p-Terphenyl-d14	*76 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-222 0ft-0.5ft
Date Sampled: 03/30/15 09:05
Percent Solids: 55
Initial Volume: 30.8
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1503558
ESS Laboratory Sample ID: 1503558-10
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 4/2/15 13:31

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	ND (22.2)		MADEP-EPH		1	JXS	04/04/15 23:46	CYD0058	CD50135
C19-C36 Aliphatics1	**77.9** (22.2)		MADEP-EPH		1	JXS	04/04/15 23:46	CYD0058	CD50135
C11-C22 Unadjusted Aromatics1	**67.8** (22.2)		EPH8270		1	JXS	04/04/15 5:42	CYD0054	CD50135
C11-C22 Aromatics1,2	**65.5** (22.2)		EPH8270			JXS	04/04/15 5:42		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*62 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*89 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*78 %*		*40-140*
Surrogate: O-Terphenyl	*83 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-222 0.5ft-2ft
Date Sampled: 03/30/15 09:05
Percent Solids: 65
Initial Volume: 20.4
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503558
ESS Laboratory Sample ID: 1503558-11
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 4/2/15 17:09

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	**0.029** (0.019)		8270D		1	04/10/15 12:11	CYD0151	CD50227
Acenaphthene	**0.021** (0.019)		8270D		1	04/10/15 12:11	CYD0151	CD50227
Acenaphthylene	**0.198** (0.019)		8270D		1	04/10/15 12:11	CYD0151	CD50227
Anthracene	**0.250** (0.019)		8270D		1	04/10/15 12:11	CYD0151	CD50227
Benzo(a)anthracene	**0.425** (0.019)		8270D		1	04/10/15 12:11	CYD0151	CD50227
Benzo(a)pyrene	**0.452** (0.019)		8270D		1	04/10/15 12:11	CYD0151	CD50227
Benzo(b)fluoranthene	**0.527** (0.019)		8270D		1	04/10/15 12:11	CYD0151	CD50227
Benzo(g,h,i)perylene	**0.164** (0.019)		8270D		1	04/10/15 12:11	CYD0151	CD50227
Benzo(k)fluoranthene	**0.171** (0.019)		8270D		1	04/10/15 12:11	CYD0151	CD50227
Chrysene	**0.518** (0.019)		8270D		1	04/10/15 12:11	CYD0151	CD50227
Dibenzo(a,h)Anthracene	**0.067** (0.019)		8270D		1	04/10/15 12:11	CYD0151	CD50227
Fluoranthene	**0.914** (0.019)		8270D		1	04/10/15 12:11	CYD0151	CD50227
Fluorene	**0.049** (0.019)		8270D		1	04/10/15 12:11	CYD0151	CD50227
Hexachlorobenzene	ND (0.019)		8270D		1	04/10/15 12:11	CYD0151	CD50227
Indeno(1,2,3-cd)Pyrene	**0.216** (0.019)		8270D		1	04/10/15 12:11	CYD0151	CD50227
Naphthalene	**0.086** (0.019)		8270D		1	04/10/15 12:11	CYD0151	CD50227
Phenanthrene	**0.161** (0.019)		8270D		1	04/10/15 12:11	CYD0151	CD50227
Pyrene	**0.810** (0.019)		8270D		1	04/10/15 12:11	CYD0151	CD50227

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*55 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*78 %*		*30-130*
Surrogate: Nitrobenzene-d5	*50 %*		*30-130*
Surrogate: p-Terphenyl-d14	*78 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-222 2ft-4ft
Date Sampled: 03/30/15 09:05
Percent Solids: 68
Initial Volume: 20.1
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503558
ESS Laboratory Sample ID: 1503558-12
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 4/2/15 17:09

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.018)		8270D		1	04/09/15 0:41	CYD0127	CD50227
Acenaphthene	ND (0.018)		8270D		1	04/09/15 0:41	CYD0127	CD50227
Acenaphthylene	**0.319** (0.018)		8270D		1	04/09/15 0:41	CYD0127	CD50227
Anthracene	**0.351** (0.018)		8270D		1	04/09/15 0:41	CYD0127	CD50227
Benzo(a)anthracene	**0.725** (0.018)		8270D		1	04/09/15 0:41	CYD0127	CD50227
Benzo(a)pyrene	**0.596** (0.018)		8270D		1	04/09/15 0:41	CYD0127	CD50227
Benzo(b)fluoranthene	**0.519** (0.018)		8270D		1	04/09/15 0:41	CYD0127	CD50227
Benzo(g,h,i)perylene	**0.279** (0.018)		8270D		1	04/09/15 0:41	CYD0127	CD50227
Benzo(k)fluoranthene	**0.134** (0.018)		8270D		1	04/09/15 0:41	CYD0127	CD50227
Chrysene	**0.763** (0.018)		8270D		1	04/09/15 0:41	CYD0127	CD50227
Dibenzo(a,h)Anthracene	**0.086** (0.018)		8270D		1	04/09/15 0:41	CYD0127	CD50227
Fluoranthene	**0.949** (0.018)		8270D		1	04/09/15 0:41	CYD0127	CD50227
Fluorene	**0.043** (0.018)		8270D		1	04/09/15 0:41	CYD0127	CD50227
Hexachlorobenzene	ND (0.018)		8270D		1	04/09/15 0:41	CYD0127	CD50227
Indeno(1,2,3-cd)Pyrene	**0.271** (0.018)		8270D		1	04/09/15 0:41	CYD0127	CD50227
Naphthalene	**0.028** (0.018)		8270D		1	04/09/15 0:41	CYD0127	CD50227
Phenanthrene	**0.150** (0.018)		8270D		1	04/09/15 0:41	CYD0127	CD50227
Pyrene	**1.32** (0.018)		8270D		1	04/09/15 0:41	CYD0127	CD50227

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*65 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*82 %*		*30-130*
Surrogate: Nitrobenzene-d5	*70 %*		*30-130*
Surrogate: p-Terphenyl-d14	*95 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-223 0ft-0.5ft
Date Sampled: 03/30/15 09:18
Percent Solids: 52
Initial Volume: 30.1
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503558
ESS Laboratory Sample ID: 1503558-13
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 4/2/15 15:23

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.322)		8270D		1	04/07/15 0:30	CYD0082	CD50739
1,2-Dichlorobenzene	ND (0.322)		8270D		1	04/07/15 0:30	CYD0082	CD50739
1,3-Dichlorobenzene	ND (0.322)		8270D		1	04/07/15 0:30	CYD0082	CD50739
1,4-Dichlorobenzene	ND (0.322)		8270D		1	04/07/15 0:30	CYD0082	CD50739
2,4,5-Trichlorophenol	ND (0.322)		8270D		1	04/07/15 0:30	CYD0082	CD50739
2,4,6-Trichlorophenol	ND (0.322)		8270D		1	04/07/15 0:30	CYD0082	CD50739
2,4-Dichlorophenol	ND (0.322)		8270D		1	04/07/15 0:30	CYD0082	CD50739
2,4-Dimethylphenol	ND (0.322)		8270D		1	04/07/15 0:30	CYD0082	CD50739
2,4-Dinitrophenol	ND (1.61)		8270D		1	04/07/15 0:30	CYD0082	CD50739
2,4-Dinitrotoluene	ND (0.322)		8270D		1	04/07/15 0:30	CYD0082	CD50739
2,6-Dinitrotoluene	ND (0.322)		8270D		1	04/07/15 0:30	CYD0082	CD50739
2-Chloronaphthalene	ND (0.322)		8270D		1	04/07/15 0:30	CYD0082	CD50739
2-Chlorophenol	ND (0.322)		8270D		1	04/07/15 0:30	CYD0082	CD50739
2-Methylphenol	ND (0.322)		8270D		1	04/07/15 0:30	CYD0082	CD50739
2-Nitrophenol	ND (0.322)		8270D		1	04/07/15 0:30	CYD0082	CD50739
3,3´-Dichlorobenzidine	ND (0.645)		8270D		1	04/07/15 0:30	CYD0082	CD50739
3+4-Methylphenol	ND (0.645)		8270D		1	04/07/15 0:30	CYD0082	CD50739
4-Bromophenyl-phenylether	ND (0.322)		8270D		1	04/07/15 0:30	CYD0082	CD50739
4-Chloroaniline	ND (0.645)		8270D		1	04/07/15 0:30	CYD0082	CD50739
4-Nitrophenol	ND (1.61)		8270D		1	04/07/15 0:30	CYD0082	CD50739
Acetophenone	ND (0.645)		8270D		1	04/07/15 0:30	CYD0082	CD50739
Aniline	ND (1.61)		8270D		1	04/07/15 0:30	CYD0082	CD50739
Azobenzene	ND (0.322)		8270D		1	04/07/15 0:30	CYD0082	CD50739
bis(2-Chloroethoxy)methane	ND (0.322)		8270D		1	04/07/15 0:30	CYD0082	CD50739
bis(2-Chloroethyl)ether	ND (0.322)		8270D		1	04/07/15 0:30	CYD0082	CD50739
bis(2-chloroisopropyl)Ether	ND (0.322)		8270D		1	04/07/15 0:30	CYD0082	CD50739
bis(2-Ethylhexyl)phthalate	**1.34** (0.322)		8270D		1	04/07/15 0:30	CYD0082	CD50739
Butylbenzylphthalate	ND (0.322)		8270D		1	04/07/15 0:30	CYD0082	CD50739
Dibenzofuran	ND (0.322)		8270D		1	04/07/15 0:30	CYD0082	CD50739
Diethylphthalate	ND (0.322)		8270D		1	04/07/15 0:30	CYD0082	CD50739
Dimethylphthalate	ND (0.322)		8270D		1	04/07/15 0:30	CYD0082	CD50739

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-223 0ft-0.5ft
Date Sampled: 03/30/15 09:18
Percent Solids: 52
Initial Volume: 30.1
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503558
ESS Laboratory Sample ID: 1503558-13
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 4/2/15 15:23

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Di-n-butylphthalate	ND (0.322)		8270D		1	04/07/15 0:30	CYD0082	CD50739
Di-n-octylphthalate	ND (0.322)		8270D		1	04/07/15 0:30	CYD0082	CD50739
Hexachlorobutadiene	ND (0.322)		8270D		1	04/07/15 0:30	CYD0082	CD50739
Hexachloroethane	ND (0.322)		8270D		1	04/07/15 0:30	CYD0082	CD50739
Isophorone	ND (0.322)		8270D		1	04/07/15 0:30	CYD0082	CD50739
Nitrobenzene	ND (0.322)		8270D		1	04/07/15 0:30	CYD0082	CD50739
N-Nitrosodimethylamine	ND (0.322)		8270D		1	04/07/15 0:30	CYD0082	CD50739
Pentachlorophenol	ND (1.61)		8270D		1	04/07/15 0:30	CYD0082	CD50739
Phenol	ND (0.322)		8270D		1	04/07/15 0:30	CYD0082	CD50739

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*46 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*77 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*49 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*55 %*		*30-130*
Surrogate: 2-Fluorophenol	*47 %*		*30-130*
Surrogate: Nitrobenzene-d5	*49 %*		*30-130*
Surrogate: Phenol-d6	*51 %*		*30-130*
Surrogate: p-Terphenyl-d14	*64 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-223 0ft-0.5ft
Date Sampled: 03/30/15 09:18
Percent Solids: 52
Initial Volume: 20.2
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503558
ESS Laboratory Sample ID: 1503558-13
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 4/2/15 17:09

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	**0.090** (0.024)		8270D		1	04/09/15 1:31	CYD0127	CD50227
Acenaphthene	**0.241** (0.024)		8270D		1	04/09/15 1:31	CYD0127	CD50227
Acenaphthylene	**0.183** (0.024)		8270D		1	04/09/15 1:31	CYD0127	CD50227
Anthracene	**0.557** (0.024)		8270D		1	04/09/15 1:31	CYD0127	CD50227
Benzo(a)anthracene	**1.09** (0.024)		8270D		1	04/09/15 1:31	CYD0127	CD50227
Benzo(a)pyrene	**1.25** (0.024)		8270D		1	04/09/15 1:31	CYD0127	CD50227
Benzo(b)fluoranthene	**1.84** (0.024)		8270D		1	04/09/15 1:31	CYD0127	CD50227
Benzo(g,h,i)perylene	**0.853** (0.024)		8270D		1	04/09/15 1:31	CYD0127	CD50227
Benzo(k)fluoranthene	**0.520** (0.024)		8270D		1	04/09/15 1:31	CYD0127	CD50227
Chrysene	**1.17** (0.024)		8270D		1	04/09/15 1:31	CYD0127	CD50227
Dibenzo(a,h)Anthracene	**0.239** (0.024)		8270D		1	04/09/15 1:31	CYD0127	CD50227
Fluoranthene	**2.21** (0.024)		8270D		1	04/09/15 1:31	CYD0127	CD50227
Fluorene	**0.316** (0.024)		8270D		1	04/09/15 1:31	CYD0127	CD50227
Hexachlorobenzene	ND (0.024)		8270D		1	04/09/15 1:31	CYD0127	CD50227
Indeno(1,2,3-cd)Pyrene	**1.03** (0.024)		8270D		1	04/09/15 1:31	CYD0127	CD50227
Naphthalene	**0.260** (0.024)		8270D		1	04/09/15 1:31	CYD0127	CD50227
Phenanthrene	**1.94** (0.024)		8270D		1	04/09/15 1:31	CYD0127	CD50227
Pyrene	**2.26** (0.024)		8270D		1	04/09/15 1:31	CYD0127	CD50227

	%Recovery	*Qualifier*	*Limits*
Surrogate: 1,2-Dichlorobenzene-d4	*52 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*74 %*		*30-130*
Surrogate: Nitrobenzene-d5	*60 %*		*30-130*
Surrogate: p-Terphenyl-d14	*103 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-223 0ft-0.5ft
Date Sampled: 03/30/15 09:18
Percent Solids: 52
Initial Volume: 30.3
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1503558
ESS Laboratory Sample ID: 1503558-13
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 4/2/15 13:31

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	ND (24.0)		MADEP-EPH		1	JXS	04/05/15 0:37	CYD0058	CD50135
C19-C36 Aliphatics1	**68.3** (24.0)		MADEP-EPH		1	JXS	04/05/15 0:37	CYD0058	CD50135
C11-C22 Unadjusted Aromatics1	**58.1** (24.0)		EPH8270		1	JXS	04/04/15 6:18	CYD0054	CD50135
C11-C22 Aromatics1,2	**56.7** (24.0)		EPH8270			JXS	04/04/15 6:18		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*62 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*95 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*88 %*		*40-140*
Surrogate: O-Terphenyl	*80 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-223 2ft-4ft
Date Sampled: 03/30/15 09:18
Percent Solids: 57
Initial Volume: 20.1
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503558
ESS Laboratory Sample ID: 1503558-14
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 4/2/15 17:09

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	**0.036** (0.022)		8270D		1	04/10/15 3:14	CYD0151	CD50227
Acenaphthene	**0.032** (0.022)		8270D		1	04/10/15 3:14	CYD0151	CD50227
Acenaphthylene	**0.677** (0.022)		8270D		1	04/10/15 3:14	CYD0151	CD50227
Anthracene	**0.516** (0.022)		8270D		1	04/10/15 3:14	CYD0151	CD50227
Benzo(a)anthracene	**1.58** (0.022)		8270D		1	04/10/15 3:14	CYD0151	CD50227
Benzo(a)pyrene	**1.32** (0.022)		8270D		1	04/10/15 3:14	CYD0151	CD50227
Benzo(b)fluoranthene	**1.52** (0.022)		8270D		1	04/10/15 3:14	CYD0151	CD50227
Benzo(g,h,i)perylene	**0.669** (0.022)		8270D		1	04/10/15 3:14	CYD0151	CD50227
Benzo(k)fluoranthene	**1.51** (0.022)		8270D		1	04/10/15 3:14	CYD0151	CD50227
Chrysene	**1.58** (0.022)		8270D		1	04/10/15 3:14	CYD0151	CD50227
Dibenzo(a,h)Anthracene	**0.247** (0.022)		8270D		1	04/10/15 3:14	CYD0151	CD50227
Fluoranthene	**2.12** (0.022)		8270D		1	04/10/15 3:14	CYD0151	CD50227
Fluorene	**0.098** (0.022)		8270D		1	04/10/15 3:14	CYD0151	CD50227
Hexachlorobenzene	ND (0.022)		8270D		1	04/10/15 3:14	CYD0151	CD50227
Indeno(1,2,3-cd)Pyrene	**0.677** (0.022)		8270D		1	04/10/15 3:14	CYD0151	CD50227
Naphthalene	**0.081** (0.022)		8270D		1	04/10/15 3:14	CYD0151	CD50227
Phenanthrene	**0.301** (0.022)		8270D		1	04/10/15 3:14	CYD0151	CD50227
Pyrene	**3.41** (0.108)		8270D		5	04/11/15 6:14	CYD0151	CD50227

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*71 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*96 %*		*30-130*
Surrogate: Nitrobenzene-d5	*78 %*		*30-130*
Surrogate: p-Terphenyl-d14	*105 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-223 0ft-3ft
Date Sampled: 03/30/15 09:18
Percent Solids: 50
Initial Volume: 7.6
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1503558
ESS Laboratory Sample ID: 1503558-15
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.0066)		8260B Low		1	04/01/15 20:00	CYD0007	CD50146
1,1,1-Trichloroethane	ND (0.0066)		8260B Low		1	04/01/15 20:00	CYD0007	CD50146
1,1,2,2-Tetrachloroethane	ND (0.0026)		8260B Low		1	04/01/15 20:00	CYD0007	CD50146
1,1,2-Trichloroethane	ND (0.0066)		8260B Low		1	04/01/15 20:00	CYD0007	CD50146
1,1-Dichloroethane	ND (0.0066)		8260B Low		1	04/01/15 20:00	CYD0007	CD50146
1,1-Dichloroethene	ND (0.0066)		8260B Low		1	04/01/15 20:00	CYD0007	CD50146
1,1-Dichloropropene	ND (0.0066)		8260B Low		1	04/01/15 20:00	CYD0007	CD50146
1,2,3-Trichlorobenzene	ND (0.0066)		8260B Low		1	04/01/15 20:00	CYD0007	CD50146
1,2,3-Trichloropropane	ND (0.0066)		8260B Low		1	04/01/15 20:00	CYD0007	CD50146
1,2,4-Trichlorobenzene	ND (0.0066)		8260B Low		1	04/01/15 20:00	CYD0007	CD50146
1,2,4-Trimethylbenzene	ND (0.0066)		8260B Low		1	04/01/15 20:00	CYD0007	CD50146
1,2-Dibromo-3-Chloropropane	ND (0.0066)		8260B Low		1	04/01/15 20:00	CYD0007	CD50146
1,2-Dibromoethane	ND (0.0066)		8260B Low		1	04/01/15 20:00	CYD0007	CD50146
1,2-Dichlorobenzene	ND (0.0066)		8260B Low		1	04/01/15 20:00	CYD0007	CD50146
1,2-Dichloroethane	ND (0.0066)		8260B Low		1	04/01/15 20:00	CYD0007	CD50146
1,2-Dichloropropane	ND (0.0066)		8260B Low		1	04/01/15 20:00	CYD0007	CD50146
1,3,5-Trimethylbenzene	ND (0.0066)		8260B Low		1	04/01/15 20:00	CYD0007	CD50146
1,3-Dichlorobenzene	ND (0.0066)		8260B Low		1	04/01/15 20:00	CYD0007	CD50146
1,3-Dichloropropane	ND (0.0066)		8260B Low		1	04/01/15 20:00	CYD0007	CD50146
1,4-Dichlorobenzene	ND (0.0066)		8260B Low		1	04/01/15 20:00	CYD0007	CD50146
1,4-Dioxane	ND (0.132)		8260B Low		1	04/01/15 20:00	CYD0007	CD50146
2,2-Dichloropropane	ND (0.0066)		8260B Low		1	04/01/15 20:00	CYD0007	CD50146
2-Butanone	ND (0.0132)		8260B Low		1	04/01/15 20:00	CYD0007	CD50146
2-Chlorotoluene	ND (0.0066)		8260B Low		1	04/01/15 20:00	CYD0007	CD50146
2-Hexanone	ND (0.0132)		8260B Low		1	04/01/15 20:00	CYD0007	CD50146
4-Chlorotoluene	ND (0.0066)		8260B Low		1	04/01/15 20:00	CYD0007	CD50146
4-Isopropyltoluene	ND (0.0066)		8260B Low		1	04/01/15 20:00	CYD0007	CD50146
4-Methyl-2-Pentanone	ND (0.0132)		8260B Low		1	04/01/15 20:00	CYD0007	CD50146
Acetone	**0.0716** (0.0132)		8260B Low		1	04/01/15 20:00	CYD0007	CD50146
Benzene	ND (0.0066)		8260B Low		1	04/01/15 20:00	CYD0007	CD50146
Bromobenzene	ND (0.0066)		8260B Low		1	04/01/15 20:00	CYD0007	CD50146

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-223 0ft-3ft
Date Sampled: 03/30/15 09:18
Percent Solids: 50
Initial Volume: 7.6
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1503558
ESS Laboratory Sample ID: 1503558-15
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromochloromethane	ND (0.0066)		8260B Low		1	04/01/15 20:00	CYD0007	CD50146
Bromodichloromethane	ND (0.0066)		8260B Low		1	04/01/15 20:00	CYD0007	CD50146
Bromoform	ND (0.0066)		8260B Low		1	04/01/15 20:00	CYD0007	CD50146
Bromomethane	ND (0.0132)		8260B Low		1	04/01/15 20:00	CYD0007	CD50146
Carbon Disulfide	**0.0066** (0.0066)		8260B Low		1	04/01/15 20:00	CYD0007	CD50146
Carbon Tetrachloride	ND (0.0066)		8260B Low		1	04/01/15 20:00	CYD0007	CD50146
Chlorobenzene	ND (0.0066)		8260B Low		1	04/01/15 20:00	CYD0007	CD50146
Chloroethane	ND (0.0132)		8260B Low		1	04/01/15 20:00	CYD0007	CD50146
Chloroform	ND (0.0066)		8260B Low		1	04/01/15 20:00	CYD0007	CD50146
Chloromethane	ND (0.0132)		8260B Low		1	04/01/15 20:00	CYD0007	CD50146
cis-1,2-Dichloroethene	ND (0.0066)		8260B Low		1	04/01/15 20:00	CYD0007	CD50146
cis-1,3-Dichloropropene	ND (0.0066)		8260B Low		1	04/01/15 20:00	CYD0007	CD50146
Dibromochloromethane	ND (0.0026)		8260B Low		1	04/01/15 20:00	CYD0007	CD50146
Dibromomethane	ND (0.0066)		8260B Low		1	04/01/15 20:00	CYD0007	CD50146
Dichlorodifluoromethane	ND (0.0132)		8260B Low		1	04/01/15 20:00	CYD0007	CD50146
Diethyl Ether	ND (0.0066)		8260B Low		1	04/01/15 20:00	CYD0007	CD50146
Di-isopropyl ether	ND (0.0066)		8260B Low		1	04/01/15 20:00	CYD0007	CD50146
Ethyl tertiary-butyl ether	ND (0.0066)		8260B Low		1	04/01/15 20:00	CYD0007	CD50146
Ethylbenzene	ND (0.0066)		8260B Low		1	04/01/15 20:00	CYD0007	CD50146
Hexachlorobutadiene	ND (0.0066)		8260B Low		1	04/01/15 20:00	CYD0007	CD50146
Isopropylbenzene	ND (0.0066)		8260B Low		1	04/01/15 20:00	CYD0007	CD50146
Methyl tert-Butyl Ether	ND (0.0066)		8260B Low		1	04/01/15 20:00	CYD0007	CD50146
Methylene Chloride	ND (0.0132)		8260B Low		1	04/01/15 20:00	CYD0007	CD50146
Naphthalene	ND (0.0066)		8260B Low		1	04/01/15 20:00	CYD0007	CD50146
n-Butylbenzene	ND (0.0066)		8260B Low		1	04/01/15 20:00	CYD0007	CD50146
n-Propylbenzene	ND (0.0066)		8260B Low		1	04/01/15 20:00	CYD0007	CD50146
sec-Butylbenzene	ND (0.0066)		8260B Low		1	04/01/15 20:00	CYD0007	CD50146
Styrene	ND (0.0066)		8260B Low		1	04/01/15 20:00	CYD0007	CD50146
tert-Butylbenzene	ND (0.0066)		8260B Low		1	04/01/15 20:00	CYD0007	CD50146
Tertiary-amyl methyl ether	ND (0.0066)		8260B Low		1	04/01/15 20:00	CYD0007	CD50146
Tetrachloroethene	ND (0.0066)		8260B Low		1	04/01/15 20:00	CYD0007	CD50146

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-223 0ft-3ft
Date Sampled: 03/30/15 09:18
Percent Solids: 50
Initial Volume: 7.6
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1503558
ESS Laboratory Sample ID: 1503558-15
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Tetrahydrofuran	ND (0.0066)		8260B Low		1	04/01/15 20:00	CYD0007	CD50146
Toluene	ND (0.0066)		8260B Low		1	04/01/15 20:00	CYD0007	CD50146
trans-1,2-Dichloroethene	ND (0.0066)		8260B Low		1	04/01/15 20:00	CYD0007	CD50146
trans-1,3-Dichloropropene	ND (0.0066)		8260B Low		1	04/01/15 20:00	CYD0007	CD50146
Trichloroethene	ND (0.0066)		8260B Low		1	04/01/15 20:00	CYD0007	CD50146
Trichlorofluoromethane	ND (0.0066)		8260B Low		1	04/01/15 20:00	CYD0007	CD50146
Vinyl Chloride	ND (0.0132)		8260B Low		1	04/01/15 20:00	CYD0007	CD50146
Xylene O	ND (0.0066)		8260B Low		1	04/01/15 20:00	CYD0007	CD50146
Xylene P,M	ND (0.0132)		8260B Low		1	04/01/15 20:00	CYD0007	CD50146
Xylenes (Total)	ND (0.0132)		8260B Low		1	04/01/15 20:00		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*96 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*91 %*		*70-130*
Surrogate: Dibromofluoromethane	*87 %*		*70-130*
Surrogate: Toluene-d8	*91 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-223 0ft-3ft
Date Sampled: 03/30/15 09:18
Percent Solids: 50
Initial Volume: 30.4
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503558
ESS Laboratory Sample ID: 1503558-15
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 4/2/15 15:23

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.330)		8270D		1	04/07/15 1:06	CYD0082	CD50739
1,2-Dichlorobenzene	ND (0.330)		8270D		1	04/07/15 1:06	CYD0082	CD50739
1,3-Dichlorobenzene	ND (0.330)		8270D		1	04/07/15 1:06	CYD0082	CD50739
1,4-Dichlorobenzene	ND (0.330)		8270D		1	04/07/15 1:06	CYD0082	CD50739
2,4,5-Trichlorophenol	ND (0.330)		8270D		1	04/07/15 1:06	CYD0082	CD50739
2,4,6-Trichlorophenol	ND (0.330)		8270D		1	04/07/15 1:06	CYD0082	CD50739
2,4-Dichlorophenol	ND (0.330)		8270D		1	04/07/15 1:06	CYD0082	CD50739
2,4-Dimethylphenol	ND (0.330)		8270D		1	04/07/15 1:06	CYD0082	CD50739
2,4-Dinitrophenol	ND (1.66)		8270D		1	04/07/15 1:06	CYD0082	CD50739
2,4-Dinitrotoluene	ND (0.330)		8270D		1	04/07/15 1:06	CYD0082	CD50739
2,6-Dinitrotoluene	ND (0.330)		8270D		1	04/07/15 1:06	CYD0082	CD50739
2-Chloronaphthalene	ND (0.330)		8270D		1	04/07/15 1:06	CYD0082	CD50739
2-Chlorophenol	ND (0.330)		8270D		1	04/07/15 1:06	CYD0082	CD50739
2-Methylphenol	ND (0.330)		8270D		1	04/07/15 1:06	CYD0082	CD50739
2-Nitrophenol	ND (0.330)		8270D		1	04/07/15 1:06	CYD0082	CD50739
3,3´-Dichlorobenzidine	ND (0.661)		8270D		1	04/07/15 1:06	CYD0082	CD50739
3+4-Methylphenol	ND (0.661)		8270D		1	04/07/15 1:06	CYD0082	CD50739
4-Bromophenyl-phenylether	ND (0.330)		8270D		1	04/07/15 1:06	CYD0082	CD50739
4-Chloroaniline	ND (0.661)		8270D		1	04/07/15 1:06	CYD0082	CD50739
4-Nitrophenol	ND (1.66)		8270D		1	04/07/15 1:06	CYD0082	CD50739
Acetophenone	ND (0.661)		8270D		1	04/07/15 1:06	CYD0082	CD50739
Aniline	ND (1.66)		8270D		1	04/07/15 1:06	CYD0082	CD50739
Azobenzene	ND (0.330)		8270D		1	04/07/15 1:06	CYD0082	CD50739
bis(2-Chloroethoxy)methane	ND (0.330)		8270D		1	04/07/15 1:06	CYD0082	CD50739
bis(2-Chloroethyl)ether	ND (0.330)		8270D		1	04/07/15 1:06	CYD0082	CD50739
bis(2-chloroisopropyl)Ether	ND (0.330)		8270D		1	04/07/15 1:06	CYD0082	CD50739
bis(2-Ethylhexyl)phthalate	ND (0.330)		8270D		1	04/07/15 1:06	CYD0082	CD50739
Butylbenzylphthalate	ND (0.330)		8270D		1	04/07/15 1:06	CYD0082	CD50739
Dibenzofuran	ND (0.330)		8270D		1	04/07/15 1:06	CYD0082	CD50739
Diethylphthalate	ND (0.330)		8270D		1	04/07/15 1:06	CYD0082	CD50739
Dimethylphthalate	ND (0.330)		8270D		1	04/07/15 1:06	CYD0082	CD50739

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-223 0ft-3ft
Date Sampled: 03/30/15 09:18
Percent Solids: 50
Initial Volume: 30.4
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503558
ESS Laboratory Sample ID: 1503558-15
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 4/2/15 15:23

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Di-n-butylphthalate	ND (0.330)		8270D		1	04/07/15 1:06	CYD0082	CD50739
Di-n-octylphthalate	ND (0.330)		8270D		1	04/07/15 1:06	CYD0082	CD50739
Hexachlorobutadiene	ND (0.330)		8270D		1	04/07/15 1:06	CYD0082	CD50739
Hexachloroethane	ND (0.330)		8270D		1	04/07/15 1:06	CYD0082	CD50739
Isophorone	ND (0.330)		8270D		1	04/07/15 1:06	CYD0082	CD50739
Nitrobenzene	ND (0.330)		8270D		1	04/07/15 1:06	CYD0082	CD50739
N-Nitrosodimethylamine	ND (0.330)		8270D		1	04/07/15 1:06	CYD0082	CD50739
Pentachlorophenol	ND (1.66)		8270D		1	04/07/15 1:06	CYD0082	CD50739
Phenol	ND (0.330)		8270D		1	04/07/15 1:06	CYD0082	CD50739

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*49 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*63 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*52 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*56 %*		*30-130*
Surrogate: 2-Fluorophenol	*50 %*		*30-130*
Surrogate: Nitrobenzene-d5	*52 %*		*30-130*
Surrogate: Phenol-d6	*54 %*		*30-130*
Surrogate: p-Terphenyl-d14	*57 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-223 0ft-3ft
Date Sampled: 03/30/15 09:18
Percent Solids: 50

ESS Laboratory Work Order: 1503558
ESS Laboratory Sample ID: 1503558-15
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Corrosivity (pH)	**H 8.34** (N/A)		9045		1	JLK	04/01/15 11:12	S.U.	CD50119
Corrosivity (pH) Sample Temp	**Soil pH measured in water at 13.8 ºC.**								
Eh (ORP)	**H, WL 293** (N/A)		2580		1	JLK	04/01/15 11:12	mv	CD50120
Grain Size	**See Attached** (N/A)								
Hexavalent Chromium	ND (0.8)		7196A		1	EEM	04/06/15 14:20	mg/kg dry	CD50609
Percent Water	**See Attached** (N/A)								
Reactive Cyanide	ND (2.0)		7.3.3.2		1	JLK	04/01/15 11:34	mg/kg	CD50128
Reactive Sulfide	ND (2.0)		7.3.4.1		1	JLK	04/01/15 11:34	mg/kg	CD50128

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-223 0ft-3ft
Date Sampled: 03/30/15 09:18
Percent Solids: 50
Initial Volume: 30.2
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1503558
ESS Laboratory Sample ID: 1503558-15
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 4/2/15 13:31

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	ND (24.9)		MADEP-EPH		1	JXS	04/05/15 1:27	CYD0058	CD50135
C19-C36 Aliphatics1	**38.4** (24.9)		MADEP-EPH		1	JXS	04/05/15 1:27	CYD0058	CD50135
C11-C22 Unadjusted Aromatics1	**84.6** (24.9)		EPH8270		1	JXS	04/04/15 6:55	CYD0054	CD50135
C11-C22 Aromatics1,2	**77.6** (24.9)		EPH8270			JXS	04/04/15 6:55		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*50 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*92 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*81 %*		*40-140*
Surrogate: O-Terphenyl	*72 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-226 0ft-0.5ft
Date Sampled: 03/30/15 07:58
Percent Solids: 100

ESS Laboratory Work Order: 1503558
ESS Laboratory Sample ID: 1503558-16
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (4.08)		6020A		50	NAR	04/09/15 16:59	2.45	100	CD50820
Arsenic	**32.2** (2.04)		6010C		1	KJK	04/09/15 20:17	2.45	100	CD50820
Barium	**41.2** (2.04)		6010C		1	KJK	04/09/15 2:33	2.45	100	CD50820
Beryllium	**0.33** (0.09)		6010C		1	KJK	04/09/15 2:33	2.45	100	CD50820
Cadmium	ND (0.41)		6010C		1	KJK	04/09/15 2:33	2.45	100	CD50820
Chromium	**39.2** (0.82)		6010C		1	KJK	04/09/15 2:33	2.45	100	CD50820
Lead	**176** (4.08)		6010C		1	KJK	04/09/15 2:33	2.45	100	CD50820
Mercury	**0.544** (0.029)		7471B		1	BJV	04/09/15 12:25	0.68	40	CD50819
Nickel	**14.1** (2.04)		6010C		1	KJK	04/09/15 2:33	2.45	100	CD50820
Selenium	ND (8.16)		6020A		50	NAR	04/09/15 16:59	2.45	100	CD50820
Silver	**0.59** (0.41)		6010C		1	KJK	04/09/15 2:33	2.45	100	CD50820
Thallium	ND (0.33)		7010		4	KJK	04/10/15 5:45	2.45	100	CD50820
Vanadium	**58.2** (0.82)		6010C		1	KJK	04/09/15 2:33	2.45	100	CD50820
Zinc	**187** (2.04)		6010C		1	KJK	04/09/15 2:33	2.45	100	CD50820

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-226 0.5ft-2ft
Date Sampled: 03/30/15 07:58
Percent Solids: 100

ESS Laboratory Work Order: 1503558
ESS Laboratory Sample ID: 1503558-17
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (3.83)		6020A		50	NAR	04/09/15 17:28	2.61	100	CD50820
Arsenic	**91.8** (1.92)		6010C		1	KJK	04/09/15 20:47	2.61	100	CD50820
Barium	**53.5** (1.92)		6010C		1	KJK	04/09/15 2:59	2.61	100	CD50820
Beryllium	**0.47** (0.08)		6010C		1	KJK	04/09/15 2:59	2.61	100	CD50820
Cadmium	**3.40** (0.38)		6010C		1	KJK	04/09/15 2:59	2.61	100	CD50820
Chromium	**57.8** (0.77)		6010C		1	KJK	04/09/15 2:59	2.61	100	CD50820
Lead	**1210** (19.2)		6010C		5	KJK	04/09/15 20:43	2.61	100	CD50820
Mercury	**5.43** (1.52)		7471B		50	BJV	04/09/15 15:20	0.65	40	CD50819
Nickel	**12.7** (1.92)		6010C		1	KJK	04/09/15 2:59	2.61	100	CD50820
Selenium	**45.8** (7.66)		7010		20	NAR	04/13/15 15:59	2.61	100	CD50820
Silver	**0.70** (0.38)		6010C		1	KJK	04/09/15 2:59	2.61	100	CD50820
Thallium	ND (0.31)		7010		4	KJK	04/10/15 6:31	2.61	100	CD50820
Vanadium	**32.7** (0.77)		6010C		1	KJK	04/09/15 2:59	2.61	100	CD50820
Zinc	**1150** (9.58)		6010C		5	KJK	04/09/15 20:43	2.61	100	CD50820

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-226 2ft-4ft
Date Sampled: 03/30/15 07:58
Percent Solids: 100

ESS Laboratory Work Order: 1503558
ESS Laboratory Sample ID: 1503558-18
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (3.72)		6020A		50	NAR	04/09/15 17:45	2.69	100	CD50820
Arsenic	ND (1.86)		6010C		1	KJK	04/09/15 20:53	2.69	100	CD50820
Barium	**22.6** (1.86)		6010C		1	KJK	04/09/15 3:05	2.69	100	CD50820
Beryllium	**0.38** (0.08)		6010C		1	KJK	04/09/15 3:05	2.69	100	CD50820
Cadmium	ND (0.37)		6010C		1	KJK	04/09/15 3:05	2.69	100	CD50820
Chromium	**19.3** (0.74)		6010C		1	KJK	04/09/15 3:05	2.69	100	CD50820
Lead	**13.1** (3.72)		6010C		1	KJK	04/09/15 3:05	2.69	100	CD50820
Mercury	**0.049** (0.028)		7471B		1	BJV	04/09/15 12:35	0.72	40	CD50819
Nickel	**11.6** (1.86)		6010C		1	KJK	04/09/15 3:05	2.69	100	CD50820
Selenium	ND (7.43)		6020A		50	NAR	04/09/15 17:45	2.69	100	CD50820
Silver	ND (0.37)		6010C		1	KJK	04/09/15 3:05	2.69	100	CD50820
Thallium	ND (0.30)		7010		4	KJK	04/10/15 6:37	2.69	100	CD50820
Vanadium	**24.7** (0.74)		6010C		1	KJK	04/09/15 3:05	2.69	100	CD50820
Zinc	**46.3** (1.86)		6010C		1	KJK	04/09/15 3:05	2.69	100	CD50820

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-220 0ft-0.5ft
Date Sampled: 03/30/15 08:11
Percent Solids: 100

ESS Laboratory Work Order: 1503558
ESS Laboratory Sample ID: 1503558-19
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (4.20)		6020A		50	NAR	04/09/15 17:51	2.38	100	CD50820
Arsenic	**45.8** (2.10)		6010C		1	KJK	04/09/15 20:57	2.38	100	CD50820
Barium	**48.4** (2.10)		6010C		1	KJK	04/09/15 3:09	2.38	100	CD50820
Beryllium	**0.40** (0.09)		6010C		1	KJK	04/09/15 3:09	2.38	100	CD50820
Cadmium	**0.52** (0.42)		6010C		1	KJK	04/09/15 3:09	2.38	100	CD50820
Chromium	**49.5** (0.84)		6010C		1	KJK	04/09/15 3:09	2.38	100	CD50820
Lead	**317** (4.20)		6010C		1	KJK	04/09/15 3:09	2.38	100	CD50820
Mercury	**1.05** (0.146)		7471B		5	BJV	04/09/15 15:21	0.68	40	CD50819
Nickel	**15.7** (2.10)		6010C		1	KJK	04/09/15 3:09	2.38	100	CD50820
Selenium	ND (8.40)		6020A		50	NAR	04/09/15 17:51	2.38	100	CD50820
Silver	**0.83** (0.42)		6010C		1	KJK	04/09/15 3:09	2.38	100	CD50820
Thallium	ND (0.34)		7010		4	KJK	04/10/15 6:42	2.38	100	CD50820
Vanadium	**59.3** (0.84)		6010C		1	KJK	04/09/15 3:09	2.38	100	CD50820
Zinc	**266** (2.10)		6010C		1	KJK	04/09/15 3:09	2.38	100	CD50820

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-220 0.5ft-2ft
Date Sampled: 03/30/15 08:11
Percent Solids: 100

ESS Laboratory Work Order: 1503558
ESS Laboratory Sample ID: 1503558-20
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (3.94)		6020A		50	NAR	04/09/15 17:57	2.54	100	CD50820
Arsenic	**210** (1.97)		6010C		1	KJK	04/09/15 21:02	2.54	100	CD50820
Barium	**59.3** (1.97)		6010C		1	KJK	04/09/15 3:14	2.54	100	CD50820
Beryllium	**0.52** (0.09)		6010C		1	KJK	04/09/15 3:14	2.54	100	CD50820
Cadmium	**2.76** (0.39)		6010C		1	KJK	04/09/15 3:14	2.54	100	CD50820
Chromium	**44.4** (0.79)		6010C		1	KJK	04/09/15 3:14	2.54	100	CD50820
Lead	**582** (3.94)		6010C		1	KJK	04/09/15 3:14	2.54	100	CD50820
Mercury	**3.46** (1.34)		7471B		50	BJV	04/09/15 15:23	0.74	40	CD50819
Nickel	**11.8** (1.97)		6010C		1	KJK	04/09/15 3:14	2.54	100	CD50820
Selenium	**65.4** (7.87)		7010		20	NAR	04/13/15 16:27	2.54	100	CD50820
Silver	**1.17** (0.39)		6010C		1	KJK	04/09/15 3:14	2.54	100	CD50820
Thallium	ND (0.31)		7010		4	KJK	04/10/15 6:48	2.54	100	CD50820
Vanadium	**45.2** (0.79)		6010C		1	KJK	04/09/15 3:14	2.54	100	CD50820
Zinc	**547** (1.97)		6010C		1	KJK	04/09/15 3:14	2.54	100	CD50820

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-220 2ft-4ft
Date Sampled: 03/30/15 08:11
Percent Solids: 100

ESS Laboratory Work Order: 1503558
ESS Laboratory Sample ID: 1503558-21
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (3.45)		6020A		50	NAR	04/09/15 18:03	2.9	100	CD50820
Arsenic	**3.43** (1.72)		6010C		1	KJK	04/09/15 21:21	2.9	100	CD50820
Barium	**21.0** (1.72)		6010C		1	KJK	04/09/15 3:47	2.9	100	CD50820
Beryllium	**0.38** (0.08)		6010C		1	KJK	04/09/15 3:47	2.9	100	CD50820
Cadmium	ND (0.34)		6010C		1	KJK	04/09/15 3:47	2.9	100	CD50820
Chromium	**19.3** (0.69)		6010C		1	KJK	04/09/15 3:47	2.9	100	CD50820
Lead	**14.2** (3.45)		6010C		1	KJK	04/09/15 3:47	2.9	100	CD50820
Mercury	**0.074** (0.031)		7471B		1	BJV	04/09/15 12:43	0.64	40	CD50819
Nickel	**10.9** (1.72)		6010C		1	KJK	04/09/15 3:47	2.9	100	CD50820
Selenium	ND (6.90)		6020A		50	NAR	04/09/15 18:03	2.9	100	CD50820
Silver	ND (0.34)		6010C		1	KJK	04/09/15 3:47	2.9	100	CD50820
Thallium	ND (0.28)		7010		4	KJK	04/10/15 6:54	2.9	100	CD50820
Vanadium	**25.3** (0.69)		6010C		1	KJK	04/09/15 3:47	2.9	100	CD50820
Zinc	**38.0** (1.72)		6010C		1	KJK	04/09/15 3:47	2.9	100	CD50820

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-221 0ft-0.5ft
Date Sampled: 03/30/15 08:30
Percent Solids: 100

ESS Laboratory Work Order: 1503558
ESS Laboratory Sample ID: 1503558-22
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (4.08)		6020A		50	NAR	04/09/15 18:09	2.45	100	CD50820
Arsenic	**37.9** (2.04)		6010C		1	KJK	04/09/15 21:26	2.45	100	CD50820
Barium	**36.0** (2.04)		6010C		1	KJK	04/09/15 3:51	2.45	100	CD50820
Beryllium	**0.37** (0.09)		6010C		1	KJK	04/09/15 3:51	2.45	100	CD50820
Cadmium	**0.43** (0.41)		6010C		1	KJK	04/09/15 3:51	2.45	100	CD50820
Chromium	**46.6** (0.82)		6010C		1	KJK	04/09/15 3:51	2.45	100	CD50820
Lead	**197** (4.08)		6010C		1	KJK	04/09/15 3:51	2.45	100	CD50820
Mercury	**0.892** (0.146)		7471B		5	BJV	04/09/15 15:25	0.68	40	CD50819
Nickel	**14.9** (2.04)		6010C		1	KJK	04/09/15 3:51	2.45	100	CD50820
Selenium	ND (8.16)		6020A		50	NAR	04/09/15 18:09	2.45	100	CD50820
Silver	**0.63** (0.41)		6010C		1	KJK	04/09/15 3:51	2.45	100	CD50820
Thallium	ND (0.33)		7010		4	KJK	04/10/15 7:17	2.45	100	CD50820
Vanadium	**63.4** (0.82)		6010C		1	KJK	04/09/15 3:51	2.45	100	CD50820
Zinc	**214** (2.04)		6010C		1	KJK	04/09/15 3:51	2.45	100	CD50820

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-221 4ft-6ft
Date Sampled: 03/30/15 08:30
Percent Solids: 100

ESS Laboratory Work Order: 1503558
ESS Laboratory Sample ID: 1503558-23
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (4.00)		6020A		50	NAR	04/09/15 18:15	2.5	100	CD50820
Arsenic	ND (2.00)		6010C		1	KJK	04/09/15 21:32	2.5	100	CD50820
Barium	**19.6** (2.00)		6010C		1	KJK	04/09/15 3:56	2.5	100	CD50820
Beryllium	**0.36** (0.09)		6010C		1	KJK	04/09/15 3:56	2.5	100	CD50820
Cadmium	ND (0.40)		6010C		1	KJK	04/09/15 3:56	2.5	100	CD50820
Chromium	**18.3** (0.80)		6010C		1	KJK	04/09/15 3:56	2.5	100	CD50820
Lead	**5.66** (4.00)		6010C		1	KJK	04/09/15 3:56	2.5	100	CD50820
Mercury	ND (0.030)		7471B		1	BJV	04/09/15 12:46	0.66	40	CD50819
Nickel	**10.5** (2.00)		6010C		1	KJK	04/09/15 3:56	2.5	100	CD50820
Selenium	ND (8.00)		6020A		50	NAR	04/09/15 18:15	2.5	100	CD50820
Silver	ND (0.40)		6010C		1	KJK	04/09/15 3:56	2.5	100	CD50820
Thallium	ND (0.32)		7010		4	KJK	04/10/15 7:23	2.5	100	CD50820
Vanadium	**24.3** (0.80)		6010C		1	KJK	04/09/15 3:56	2.5	100	CD50820
Zinc	**29.8** (2.00)		6010C		1	KJK	04/09/15 3:56	2.5	100	CD50820

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-221 0ft-3ft
Date Sampled: 03/30/15 08:30
Percent Solids: 100

ESS Laboratory Work Order: 1503558
ESS Laboratory Sample ID: 1503558-24
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (4.18)		6020A		50	NAR	04/09/15 18:21	2.39	100	CD50820
Arsenic	**135** (2.09)		6010C		1	KJK	04/09/15 21:36	2.39	100	CD50820
Barium	**77.6** (2.09)		6010C		1	KJK	04/09/15 4:00	2.39	100	CD50820
Beryllium	**0.54** (0.09)		6010C		1	KJK	04/09/15 4:00	2.39	100	CD50820
Cadmium	**1.96** (0.42)		6010C		1	KJK	04/09/15 4:00	2.39	100	CD50820
Chromium	**91.4** (0.84)		6010C		1	KJK	04/09/15 4:00	2.39	100	CD50820
Lead	**703** (4.18)		6010C		1	KJK	04/09/15 4:00	2.39	100	CD50820
Mercury	**4.41** (1.52)		7471B		50	BJV	04/09/15 15:26	0.65	40	CD50819
Nickel	**13.4** (2.09)		6010C		1	KJK	04/09/15 4:00	2.39	100	CD50820
Selenium	**30.7** (8.37)		7010		20	NAR	04/13/15 16:44	2.39	100	CD50820
Silver	**0.66** (0.42)		6010C		1	KJK	04/09/15 4:00	2.39	100	CD50820
Thallium	ND (0.33)		7010		4	KJK	04/10/15 7:29	2.39	100	CD50820
Vanadium	**38.7** (0.84)		6010C		1	KJK	04/09/15 4:00	2.39	100	CD50820
Zinc	**624** (2.09)		6010C		1	KJK	04/09/15 4:00	2.39	100	CD50820

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-222 0ft-0.5ft
Date Sampled: 03/30/15 09:05
Percent Solids: 100

ESS Laboratory Work Order: 1503558
ESS Laboratory Sample ID: 1503558-25
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (3.70)		6020A		50	NAR	04/09/15 18:27	2.7	100	CD50820
Arsenic	**28.0** (1.85)		6010C		1	KJK	04/09/15 21:41	2.7	100	CD50820
Barium	**32.7** (1.85)		6010C		1	KJK	04/09/15 4:06	2.7	100	CD50820
Beryllium	**0.29** (0.08)		6010C		1	KJK	04/09/15 4:06	2.7	100	CD50820
Cadmium	ND (0.37)		6010C		1	KJK	04/09/15 4:06	2.7	100	CD50820
Chromium	**38.6** (0.74)		6010C		1	KJK	04/09/15 4:06	2.7	100	CD50820
Lead	**192** (3.70)		6010C		1	KJK	04/09/15 4:06	2.7	100	CD50820
Mercury	**0.779** (0.141)		7471B		5	BJV	04/09/15 15:28	0.7	40	CD50819
Nickel	**12.1** (1.85)		6010C		1	KJK	04/09/15 4:06	2.7	100	CD50820
Selenium	ND (7.41)		6020A		50	NAR	04/09/15 18:27	2.7	100	CD50820
Silver	**0.47** (0.37)		6010C		1	KJK	04/09/15 4:06	2.7	100	CD50820
Thallium	ND (0.30)		7010		4	KJK	04/10/15 7:34	2.7	100	CD50820
Vanadium	**48.8** (0.74)		6010C		1	KJK	04/09/15 4:06	2.7	100	CD50820
Zinc	**180** (1.85)		6010C		1	KJK	04/09/15 4:06	2.7	100	CD50820

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-222 0.5ft-2ft
Date Sampled: 03/30/15 09:05
Percent Solids: 100

ESS Laboratory Work Order: 1503558
ESS Laboratory Sample ID: 1503558-26
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (3.65)		6020A		50	NAR	04/09/15 18:32	2.74	100	CD50820
Arsenic	**48.4** (1.82)		6010C		1	KJK	04/09/15 21:47	2.74	100	CD50820
Barium	**37.5** (1.82)		6010C		1	KJK	04/09/15 4:11	2.74	100	CD50820
Beryllium	**0.54** (0.08)		6010C		1	KJK	04/09/15 4:11	2.74	100	CD50820
Cadmium	**0.41** (0.36)		6010C		1	KJK	04/09/15 4:11	2.74	100	CD50820
Chromium	**31.5** (0.73)		6010C		1	KJK	04/09/15 4:11	2.74	100	CD50820
Lead	**175** (3.65)		6010C		1	KJK	04/09/15 4:11	2.74	100	CD50820
Mercury	**1.31** (0.139)		7471B		5	BJV	04/09/15 15:30	0.71	40	CD50819
Nickel	**14.9** (1.82)		6010C		1	KJK	04/09/15 4:11	2.74	100	CD50820
Selenium	**27.7** (7.30)		7010		20	NAR	04/13/15 17:01	2.74	100	CD50820
Silver	ND (0.36)		6010C		1	KJK	04/09/15 4:11	2.74	100	CD50820
Thallium	ND (0.29)		7010		4	KJK	04/10/15 7:40	2.74	100	CD50820
Vanadium	**34.9** (0.73)		6010C		1	KJK	04/09/15 4:11	2.74	100	CD50820
Zinc	**169** (1.82)		6010C		1	KJK	04/09/15 4:11	2.74	100	CD50820

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-222 2ft-4ft
Date Sampled: 03/30/15 09:05
Percent Solids: 100

ESS Laboratory Work Order: 1503558
ESS Laboratory Sample ID: 1503558-27
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (3.66)		6020A		50	NAR	04/09/15 18:38	2.73	100	CD50820
Arsenic	**32.1** (1.83)		6010C		1	KJK	04/09/15 21:52	2.73	100	CD50820
Barium	**38.8** (1.83)		6010C		1	KJK	04/09/15 4:17	2.73	100	CD50820
Beryllium	**0.40** (0.08)		6010C		1	KJK	04/09/15 4:17	2.73	100	CD50820
Cadmium	**0.73** (0.37)		6010C		1	KJK	04/09/15 4:17	2.73	100	CD50820
Chromium	**36.9** (0.73)		6010C		1	KJK	04/09/15 4:17	2.73	100	CD50820
Lead	**270** (3.66)		6010C		1	KJK	04/09/15 4:17	2.73	100	CD50820
Mercury	**1.95** (0.309)		7471B		10	BJV	04/09/15 15:35	0.64	40	CD50819
Nickel	**11.5** (1.83)		6010C		1	KJK	04/09/15 4:17	2.73	100	CD50820
Selenium	**10.0** (1.47)		7010		4	NAR	04/13/15 17:07	2.73	100	CD50820
Silver	ND (0.37)		6010C		1	KJK	04/09/15 4:17	2.73	100	CD50820
Thallium	ND (0.29)		7010		4	KJK	04/10/15 7:46	2.73	100	CD50820
Vanadium	**27.2** (0.73)		6010C		1	KJK	04/09/15 4:17	2.73	100	CD50820
Zinc	**284** (1.83)		6010C		1	KJK	04/09/15 4:17	2.73	100	CD50820

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-223 0ft-0.5ft
Date Sampled: 03/30/15 09:18
Percent Solids: 100

ESS Laboratory Work Order: 1503558
ESS Laboratory Sample ID: 1503558-28
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (4.03)		6020A		50	NAR	04/09/15 18:56	2.48	100	CD50820
Arsenic	**35.6** (2.02)		6010C		1	KJK	04/09/15 21:58	2.48	100	CD50820
Barium	**38.5** (2.02)		6010C		1	KJK	04/09/15 4:22	2.48	100	CD50820
Beryllium	**0.32** (0.09)		6010C		1	KJK	04/09/15 4:22	2.48	100	CD50820
Cadmium	ND (0.40)		6010C		1	KJK	04/09/15 4:22	2.48	100	CD50820
Chromium	**43.2** (0.81)		6010C		1	KJK	04/09/15 4:22	2.48	100	CD50820
Lead	**250** (4.03)		6010C		1	KJK	04/09/15 4:22	2.48	100	CD50820
Mercury	**0.974** (0.157)		7471B		5	BJV	04/09/15 15:36	0.63	40	CD50819
Nickel	**12.9** (2.02)		6010C		1	KJK	04/09/15 4:22	2.48	100	CD50820
Selenium	ND (8.06)		6020A		50	NAR	04/09/15 18:56	2.48	100	CD50820
Silver	**0.49** (0.40)		6010C		1	KJK	04/09/15 4:22	2.48	100	CD50820
Thallium	ND (0.32)		7010		4	KJK	04/10/15 7:51	2.48	100	CD50820
Vanadium	**49.7** (0.81)		6010C		1	KJK	04/09/15 4:22	2.48	100	CD50820
Zinc	**227** (2.02)		6010C		1	KJK	04/09/15 4:22	2.48	100	CD50820

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-223 2ft-4ft
Date Sampled: 03/30/15 09:18
Percent Solids: 100

ESS Laboratory Work Order: 1503558
ESS Laboratory Sample ID: 1503558-29
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (3.86)		6020A		50	NAR	04/09/15 19:02	2.59	100	CD50820
Arsenic	**107** (1.93)		6010C		1	KJK	04/09/15 22:07	2.59	100	CD50820
Barium	**135** (1.93)		6010C		1	KJK	04/09/15 4:28	2.59	100	CD50820
Beryllium	**0.45** (0.08)		6010C		1	KJK	04/09/15 4:28	2.59	100	CD50820
Cadmium	**1.62** (0.39)		6010C		1	KJK	04/09/15 4:28	2.59	100	CD50820
Chromium	**88.0** (0.77)		6010C		1	KJK	04/09/15 4:28	2.59	100	CD50820
Lead	**1800** (19.3)		6010C		5	KJK	04/09/15 22:04	2.59	100	CD50820
Mercury	**10.3** (3.09)		7471B		100	BJV	04/09/15 15:38	0.64	40	CD50819
Nickel	**12.5** (1.93)		6010C		1	KJK	04/09/15 4:28	2.59	100	CD50820
Selenium	**14.9** (1.54)		7010		4	NAR	04/13/15 17:12	2.59	100	CD50820
Silver	**0.59** (0.39)		6010C		1	KJK	04/09/15 4:28	2.59	100	CD50820
Thallium	ND (0.31)		7010		4	KJK	04/10/15 7:57	2.59	100	CD50820
Vanadium	**34.4** (0.77)		6010C		1	KJK	04/09/15 4:28	2.59	100	CD50820
Zinc	**480** (1.93)		6010C		1	KJK	04/09/15 4:28	2.59	100	CD50820

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-223 0ft-3ft
Date Sampled: 03/30/15 09:18
Percent Solids: 100

ESS Laboratory Work Order: 1503558
ESS Laboratory Sample ID: 1503558-30
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (3.70)		6020A		50	NAR	04/09/15 19:08	2.7	100	CD50820
Arsenic	**137** (1.85)		6010C		1	KJK	04/09/15 22:30	2.7	100	CD50820
Barium	**91.5** (1.85)		6010C		1	KJK	04/09/15 4:33	2.7	100	CD50820
Beryllium	**0.67** (0.08)		6010C		1	KJK	04/09/15 4:33	2.7	100	CD50820
Cadmium	**1.58** (0.37)		6010C		1	KJK	04/09/15 4:33	2.7	100	CD50820
Chromium	**62.7** (0.74)		6010C		1	KJK	04/09/15 4:33	2.7	100	CD50820
Lead	**1120** (18.5)		6010C		5	KJK	04/09/15 22:26	2.7	100	CD50820
Mercury	**11.9** (3.14)		7471B		100	BJV	04/09/15 15:40	0.63	40	CD50819
Nickel	**16.5** (1.85)		6010C		1	KJK	04/09/15 4:33	2.7	100	CD50820
Selenium	**63.6** (7.41)		7010		20	NAR	04/13/15 17:30	2.7	100	CD50820
Silver	**0.53** (0.37)		6010C		1	KJK	04/09/15 4:33	2.7	100	CD50820
Thallium	ND (0.30)		7010		4	KJK	04/10/15 8:02	2.7	100	CD50820
Vanadium	**45.5** (0.74)		6010C		1	KJK	04/09/15 4:33	2.7	100	CD50820
Zinc	**462** (1.85)		6010C		1	KJK	04/09/15 4:33	2.7	100	CD50820

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-226 0ft-0.5ft
Date Sampled: 03/30/15 07:58
Percent Solids: 98
Initial Volume: 25.9
Final Volume: 2
Extraction Method: 3540C

ESS Laboratory Work Order: 1503558
ESS Laboratory Sample ID: 1503558-31
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 4/6/15 18:00
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0078)		8082A		1	04/07/15 16:21		CD50616
Aroclor 1221	ND (0.0078)		8082A		1	04/07/15 16:21		CD50616
Aroclor 1232	ND (0.0078)		8082A		1	04/07/15 16:21		CD50616
Aroclor 1242	ND (0.0078)		8082A		1	04/07/15 16:21		CD50616
Aroclor 1248	**0.454** (0.0392)		8082A		5	04/08/15 1:50		CD50616
Aroclor 1254	**0.593** (0.0392)		8082A		5	04/08/15 1:50		CD50616
Aroclor 1260	**0.312** (0.0392)		8082A		5	04/08/15 1:50		CD50616
Aroclor 1262	ND (0.0078)		8082A		1	04/07/15 16:21		CD50616
Aroclor 1268	ND (0.0078)		8082A		1	04/07/15 16:21		CD50616

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*127 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*64 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*70 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*67 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-220 0ft-0.5ft
Date Sampled: 03/30/15 08:11
Percent Solids: 98
Initial Volume: 24.9
Final Volume: 2
Extraction Method: 3540C

ESS Laboratory Work Order: 1503558
ESS Laboratory Sample ID: 1503558-32
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 4/6/15 18:00
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0082)		8082A		1	04/07/15 16:32		CD50616
Aroclor 1221	ND (0.0082)		8082A		1	04/07/15 16:32		CD50616
Aroclor 1232	ND (0.0082)		8082A		1	04/07/15 16:32		CD50616
Aroclor 1242	ND (0.0082)		8082A		1	04/07/15 16:32		CD50616
Aroclor 1248	**P 0.115** (0.0082)		8082A		1	04/07/15 16:32		CD50616
Aroclor 1254	**0.348** (0.0409)		8082A		5	04/08/15 1:32		CD50616
Aroclor 1260	**0.145** (0.0082)		8082A		1	04/07/15 16:32		CD50616
Aroclor 1262	ND (0.0082)		8082A		1	04/07/15 16:32		CD50616
Aroclor 1268	ND (0.0082)		8082A		1	04/07/15 16:32		CD50616

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*95 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*102 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*46 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*33 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-220 0.5ft-2ft
Date Sampled: 03/30/15 08:11
Percent Solids: 98
Initial Volume: 26.9
Final Volume: 2
Extraction Method: 3540C

ESS Laboratory Work Order: 1503558
ESS Laboratory Sample ID: 1503558-33
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 4/6/15 18:00
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0076)		8082A		1	04/07/15 16:40		CD50616
Aroclor 1221	ND (0.0076)		8082A		1	04/07/15 16:40		CD50616
Aroclor 1232	ND (0.0076)		8082A		1	04/07/15 16:40		CD50616
Aroclor 1242	ND (0.0076)		8082A		1	04/07/15 16:40		CD50616
Aroclor 1248	ND (0.0076)		8082A		1	04/07/15 16:40		CD50616
Aroclor 1254	ND (0.0076)		8082A		1	04/07/15 16:40		CD50616
Aroclor 1260	ND (0.0076)		8082A		1	04/07/15 16:40		CD50616
Aroclor 1262	**0.0092** (0.0076)		8082A		1	04/07/15 16:40		CD50616
Aroclor 1268	ND (0.0076)		8082A		1	04/07/15 16:40		CD50616

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*63 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*55 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*71 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*60 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-221 0ft-0.5ft
Date Sampled: 03/30/15 08:30
Percent Solids: 98
Initial Volume: 26.7
Final Volume: 2
Extraction Method: 3540C

ESS Laboratory Work Order: 1503558
ESS Laboratory Sample ID: 1503558-34
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 4/6/15 18:00
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0076)		8082A		1	04/07/15 17:18		CD50616
Aroclor 1221	ND (0.0076)		8082A		1	04/07/15 17:18		CD50616
Aroclor 1232	ND (0.0076)		8082A		1	04/07/15 17:18		CD50616
Aroclor 1242	ND (0.0076)		8082A		1	04/07/15 17:18		CD50616
Aroclor 1248	**0.608** (0.0763)		8082A		10	04/08/15 2:09		CD50616
Aroclor 1254	**0.823** (0.0763)		8082A		10	04/08/15 2:09		CD50616
Aroclor 1260	**0.271** (0.0763)		8082A		10	04/08/15 2:09		CD50616
Aroclor 1262	ND (0.0076)		8082A		1	04/07/15 17:18		CD50616
Aroclor 1268	ND (0.0076)		8082A		1	04/07/15 17:18		CD50616

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*135 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*63 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*72 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*71 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-221 0ft-3ft
Date Sampled: 03/30/15 08:30
Percent Solids: 98
Initial Volume: 25.1
Final Volume: 2
Extraction Method: 3540C

ESS Laboratory Work Order: 1503558
ESS Laboratory Sample ID: 1503558-35
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 4/6/15 18:00
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0081)		8082A		1	04/07/15 17:17		CD50616
Aroclor 1221	ND (0.0081)		8082A		1	04/07/15 17:17		CD50616
Aroclor 1232	ND (0.0081)		8082A		1	04/07/15 17:17		CD50616
Aroclor 1242	ND (0.0081)		8082A		1	04/07/15 17:17		CD50616
Aroclor 1248	**LC, P 0.0245** (0.0081)		8082A		1	04/07/15 17:17		CD50616
Aroclor 1254	**0.0488** (0.0081)		8082A		1	04/07/15 17:17		CD50616
Aroclor 1260	**0.0196** (0.0081)		8082A		1	04/07/15 17:17		CD50616
Aroclor 1262	ND (0.0081)		8082A		1	04/07/15 17:17		CD50616
Aroclor 1268	ND (0.0081)		8082A		1	04/07/15 17:17		CD50616

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*43 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*39 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*48 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*40 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-222 0ft-0.5ft
Date Sampled: 03/30/15 09:05
Percent Solids: 99
Initial Volume: 27.7
Final Volume: 2
Extraction Method: 3540C

ESS Laboratory Work Order: 1503558
ESS Laboratory Sample ID: 1503558-36
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 4/6/15 18:00
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0073)		8082A		1	04/07/15 17:35		CD50616
Aroclor 1221	ND (0.0073)		8082A		1	04/07/15 17:35		CD50616
Aroclor 1232	ND (0.0073)		8082A		1	04/07/15 17:35		CD50616
Aroclor 1242	ND (0.0073)		8082A		1	04/07/15 17:35		CD50616
Aroclor 1248	**LC, P 0.147** (0.0366)		8082A		5	04/08/15 1:51		CD50616
Aroclor 1254	**0.485** (0.0366)		8082A		5	04/08/15 1:51		CD50616
Aroclor 1260	**0.144** (0.0073)		8082A		1	04/07/15 17:35		CD50616
Aroclor 1262	ND (0.0073)		8082A		1	04/07/15 17:35		CD50616
Aroclor 1268	ND (0.0073)		8082A		1	04/07/15 17:35		CD50616

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*73 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*99 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*67 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*47 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-223 0ft-0.5ft
Date Sampled: 03/30/15 09:18
Percent Solids: 99
Initial Volume: 25.8
Final Volume: 2
Extraction Method: 3540C

ESS Laboratory Work Order: 1503558
ESS Laboratory Sample ID: 1503558-37
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 4/6/15 18:00
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0079)		8082A		1	04/07/15 17:54		CD50616
Aroclor 1221	ND (0.0079)		8082A		1	04/07/15 17:54		CD50616
Aroclor 1232	ND (0.0079)		8082A		1	04/07/15 17:54		CD50616
Aroclor 1242	ND (0.0079)		8082A		1	04/07/15 17:54		CD50616
Aroclor 1248	**0.120** (0.0079)		8082A		1	04/07/15 17:54		CD50616
Aroclor 1254	**0.314** (0.0393)		8082A		5	04/08/15 16:12		CD50616
Aroclor 1260	**0.100** (0.0079)		8082A		1	04/07/15 17:54		CD50616
Aroclor 1262	ND (0.0079)		8082A		1	04/07/15 17:54		CD50616
Aroclor 1268	ND (0.0079)		8082A		1	04/07/15 17:54		CD50616

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*62 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*71 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*59 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*37 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-223 0ft-3ft
Date Sampled: 03/30/15 09:18
Percent Solids: 98
Initial Volume: 25.5
Final Volume: 2
Extraction Method: 3540C

ESS Laboratory Work Order: 1503558
ESS Laboratory Sample ID: 1503558-38
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 4/6/15 18:00
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0080)		8082A		1	04/07/15 18:13		CD50616
Aroclor 1221	ND (0.0080)		8082A		1	04/07/15 18:13		CD50616
Aroclor 1232	ND (0.0080)		8082A		1	04/07/15 18:13		CD50616
Aroclor 1242	ND (0.0080)		8082A		1	04/07/15 18:13		CD50616
Aroclor 1248	ND (0.0080)		8082A		1	04/07/15 18:13		CD50616
Aroclor 1254	ND (0.0080)		8082A		1	04/07/15 18:13		CD50616
Aroclor 1260	ND (0.0080)		8082A		1	04/07/15 18:13		CD50616
Aroclor 1262	ND (0.0080)		8082A		1	04/07/15 18:13		CD50616
Aroclor 1268	ND (0.0080)		8082A		1	04/07/15 18:13		CD50616

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*31 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*32 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*30 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*21 %*	*S-*	*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase ESS Laboratory Work Order: 1503558

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Total Metals										
Batch CD50819 - 7471A										
Blank										
Mercury	ND	0.033	mg/kg wet							
Mercury	ND	0.033	mg/kg wet							
LCS										
Mercury	26.5	3.41	mg/kg wet	24.90		106	80-120			
Mercury	26.5	3.41	mg/kg wet	24.90		106	80-120			
LCS Dup										
Mercury	26.3	3.47	mg/kg wet	24.90		105	80-120	1	20	
Mercury	26.3	3.47	mg/kg wet	24.90		105	80-120	1	20	
Batch CD50820 - 3050B										
Blank										
Antimony	ND	5.00	mg/kg wet							
Arsenic	ND	2.50	mg/kg wet							
Arsenic	ND	2.50	mg/kg wet							
Barium	ND	2.50	mg/kg wet							
Barium	ND	2.50	mg/kg wet							
Beryllium	ND	0.11	mg/kg wet							
Cadmium	ND	0.50	mg/kg wet							
Cadmium	ND	0.50	mg/kg wet							
Chromium	ND	1.00	mg/kg wet							
Chromium	ND	1.00	mg/kg wet							
Lead	ND	5.00	mg/kg wet							
Lead	ND	5.00	mg/kg wet							
Nickel	ND	2.50	mg/kg wet							
Selenium	ND	10.0	mg/kg wet							
Selenium	ND	0.50	mg/kg wet							
Silver	ND	0.50	mg/kg wet							
Silver	ND	0.50	mg/kg wet							
Thallium	ND	0.25	mg/kg wet							
Vanadium	ND	1.00	mg/kg wet							
Zinc	ND	2.50	mg/kg wet							
LCS										
Antimony	54.1	17.5	mg/kg wet	49.70		109	80-120			
Arsenic	109	8.77	mg/kg wet	133.0		82	80-120			
Arsenic	109	8.77	mg/kg wet	133.0		82	80-120			
Barium	187	8.77	mg/kg wet	229.0		82	80-120			
Barium	187	8.77	mg/kg wet	229.0		82	80-120			
Beryllium	81.6	0.39	mg/kg wet	95.80		85	80-120			
Cadmium	95.1	1.75	mg/kg wet	123.0		77	73-127			
Cadmium	95.1	1.75	mg/kg wet	123.0		77	73-127			
Chromium	49.2	3.51	mg/kg wet	63.20		78	68-132			
Chromium	49.2	3.51	mg/kg wet	63.20		78	68-132			
Lead	85.6	17.5	mg/kg wet	108.0		79	72-129			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase ESS Laboratory Work Order: 1503558

Quality Control Data

Total Metals

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch CD50820 - 3050B										
Lead	85.6	17.5	mg/kg wet	108.0		79	72-129			
Nickel	227	8.77	mg/kg wet	285.0		80	74-126			
Selenium	72.2	35.1	mg/kg wet	81.40		89	80-120			
Selenium	104	17.5	mg/kg wet	81.40		128	64-136			
Silver	63.5	1.75	mg/kg wet	74.80		85	80-120			
Silver	63.5	1.75	mg/kg wet	74.80		85	80-120			
Thallium	42.3	8.77	mg/kg wet	50.10		84	80-120			
Vanadium	124	3.51	mg/kg wet	148.0		84	80-120			
Zinc	161	8.77	mg/kg wet	203.0		79	70-130			
LCS Dup										
Antimony	54.9	19.2	mg/kg wet	49.70		110	80-120	1	30	
Arsenic	107	9.62	mg/kg wet	133.0		81	80-120	2	20	
Arsenic	107	9.62	mg/kg wet	133.0		81	80-120	2	20	
Barium	185	9.62	mg/kg wet	229.0		81	80-120	1	20	
Barium	185	9.62	mg/kg wet	229.0		81	80-120	1	20	
Beryllium	80.1	0.42	mg/kg wet	95.80		84	80-120	2	20	
Cadmium	94.3	1.92	mg/kg wet	123.0		77	73-127	0.8	20	
Cadmium	94.3	1.92	mg/kg wet	123.0		77	73-127	0.8	20	
Chromium	48.5	3.85	mg/kg wet	63.20		77	68-132	1	20	
Chromium	48.5	3.85	mg/kg wet	63.20		77	68-132	1	20	
Lead	89.4	19.2	mg/kg wet	108.0		83	80-120	4	20	
Lead	89.4	19.2	mg/kg wet	108.0		83	80-120	4	20	
Nickel	222	9.62	mg/kg wet	285.0		78	74-126	2	20	
Selenium	101	19.2	mg/kg wet	81.40		125	64-136	2	20	
Selenium	69.2	38.5	mg/kg wet	81.40		85	80-120	4	30	
Silver	62.3	1.92	mg/kg wet	74.80		83	80-120	2	20	
Silver	62.3	1.92	mg/kg wet	74.80		83	80-120	2	20	
Thallium	42.6	9.62	mg/kg wet	50.10		85	80-120	0.7	20	
Vanadium	129	3.85	mg/kg wet	148.0		87	80-120	4	20	
Zinc	156	9.62	mg/kg wet	203.0		77	70-130	3	20	
Reference										
Antimony	ND	18.2	mg/kg wet	49.70			24-282			
Arsenic	95.3	9.09	mg/kg wet	133.0		72	70-130			
Arsenic	95.3	9.09	mg/kg wet	133.0		72	70-130			
Barium	177	9.09	mg/kg wet	229.0		77	73-126			
Cadmium	91.2	1.82	mg/kg wet	123.0		74	73-127			
Chromium	49.4	3.64	mg/kg wet	63.20		78	68-132			
Lead	85.2	18.2	mg/kg wet	108.0		79	72-129			
Selenium	ND	36.4	mg/kg wet	81.40			64-136			
Silver	60.9	1.82	mg/kg wet	74.80		81	67-133			
Reference										
Antimony	ND	17.9	mg/kg wet	49.70			24-282			
Arsenic	98.6	8.93	mg/kg wet	133.0		74	70-130			
Arsenic	98.6	8.93	mg/kg wet	133.0		74	70-130			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase ESS Laboratory Work Order: 1503558

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Total Metals										
Batch CD50820 - 3050B										
Barium	172	8.93	mg/kg wet	229.0		75	73-126			
Cadmium	92.7	1.79	mg/kg wet	123.0		75	73-127			
Chromium	50.7	3.57	mg/kg wet	63.20		80	68-132			
Lead	87.9	17.9	mg/kg wet	108.0		81	72-129			
Selenium	ND	35.7	mg/kg wet	81.40			64-136			
Silver	61.6	1.79	mg/kg wet	74.80		82	67-133			
Reference										
Antimony	ND	18.2	mg/kg wet	49.70			24-282			
Arsenic	106	9.09	mg/kg wet	133.0		80	70-130			
Arsenic	106	9.09	mg/kg wet	133.0		80	70-130			
Barium	215	9.09	mg/kg wet	229.0		94	73-126			
Cadmium	100	1.82	mg/kg wet	123.0		81	73-127			
Chromium	55.2	3.64	mg/kg wet	63.20		87	68-132			
Lead	91.9	18.2	mg/kg wet	108.0		85	72-129			
Selenium	ND	36.4	mg/kg wet	81.40			64-136			
Silver	67.1	1.82	mg/kg wet	74.80		90	67-133			
Reference										
Antimony	ND	17.9	mg/kg wet	49.70			24-282			
Arsenic	97.6	8.93	mg/kg wet	133.0		73	70-130			
Arsenic	97.6	8.93	mg/kg wet	133.0		73	70-130			
Barium	176	8.93	mg/kg wet	229.0		77	73-126			
Cadmium	92.6	1.79	mg/kg wet	123.0		75	73-127			
Chromium	49.9	3.57	mg/kg wet	63.20		79	68-132			
Lead	88.1	17.9	mg/kg wet	108.0		82	72-129			
Selenium	ND	35.7	mg/kg wet	81.40			64-136			
Silver	62.3	1.79	mg/kg wet	74.80		83	67-133			
5035/8260B Volatile Organic Compounds / Low Level										
Batch CD50146 - 5035										
Blank										
1,1,1,2-Tetrachloroethane	ND	0.0050	mg/kg wet							
1,1,1-Trichloroethane	ND	0.0050	mg/kg wet							
1,1,2,2-Tetrachloroethane	ND	0.0020	mg/kg wet							
1,1,2-Trichloroethane	ND	0.0050	mg/kg wet							
1,1-Dichloroethane	ND	0.0050	mg/kg wet							
1,1-Dichloroethene	ND	0.0050	mg/kg wet							
1,1-Dichloropropene	ND	0.0050	mg/kg wet							
1,2,3-Trichlorobenzene	ND	0.0050	mg/kg wet							
1,2,3-Trichloropropane	ND	0.0050	mg/kg wet							
1,2,4-Trichlorobenzene	ND	0.0050	mg/kg wet							
1,2,4-Trimethylbenzene	ND	0.0050	mg/kg wet							
1,2-Dibromo-3-Chloropropane	ND	0.0050	mg/kg wet							
1,2-Dibromoethane	ND	0.0050	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase ESS Laboratory Work Order: 1503558

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch CD50146 - 5035										
1,2-Dichlorobenzene	ND	0.0050	mg/kg wet							
1,2-Dichloroethane	ND	0.0050	mg/kg wet							
1,2-Dichloropropane	ND	0.0050	mg/kg wet							
1,3,5-Trimethylbenzene	ND	0.0050	mg/kg wet							
1,3-Dichlorobenzene	ND	0.0050	mg/kg wet							
1,3-Dichloropropane	ND	0.0050	mg/kg wet							
1,4-Dichlorobenzene	ND	0.0050	mg/kg wet							
1,4-Dioxane	ND	0.100	mg/kg wet							
2,2-Dichloropropane	ND	0.0050	mg/kg wet							
2-Butanone	ND	0.0100	mg/kg wet							
2-Chlorotoluene	ND	0.0050	mg/kg wet							
2-Hexanone	ND	0.0100	mg/kg wet							
4-Chlorotoluene	ND	0.0050	mg/kg wet							
4-Isopropyltoluene	ND	0.0050	mg/kg wet							
4-Methyl-2-Pentanone	ND	0.0100	mg/kg wet							
Acetone	ND	0.0100	mg/kg wet							
Benzene	ND	0.0050	mg/kg wet							
Bromobenzene	ND	0.0050	mg/kg wet							
Bromochloromethane	ND	0.0050	mg/kg wet							
Bromodichloromethane	ND	0.0050	mg/kg wet							
Bromoform	ND	0.0050	mg/kg wet							
Bromomethane	ND	0.0100	mg/kg wet							
Carbon Disulfide	ND	0.0050	mg/kg wet							
Carbon Tetrachloride	ND	0.0050	mg/kg wet							
Chlorobenzene	ND	0.0050	mg/kg wet							
Chloroethane	ND	0.0100	mg/kg wet							
Chloroform	ND	0.0050	mg/kg wet							
Chloromethane	ND	0.0100	mg/kg wet							
cis-1,2-Dichloroethene	ND	0.0050	mg/kg wet							
cis-1,3-Dichloropropene	ND	0.0050	mg/kg wet							
Dibromochloromethane	ND	0.0020	mg/kg wet							
Dibromomethane	ND	0.0050	mg/kg wet							
Dichlorodifluoromethane	ND	0.0100	mg/kg wet							
Diethyl Ether	ND	0.0050	mg/kg wet							
Di-isopropyl ether	ND	0.0050	mg/kg wet							
Ethyl tertiary-butyl ether	ND	0.0050	mg/kg wet							
Ethylbenzene	ND	0.0050	mg/kg wet							
Hexachlorobutadiene	ND	0.0050	mg/kg wet							
Isopropylbenzene	ND	0.0050	mg/kg wet							
Methyl tert-Butyl Ether	ND	0.0050	mg/kg wet							
Methylene Chloride	ND	0.0100	mg/kg wet							
Naphthalene	ND	0.0050	mg/kg wet							
n-Butylbenzene	ND	0.0050	mg/kg wet							
n-Propylbenzene	ND	0.0050	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase ESS Laboratory Work Order: 1503558

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch CD50146 - 5035										
sec-Butylbenzene	ND	0.0050	mg/kg wet							
Styrene	ND	0.0050	mg/kg wet							
tert-Butylbenzene	ND	0.0050	mg/kg wet							
Tertiary-amyl methyl ether	ND	0.0050	mg/kg wet							
Tetrachloroethene	ND	0.0050	mg/kg wet							
Tetrahydrofuran	ND	0.0050	mg/kg wet							
Toluene	ND	0.0050	mg/kg wet							
trans-1,2-Dichloroethene	ND	0.0050	mg/kg wet							
trans-1,3-Dichloropropene	ND	0.0050	mg/kg wet							
Trichloroethene	ND	0.0050	mg/kg wet							
Trichlorofluoromethane	ND	0.0050	mg/kg wet							
Vinyl Chloride	ND	0.0100	mg/kg wet							
Xylene O	ND	0.0050	mg/kg wet							
Xylene P,M	ND	0.0100	mg/kg wet							
Xylenes (Total)	ND	0.0100	mg/kg wet							
Surrogate: 1,2-Dichloroethane-d4	*0.0465*		mg/kg wet	*0.05000*		*93*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0461*		mg/kg wet	*0.05000*		*92*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0441*		mg/kg wet	*0.05000*		*88*	*70-130*			
Surrogate: Toluene-d8	*0.0450*		mg/kg wet	*0.05000*		*90*	*70-130*			
LCS										
1,1,1,2-Tetrachloroethane	0.0551	0.0050	mg/kg wet	0.05000		110	70-130			
1,1,1-Trichloroethane	0.0502	0.0050	mg/kg wet	0.05000		100	70-130			
1,1,2,2-Tetrachloroethane	0.0476	0.0020	mg/kg wet	0.05000		95	70-130			
1,1,2-Trichloroethane	0.0455	0.0050	mg/kg wet	0.05000		91	70-130			
1,1-Dichloroethane	0.0436	0.0050	mg/kg wet	0.05000		87	70-130			
1,1-Dichloroethene	0.0421	0.0050	mg/kg wet	0.05000		84	70-130			
1,1-Dichloropropene	0.0427	0.0050	mg/kg wet	0.05000		85	70-130			
1,2,3-Trichlorobenzene	0.0519	0.0050	mg/kg wet	0.05000		104	70-130			
1,2,3-Trichloropropane	0.0506	0.0050	mg/kg wet	0.05000		101	70-130			
1,2,4-Trichlorobenzene	0.0502	0.0050	mg/kg wet	0.05000		100	70-130			
1,2,4-Trimethylbenzene	0.0476	0.0050	mg/kg wet	0.05000		95	70-130			
1,2-Dibromo-3-Chloropropane	0.0530	0.0050	mg/kg wet	0.05000		106	70-130			
1,2-Dibromoethane	0.0511	0.0050	mg/kg wet	0.05000		102	70-130			
1,2-Dichlorobenzene	0.0484	0.0050	mg/kg wet	0.05000		97	70-130			
1,2-Dichloroethane	0.0471	0.0050	mg/kg wet	0.05000		94	70-130			
1,2-Dichloropropane	0.0433	0.0050	mg/kg wet	0.05000		87	70-130			
1,3,5-Trimethylbenzene	0.0495	0.0050	mg/kg wet	0.05000		99	70-130			
1,3-Dichlorobenzene	0.0486	0.0050	mg/kg wet	0.05000		97	70-130			
1,3-Dichloropropane	0.0517	0.0050	mg/kg wet	0.05000		103	70-130			
1,4-Dichlorobenzene	0.0497	0.0050	mg/kg wet	0.05000		99	70-130			
1,4-Dioxane	0.892	0.100	mg/kg wet	1.000		89	70-130			
2,2-Dichloropropane	0.0508	0.0050	mg/kg wet	0.05000		102	70-130			
2-Butanone	0.221	0.0100	mg/kg wet	0.2500		88	70-130			
2-Chlorotoluene	0.0477	0.0050	mg/kg wet	0.05000		95	70-130			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase ESS Laboratory Work Order: 1503558

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch CD50146 - 5035										
2-Hexanone	0.252	0.0100	mg/kg wet	0.2500		101	70-130			
4-Chlorotoluene	0.0485	0.0050	mg/kg wet	0.05000		97	70-130			
4-Isopropyltoluene	0.0479	0.0050	mg/kg wet	0.05000		96	70-130			
4-Methyl-2-Pentanone	0.227	0.0100	mg/kg wet	0.2500		91	70-130			
Acetone	0.239	0.0100	mg/kg wet	0.2500		96	70-130			
Benzene	0.0444	0.0050	mg/kg wet	0.05000		89	70-130			
Bromobenzene	0.0506	0.0050	mg/kg wet	0.05000		101	70-130			
Bromochloromethane	0.0476	0.0050	mg/kg wet	0.05000		95	70-130			
Bromodichloromethane	0.0502	0.0050	mg/kg wet	0.05000		100	70-130			
Bromoform	0.0531	0.0050	mg/kg wet	0.05000		106	70-130			
Bromomethane	0.0559	0.0100	mg/kg wet	0.05000		112	70-130			
Carbon Disulfide	0.0469	0.0050	mg/kg wet	0.05000		94	70-130			
Carbon Tetrachloride	0.0520	0.0050	mg/kg wet	0.05000		104	70-130			
Chlorobenzene	0.0491	0.0050	mg/kg wet	0.05000		98	70-130			
Chloroethane	0.0402	0.0100	mg/kg wet	0.05000		80	70-130			
Chloroform	0.0472	0.0050	mg/kg wet	0.05000		94	70-130			
Chloromethane	0.0512	0.0100	mg/kg wet	0.05000		102	70-130			
cis-1,2-Dichloroethene	0.0462	0.0050	mg/kg wet	0.05000		92	70-130			
cis-1,3-Dichloropropene	0.0523	0.0050	mg/kg wet	0.05000		105	70-130			
Dibromochloromethane	0.0509	0.0020	mg/kg wet	0.05000		102	70-130			
Dibromomethane	0.0472	0.0050	mg/kg wet	0.05000		94	70-130			
Dichlorodifluoromethane	0.0474	0.0100	mg/kg wet	0.05000		95	70-130			
Diethyl Ether	0.0456	0.0050	mg/kg wet	0.05000		91	70-130			
Di-isopropyl ether	0.0440	0.0050	mg/kg wet	0.05000		88	70-130			
Ethyl tertiary-butyl ether	0.0437	0.0050	mg/kg wet	0.05000		87	70-130			
Ethylbenzene	0.0483	0.0050	mg/kg wet	0.05000		97	70-130			
Hexachlorobutadiene	0.0556	0.0050	mg/kg wet	0.05000		111	70-130			
Isopropylbenzene	0.0480	0.0050	mg/kg wet	0.05000		96	70-130			
Methyl tert-Butyl Ether	0.0475	0.0050	mg/kg wet	0.05000		95	70-130			
Methylene Chloride	0.0449	0.0100	mg/kg wet	0.05000		90	70-130			
Naphthalene	0.0453	0.0050	mg/kg wet	0.05000		91	70-130			
n-Butylbenzene	0.0474	0.0050	mg/kg wet	0.05000		95	70-130			
n-Propylbenzene	0.0466	0.0050	mg/kg wet	0.05000		93	70-130			
sec-Butylbenzene	0.0479	0.0050	mg/kg wet	0.05000		96	70-130			
Styrene	0.0499	0.0050	mg/kg wet	0.05000		100	70-130			
tert-Butylbenzene	0.0483	0.0050	mg/kg wet	0.05000		97	70-130			
Tertiary-amyl methyl ether	0.0465	0.0050	mg/kg wet	0.05000		93	70-130			
Tetrachloroethene	0.0501	0.0050	mg/kg wet	0.05000		100	70-130			
Tetrahydrofuran	0.0444	0.0050	mg/kg wet	0.05000		89	70-130			
Toluene	0.0446	0.0050	mg/kg wet	0.05000		89	70-130			
trans-1,2-Dichloroethene	0.0413	0.0050	mg/kg wet	0.05000		83	70-130			
trans-1,3-Dichloropropene	0.0519	0.0050	mg/kg wet	0.05000		104	70-130			
Trichloroethene	0.0448	0.0050	mg/kg wet	0.05000		90	70-130			
Trichlorofluoromethane	0.0431	0.0050	mg/kg wet	0.05000		86	70-130			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase ESS Laboratory Work Order: 1503558

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch CD50146 - 5035										
Vinyl Chloride	0.0437	0.0100	mg/kg wet	0.05000		87	70-130			
Xylene O	0.0484	0.0050	mg/kg wet	0.05000		97	70-130			
Xylene P,M	0.0976	0.0100	mg/kg wet	0.1000		98	70-130			
Xylenes (Total)	0.146	0.0100	mg/kg wet							
Surrogate: 1,2-Dichloroethane-d4	*0.0443*		mg/kg wet	*0.05000*		*89*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0465*		mg/kg wet	*0.05000*		*93*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0447*		mg/kg wet	*0.05000*		*89*	*70-130*			
Surrogate: Toluene-d8	*0.0487*		mg/kg wet	*0.05000*		*97*	*70-130*			
LCS Dup										
1,1,1,2-Tetrachloroethane	0.0559	0.0050	mg/kg wet	0.05000		112	70-130	2	25	
1,1,1-Trichloroethane	0.0516	0.0050	mg/kg wet	0.05000		103	70-130	3	25	
1,1,2,2-Tetrachloroethane	0.0499	0.0020	mg/kg wet	0.05000		100	70-130	5	25	
1,1,2-Trichloroethane	0.0475	0.0050	mg/kg wet	0.05000		95	70-130	4	25	
1,1-Dichloroethane	0.0453	0.0050	mg/kg wet	0.05000		91	70-130	4	25	
1,1-Dichloroethene	0.0435	0.0050	mg/kg wet	0.05000		87	70-130	3	25	
1,1-Dichloropropene	0.0442	0.0050	mg/kg wet	0.05000		88	70-130	3	25	
1,2,3-Trichlorobenzene	0.0518	0.0050	mg/kg wet	0.05000		104	70-130	0.2	25	
1,2,3-Trichloropropane	0.0535	0.0050	mg/kg wet	0.05000		107	70-130	6	25	
1,2,4-Trichlorobenzene	0.0506	0.0050	mg/kg wet	0.05000		101	70-130	0.8	25	
1,2,4-Trimethylbenzene	0.0485	0.0050	mg/kg wet	0.05000		97	70-130	2	25	
1,2-Dibromo-3-Chloropropane	0.0481	0.0050	mg/kg wet	0.05000		96	70-130	10	25	
1,2-Dibromoethane	0.0524	0.0050	mg/kg wet	0.05000		105	70-130	2	25	
1,2-Dichlorobenzene	0.0489	0.0050	mg/kg wet	0.05000		98	70-130	0.9	25	
1,2-Dichloroethane	0.0487	0.0050	mg/kg wet	0.05000		97	70-130	3	25	
1,2-Dichloropropane	0.0446	0.0050	mg/kg wet	0.05000		89	70-130	3	25	
1,3,5-Trimethylbenzene	0.0510	0.0050	mg/kg wet	0.05000		102	70-130	3	25	
1,3-Dichlorobenzene	0.0489	0.0050	mg/kg wet	0.05000		98	70-130	0.7	25	
1,3-Dichloropropane	0.0534	0.0050	mg/kg wet	0.05000		107	70-130	3	25	
1,4-Dichlorobenzene	0.0507	0.0050	mg/kg wet	0.05000		101	70-130	2	25	
1,4-Dioxane	1.03	0.100	mg/kg wet	1.000		103	70-130	14	20	
2,2-Dichloropropane	0.0514	0.0050	mg/kg wet	0.05000		103	70-130	1	25	
2-Butanone	0.278	0.0100	mg/kg wet	0.2500		111	70-130	23	25	
2-Chlorotoluene	0.0495	0.0050	mg/kg wet	0.05000		99	70-130	4	25	
2-Hexanone	0.323	0.0100	mg/kg wet	0.2500		129	70-130	25	25	
4-Chlorotoluene	0.0496	0.0050	mg/kg wet	0.05000		99	70-130	2	25	
4-Isopropyltoluene	0.0490	0.0050	mg/kg wet	0.05000		98	70-130	2	25	
4-Methyl-2-Pentanone	0.239	0.0100	mg/kg wet	0.2500		96	70-130	5	25	
Acetone	0.451	0.0100	mg/kg wet	0.2500		180	70-130	61	25	B+, D+
Benzene	0.0458	0.0050	mg/kg wet	0.05000		92	70-130	3	25	
Bromobenzene	0.0512	0.0050	mg/kg wet	0.05000		102	70-130	1	25	
Bromochloromethane	0.0488	0.0050	mg/kg wet	0.05000		98	70-130	3	25	
Bromodichloromethane	0.0511	0.0050	mg/kg wet	0.05000		102	70-130	2	25	
Bromoform	0.0539	0.0050	mg/kg wet	0.05000		108	70-130	2	25	
Bromomethane	0.0669	0.0100	mg/kg wet	0.05000		134	70-130	18	25	B+

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase ESS Laboratory Work Order: 1503558

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch CD50146 - 5035										
Carbon Disulfide	0.0484	0.0050	mg/kg wet	0.05000		97	70-130	3	25	
Carbon Tetrachloride	0.0535	0.0050	mg/kg wet	0.05000		107	70-130	3	25	
Chlorobenzene	0.0500	0.0050	mg/kg wet	0.05000		100	70-130	2	25	
Chloroethane	0.0412	0.0100	mg/kg wet	0.05000		82	70-130	3	25	
Chloroform	0.0482	0.0050	mg/kg wet	0.05000		96	70-130	2	25	
Chloromethane	0.0537	0.0100	mg/kg wet	0.05000		107	70-130	5	25	
cis-1,2-Dichloroethene	0.0472	0.0050	mg/kg wet	0.05000		94	70-130	2	25	
cis-1,3-Dichloropropene	0.0539	0.0050	mg/kg wet	0.05000		108	70-130	3	25	
Dibromochloromethane	0.0521	0.0020	mg/kg wet	0.05000		104	70-130	2	25	
Dibromomethane	0.0487	0.0050	mg/kg wet	0.05000		97	70-130	3	25	
Dichlorodifluoromethane	0.0481	0.0100	mg/kg wet	0.05000		96	70-130	1	25	
Diethyl Ether	0.0478	0.0050	mg/kg wet	0.05000		96	70-130	5	25	
Di-isopropyl ether	0.0455	0.0050	mg/kg wet	0.05000		91	70-130	3	25	
Ethyl tertiary-butyl ether	0.0450	0.0050	mg/kg wet	0.05000		90	70-130	3	25	
Ethylbenzene	0.0491	0.0050	mg/kg wet	0.05000		98	70-130	2	25	
Hexachlorobutadiene	0.0571	0.0050	mg/kg wet	0.05000		114	70-130	3	25	
Isopropylbenzene	0.0491	0.0050	mg/kg wet	0.05000		98	70-130	2	25	
Methyl tert-Butyl Ether	0.0491	0.0050	mg/kg wet	0.05000		98	70-130	3	25	
Methylene Chloride	0.0463	0.0100	mg/kg wet	0.05000		93	70-130	3	25	
Naphthalene	0.0471	0.0050	mg/kg wet	0.05000		94	70-130	4	25	
n-Butylbenzene	0.0485	0.0050	mg/kg wet	0.05000		97	70-130	2	25	
n-Propylbenzene	0.0485	0.0050	mg/kg wet	0.05000		97	70-130	4	25	
sec-Butylbenzene	0.0493	0.0050	mg/kg wet	0.05000		99	70-130	3	25	
Styrene	0.0500	0.0050	mg/kg wet	0.05000		100	70-130	0.2	25	
tert-Butylbenzene	0.0496	0.0050	mg/kg wet	0.05000		99	70-130	3	25	
Tertiary-amyl methyl ether	0.0486	0.0050	mg/kg wet	0.05000		97	70-130	4	25	
Tetrachloroethene	0.0554	0.0050	mg/kg wet	0.05000		111	70-130	10	25	
Tetrahydrofuran	0.0474	0.0050	mg/kg wet	0.05000		95	70-130	7	25	
Toluene	0.0455	0.0050	mg/kg wet	0.05000		91	70-130	2	25	
trans-1,2-Dichloroethene	0.0421	0.0050	mg/kg wet	0.05000		84	70-130	2	25	
trans-1,3-Dichloropropene	0.0539	0.0050	mg/kg wet	0.05000		108	70-130	4	25	
Trichloroethene	0.0468	0.0050	mg/kg wet	0.05000		94	70-130	4	25	
Trichlorofluoromethane	0.0440	0.0050	mg/kg wet	0.05000		88	70-130	2	25	
Vinyl Chloride	0.0451	0.0100	mg/kg wet	0.05000		90	70-130	3	25	
Xylene O	0.0489	0.0050	mg/kg wet	0.05000		98	70-130	1	25	
Xylene P,M	0.0994	0.0100	mg/kg wet	0.1000		99	70-130	2	25	
Xylenes (Total)	0.148	0.0100	mg/kg wet							
Surrogate: 1,2-Dichloroethane-d4	*0.0457*		mg/kg wet	*0.05000*		*91*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0466*		mg/kg wet	*0.05000*		*93*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0448*		mg/kg wet	*0.05000*		*90*	*70-130*			
Surrogate: Toluene-d8	*0.0487*		mg/kg wet	*0.05000*		*97*	*70-130*			
Batch CD50239 - 5035										
Blank										
1,1,1,2-Tetrachloroethane	ND	0.0050	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase ESS Laboratory Work Order: 1503558

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch CD50239 - 5035										
1,1,1-Trichloroethane	ND	0.0050	mg/kg wet							
1,1,2,2-Tetrachloroethane	ND	0.0020	mg/kg wet							
1,1,2-Trichloroethane	ND	0.0050	mg/kg wet							
1,1-Dichloroethane	ND	0.0050	mg/kg wet							
1,1-Dichloroethene	ND	0.0050	mg/kg wet							
1,1-Dichloropropene	ND	0.0050	mg/kg wet							
1,2,3-Trichlorobenzene	ND	0.0050	mg/kg wet							
1,2,3-Trichloropropane	ND	0.0050	mg/kg wet							
1,2,4-Trichlorobenzene	ND	0.0050	mg/kg wet							
1,2,4-Trimethylbenzene	ND	0.0050	mg/kg wet							
1,2-Dibromo-3-Chloropropane	ND	0.0050	mg/kg wet							
1,2-Dibromoethane	ND	0.0050	mg/kg wet							
1,2-Dichlorobenzene	ND	0.0050	mg/kg wet							
1,2-Dichloroethane	ND	0.0050	mg/kg wet							
1,2-Dichloropropane	ND	0.0050	mg/kg wet							
1,3,5-Trimethylbenzene	ND	0.0050	mg/kg wet							
1,3-Dichlorobenzene	ND	0.0050	mg/kg wet							
1,3-Dichloropropane	ND	0.0050	mg/kg wet							
1,4-Dichlorobenzene	ND	0.0050	mg/kg wet							
1,4-Dioxane	ND	0.100	mg/kg wet							
2,2-Dichloropropane	ND	0.0050	mg/kg wet							
2-Butanone	ND	0.0100	mg/kg wet							
2-Chlorotoluene	ND	0.0050	mg/kg wet							
2-Hexanone	ND	0.0100	mg/kg wet							
4-Chlorotoluene	ND	0.0050	mg/kg wet							
4-Isopropyltoluene	ND	0.0050	mg/kg wet							
4-Methyl-2-Pentanone	ND	0.0100	mg/kg wet							
Acetone	ND	0.0100	mg/kg wet							
Benzene	ND	0.0050	mg/kg wet							
Bromobenzene	ND	0.0050	mg/kg wet							
Bromochloromethane	ND	0.0050	mg/kg wet							
Bromodichloromethane	ND	0.0050	mg/kg wet							
Bromoform	ND	0.0050	mg/kg wet							
Bromomethane	ND	0.0100	mg/kg wet							
Carbon Disulfide	ND	0.0050	mg/kg wet							
Carbon Tetrachloride	ND	0.0050	mg/kg wet							
Chlorobenzene	ND	0.0050	mg/kg wet							
Chloroethane	ND	0.0100	mg/kg wet							
Chloroform	ND	0.0050	mg/kg wet							
Chloromethane	ND	0.0100	mg/kg wet							
cis-1,2-Dichloroethene	ND	0.0050	mg/kg wet							
cis-1,3-Dichloropropene	ND	0.0050	mg/kg wet							
Dibromochloromethane	ND	0.0020	mg/kg wet							
Dibromomethane	ND	0.0050	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase ESS Laboratory Work Order: 1503558

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch CD50239 - 5035										
Dichlorodifluoromethane	ND	0.0100	mg/kg wet							
Diethyl Ether	ND	0.0050	mg/kg wet							
Di-isopropyl ether	ND	0.0050	mg/kg wet							
Ethyl tertiary-butyl ether	ND	0.0050	mg/kg wet							
Ethylbenzene	ND	0.0050	mg/kg wet							
Hexachlorobutadiene	ND	0.0050	mg/kg wet							
Isopropylbenzene	ND	0.0050	mg/kg wet							
Methyl tert-Butyl Ether	ND	0.0050	mg/kg wet							
Methylene Chloride	ND	0.0100	mg/kg wet							
Naphthalene	ND	0.0050	mg/kg wet							
n-Butylbenzene	ND	0.0050	mg/kg wet							
n-Propylbenzene	ND	0.0050	mg/kg wet							
sec-Butylbenzene	ND	0.0050	mg/kg wet							
Styrene	ND	0.0050	mg/kg wet							
tert-Butylbenzene	ND	0.0050	mg/kg wet							
Tertiary-amyl methyl ether	ND	0.0050	mg/kg wet							
Tetrachloroethene	ND	0.0050	mg/kg wet							
Tetrahydrofuran	ND	0.0050	mg/kg wet							
Toluene	ND	0.0050	mg/kg wet							
trans-1,2-Dichloroethene	ND	0.0050	mg/kg wet							
trans-1,3-Dichloropropene	ND	0.0050	mg/kg wet							
Trichloroethene	ND	0.0050	mg/kg wet							
Trichlorofluoromethane	ND	0.0050	mg/kg wet							
Vinyl Chloride	ND	0.0100	mg/kg wet							
Xylene O	ND	0.0050	mg/kg wet							
Xylene P,M	ND	0.0100	mg/kg wet							
Xylenes (Total)	ND	0.0100	mg/kg wet							
Surrogate: 1,2-Dichloroethane-d4	*0.0453*		mg/kg wet	*0.05000*		*91*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0460*		mg/kg wet	*0.05000*		*92*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0436*		mg/kg wet	*0.05000*		*87*	*70-130*			
Surrogate: Toluene-d8	*0.0446*		mg/kg wet	*0.05000*		*89*	*70-130*			
LCS										
1,1,1,2-Tetrachloroethane	0.0541	0.0050	mg/kg wet	0.05000		108	70-130			
1,1,1-Trichloroethane	0.0498	0.0050	mg/kg wet	0.05000		100	70-130			
1,1,2,2-Tetrachloroethane	0.0491	0.0020	mg/kg wet	0.05000		98	70-130			
1,1,2-Trichloroethane	0.0454	0.0050	mg/kg wet	0.05000		91	70-130			
1,1-Dichloroethane	0.0446	0.0050	mg/kg wet	0.05000		89	70-130			
1,1-Dichloroethene	0.0423	0.0050	mg/kg wet	0.05000		85	70-130			
1,1-Dichloropropene	0.0434	0.0050	mg/kg wet	0.05000		87	70-130			
1,2,3-Trichlorobenzene	0.0512	0.0050	mg/kg wet	0.05000		102	70-130			
1,2,3-Trichloropropane	0.0520	0.0050	mg/kg wet	0.05000		104	70-130			
1,2,4-Trichlorobenzene	0.0508	0.0050	mg/kg wet	0.05000		102	70-130			
1,2,4-Trimethylbenzene	0.0471	0.0050	mg/kg wet	0.05000		94	70-130			
1,2-Dibromo-3-Chloropropane	0.0575	0.0050	mg/kg wet	0.05000		115	70-130			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase ESS Laboratory Work Order: 1503558

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch CD50239 - 5035										
1,2-Dibromoethane	0.0517	0.0050	mg/kg wet	0.05000		103	70-130			
1,2-Dichlorobenzene	0.0477	0.0050	mg/kg wet	0.05000		95	70-130			
1,2-Dichloroethane	0.0480	0.0050	mg/kg wet	0.05000		96	70-130			
1,2-Dichloropropane	0.0430	0.0050	mg/kg wet	0.05000		86	70-130			
1,3,5-Trimethylbenzene	0.0494	0.0050	mg/kg wet	0.05000		99	70-130			
1,3-Dichlorobenzene	0.0478	0.0050	mg/kg wet	0.05000		96	70-130			
1,3-Dichloropropane	0.0525	0.0050	mg/kg wet	0.05000		105	70-130			
1,4-Dichlorobenzene	0.0492	0.0050	mg/kg wet	0.05000		98	70-130			
1,4-Dioxane	0.959	0.100	mg/kg wet	1.000		96	70-130			
2,2-Dichloropropane	0.0514	0.0050	mg/kg wet	0.05000		103	70-130			
2-Butanone	0.232	0.0100	mg/kg wet	0.2500		93	70-130			
2-Chlorotoluene	0.0475	0.0050	mg/kg wet	0.05000		95	70-130			
2-Hexanone	0.270	0.0100	mg/kg wet	0.2500		108	70-130			
4-Chlorotoluene	0.0481	0.0050	mg/kg wet	0.05000		96	70-130			
4-Isopropyltoluene	0.0478	0.0050	mg/kg wet	0.05000		96	70-130			
4-Methyl-2-Pentanone	0.236	0.0100	mg/kg wet	0.2500		94	70-130			
Acetone	0.273	0.0100	mg/kg wet	0.2500		109	70-130			
Benzene	0.0443	0.0050	mg/kg wet	0.05000		89	70-130			
Bromobenzene	0.0489	0.0050	mg/kg wet	0.05000		98	70-130			
Bromochloromethane	0.0469	0.0050	mg/kg wet	0.05000		94	70-130			
Bromodichloromethane	0.0501	0.0050	mg/kg wet	0.05000		100	70-130			
Bromoform	0.0525	0.0050	mg/kg wet	0.05000		105	70-130			
Bromomethane	0.0877	0.0100	mg/kg wet	0.05000		175	70-130			B+
Carbon Disulfide	0.0472	0.0050	mg/kg wet	0.05000		94	70-130			
Carbon Tetrachloride	0.0525	0.0050	mg/kg wet	0.05000		105	70-130			
Chlorobenzene	0.0482	0.0050	mg/kg wet	0.05000		96	70-130			
Chloroethane	0.0412	0.0100	mg/kg wet	0.05000		82	70-130			
Chloroform	0.0477	0.0050	mg/kg wet	0.05000		95	70-130			
Chloromethane	0.0508	0.0100	mg/kg wet	0.05000		102	70-130			
cis-1,2-Dichloroethene	0.0462	0.0050	mg/kg wet	0.05000		92	70-130			
cis-1,3-Dichloropropene	0.0527	0.0050	mg/kg wet	0.05000		105	70-130			
Dibromochloromethane	0.0515	0.0020	mg/kg wet	0.05000		103	70-130			
Dibromomethane	0.0471	0.0050	mg/kg wet	0.05000		94	70-130			
Dichlorodifluoromethane	0.0460	0.0100	mg/kg wet	0.05000		92	70-130			
Diethyl Ether	0.0459	0.0050	mg/kg wet	0.05000		92	70-130			
Di-isopropyl ether	0.0445	0.0050	mg/kg wet	0.05000		89	70-130			
Ethyl tertiary-butyl ether	0.0445	0.0050	mg/kg wet	0.05000		89	70-130			
Ethylbenzene	0.0484	0.0050	mg/kg wet	0.05000		97	70-130			
Hexachlorobutadiene	0.0559	0.0050	mg/kg wet	0.05000		112	70-130			
Isopropylbenzene	0.0477	0.0050	mg/kg wet	0.05000		95	70-130			
Methyl tert-Butyl Ether	0.0477	0.0050	mg/kg wet	0.05000		95	70-130			
Methylene Chloride	0.0443	0.0100	mg/kg wet	0.05000		89	70-130			
Naphthalene	0.0460	0.0050	mg/kg wet	0.05000		92	70-130			
n-Butylbenzene	0.0482	0.0050	mg/kg wet	0.05000		96	70-130			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase ESS Laboratory Work Order: 1503558

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch CD50239 - 5035										
n-Propylbenzene	0.0469	0.0050	mg/kg wet	0.05000		94	70-130			
sec-Butylbenzene	0.0476	0.0050	mg/kg wet	0.05000		95	70-130			
Styrene	0.0492	0.0050	mg/kg wet	0.05000		98	70-130			
tert-Butylbenzene	0.0478	0.0050	mg/kg wet	0.05000		96	70-130			
Tertiary-amyl methyl ether	0.0469	0.0050	mg/kg wet	0.05000		94	70-130			
Tetrachloroethene	0.0494	0.0050	mg/kg wet	0.05000		99	70-130			
Tetrahydrofuran	0.0447	0.0050	mg/kg wet	0.05000		89	70-130			
Toluene	0.0443	0.0050	mg/kg wet	0.05000		89	70-130			
trans-1,2-Dichloroethene	0.0409	0.0050	mg/kg wet	0.05000		82	70-130			
trans-1,3-Dichloropropene	0.0528	0.0050	mg/kg wet	0.05000		106	70-130			
Trichloroethene	0.0454	0.0050	mg/kg wet	0.05000		91	70-130			
Trichlorofluoromethane	0.0433	0.0050	mg/kg wet	0.05000		87	70-130			
Vinyl Chloride	0.0442	0.0100	mg/kg wet	0.05000		88	70-130			
Xylene O	0.0479	0.0050	mg/kg wet	0.05000		96	70-130			
Xylene P,M	0.0967	0.0100	mg/kg wet	0.1000		97	70-130			
Xylenes (Total)	0.145	0.0100	mg/kg wet							
Surrogate: 1,2-Dichloroethane-d4	*0.0464*		mg/kg wet	*0.05000*		*93*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0469*		mg/kg wet	*0.05000*		*94*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0447*		mg/kg wet	*0.05000*		*89*	*70-130*			
Surrogate: Toluene-d8	*0.0493*		mg/kg wet	*0.05000*		*99*	*70-130*			
LCS Dup										
1,1,1,2-Tetrachloroethane	0.0545	0.0050	mg/kg wet	0.05000		109	70-130	0.8	25	
1,1,1-Trichloroethane	0.0512	0.0050	mg/kg wet	0.05000		102	70-130	3	25	
1,1,2,2-Tetrachloroethane	0.0483	0.0020	mg/kg wet	0.05000		97	70-130	2	25	
1,1,2-Trichloroethane	0.0460	0.0050	mg/kg wet	0.05000		92	70-130	1	25	
1,1-Dichloroethane	0.0452	0.0050	mg/kg wet	0.05000		90	70-130	1	25	
1,1-Dichloroethene	0.0435	0.0050	mg/kg wet	0.05000		87	70-130	3	25	
1,1-Dichloropropene	0.0437	0.0050	mg/kg wet	0.05000		87	70-130	0.9	25	
1,2,3-Trichlorobenzene	0.0506	0.0050	mg/kg wet	0.05000		101	70-130	1	25	
1,2,3-Trichloropropane	0.0510	0.0050	mg/kg wet	0.05000		102	70-130	2	25	
1,2,4-Trichlorobenzene	0.0507	0.0050	mg/kg wet	0.05000		101	70-130	0.08	25	
1,2,4-Trimethylbenzene	0.0477	0.0050	mg/kg wet	0.05000		95	70-130	1	25	
1,2-Dibromo-3-Chloropropane	0.0445	0.0050	mg/kg wet	0.05000		89	70-130	25	25	
1,2-Dibromoethane	0.0509	0.0050	mg/kg wet	0.05000		102	70-130	1	25	
1,2-Dichlorobenzene	0.0477	0.0050	mg/kg wet	0.05000		95	70-130	0.04	25	
1,2-Dichloroethane	0.0490	0.0050	mg/kg wet	0.05000		98	70-130	2	25	
1,2-Dichloropropane	0.0443	0.0050	mg/kg wet	0.05000		89	70-130	3	25	
1,3,5-Trimethylbenzene	0.0498	0.0050	mg/kg wet	0.05000		100	70-130	0.8	25	
1,3-Dichlorobenzene	0.0481	0.0050	mg/kg wet	0.05000		96	70-130	0.7	25	
1,3-Dichloropropane	0.0520	0.0050	mg/kg wet	0.05000		104	70-130	0.9	25	
1,4-Dichlorobenzene	0.0493	0.0050	mg/kg wet	0.05000		99	70-130	0.3	25	
1,4-Dioxane	0.954	0.100	mg/kg wet	1.000		95	70-130	0.5	20	
2,2-Dichloropropane	0.0527	0.0050	mg/kg wet	0.05000		105	70-130	2	25	
2-Butanone	0.233	0.0100	mg/kg wet	0.2500		93	70-130	0.2	25	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase ESS Laboratory Work Order: 1503558

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch CD50239 - 5035										
2-Chlorotoluene	0.0481	0.0050	mg/kg wet	0.05000		96	70-130	1	25	
2-Hexanone	0.262	0.0100	mg/kg wet	0.2500		105	70-130	3	25	
4-Chlorotoluene	0.0484	0.0050	mg/kg wet	0.05000		97	70-130	0.6	25	
4-Isopropyltoluene	0.0481	0.0050	mg/kg wet	0.05000		96	70-130	0.7	25	
4-Methyl-2-Pentanone	0.232	0.0100	mg/kg wet	0.2500		93	70-130	2	25	
Acetone	0.265	0.0100	mg/kg wet	0.2500		106	70-130	3	25	
Benzene	0.0450	0.0050	mg/kg wet	0.05000		90	70-130	2	25	
Bromobenzene	0.0487	0.0050	mg/kg wet	0.05000		97	70-130	0.3	25	
Bromochloromethane	0.0472	0.0050	mg/kg wet	0.05000		94	70-130	0.6	25	
Bromodichloromethane	0.0509	0.0050	mg/kg wet	0.05000		102	70-130	2	25	
Bromoform	0.0517	0.0050	mg/kg wet	0.05000		103	70-130	2	25	
Bromomethane	0.0784	0.0100	mg/kg wet	0.05000		157	70-130	11	25	B+
Carbon Disulfide	0.0485	0.0050	mg/kg wet	0.05000		97	70-130	3	25	
Carbon Tetrachloride	0.0534	0.0050	mg/kg wet	0.05000		107	70-130	2	25	
Chlorobenzene	0.0487	0.0050	mg/kg wet	0.05000		97	70-130	1	25	
Chloroethane	0.0417	0.0100	mg/kg wet	0.05000		83	70-130	1	25	
Chloroform	0.0479	0.0050	mg/kg wet	0.05000		96	70-130	0.5	25	
Chloromethane	0.0520	0.0100	mg/kg wet	0.05000		104	70-130	2	25	
cis-1,2-Dichloroethene	0.0466	0.0050	mg/kg wet	0.05000		93	70-130	1	25	
cis-1,3-Dichloropropene	0.0535	0.0050	mg/kg wet	0.05000		107	70-130	2	25	
Dibromochloromethane	0.0516	0.0020	mg/kg wet	0.05000		103	70-130	0.3	25	
Dibromomethane	0.0475	0.0050	mg/kg wet	0.05000		95	70-130	0.8	25	
Dichlorodifluoromethane	0.0472	0.0100	mg/kg wet	0.05000		94	70-130	2	25	
Diethyl Ether	0.0466	0.0050	mg/kg wet	0.05000		93	70-130	2	25	
Di-isopropyl ether	0.0454	0.0050	mg/kg wet	0.05000		91	70-130	2	25	
Ethyl tertiary-butyl ether	0.0453	0.0050	mg/kg wet	0.05000		91	70-130	2	25	
Ethylbenzene	0.0485	0.0050	mg/kg wet	0.05000		97	70-130	0.3	25	
Hexachlorobutadiene	0.0557	0.0050	mg/kg wet	0.05000		111	70-130	0.3	25	
Isopropylbenzene	0.0480	0.0050	mg/kg wet	0.05000		96	70-130	0.7	25	
Methyl tert-Butyl Ether	0.0483	0.0050	mg/kg wet	0.05000		97	70-130	1	25	
Methylene Chloride	0.0449	0.0100	mg/kg wet	0.05000		90	70-130	1	25	
Naphthalene	0.0454	0.0050	mg/kg wet	0.05000		91	70-130	1	25	
n-Butylbenzene	0.0485	0.0050	mg/kg wet	0.05000		97	70-130	0.7	25	
n-Propylbenzene	0.0474	0.0050	mg/kg wet	0.05000		95	70-130	1	25	
sec-Butylbenzene	0.0477	0.0050	mg/kg wet	0.05000		95	70-130	0.1	25	
Styrene	0.0497	0.0050	mg/kg wet	0.05000		99	70-130	1	25	
tert-Butylbenzene	0.0481	0.0050	mg/kg wet	0.05000		96	70-130	0.7	25	
Tertiary-amyl methyl ether	0.0477	0.0050	mg/kg wet	0.05000		95	70-130	2	25	
Tetrachloroethene	0.0499	0.0050	mg/kg wet	0.05000		100	70-130	1	25	
Tetrahydrofuran	0.0439	0.0050	mg/kg wet	0.05000		88	70-130	2	25	
Toluene	0.0451	0.0050	mg/kg wet	0.05000		90	70-130	2	25	
trans-1,2-Dichloroethene	0.0418	0.0050	mg/kg wet	0.05000		84	70-130	2	25	
trans-1,3-Dichloropropene	0.0536	0.0050	mg/kg wet	0.05000		107	70-130	2	25	
Trichloroethene	0.0463	0.0050	mg/kg wet	0.05000		93	70-130	2	25	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase ESS Laboratory Work Order: 1503558

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch CD50239 - 5035										
Trichlorofluoromethane	0.0439	0.0050	mg/kg wet	0.05000		88	70-130	1	25	
Vinyl Chloride	0.0458	0.0100	mg/kg wet	0.05000		92	70-130	4	25	
Xylene O	0.0479	0.0050	mg/kg wet	0.05000		96	70-130	0	25	
Xylene P,M	0.0974	0.0100	mg/kg wet	0.1000		97	70-130	0.7	25	
Xylenes (Total)	0.145	0.0100	mg/kg wet							
Surrogate: 1,2-Dichloroethane-d4	*0.0474*		mg/kg wet	*0.05000*		*95*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0468*		mg/kg wet	*0.05000*		*94*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0456*		mg/kg wet	*0.05000*		*91*	*70-130*			
Surrogate: Toluene-d8	*0.0491*		mg/kg wet	*0.05000*		*98*	*70-130*			
8082A Polychlorinated Biphenyls (PCB)										
Batch CD50616 - 3540C										
Blank										
Aroclor 1016	ND	0.0100	mg/kg wet							
Aroclor 1221	ND	0.0100	mg/kg wet							
Aroclor 1232	ND	0.0100	mg/kg wet							
Aroclor 1242	ND	0.0100	mg/kg wet							
Aroclor 1248	ND	0.0100	mg/kg wet							
Aroclor 1254	ND	0.0100	mg/kg wet							
Aroclor 1260	ND	0.0100	mg/kg wet							
Aroclor 1262	ND	0.0100	mg/kg wet							
Aroclor 1268	ND	0.0100	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.00429*		mg/kg wet	*0.005000*		*86*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.00467*		mg/kg wet	*0.005000*		*93*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.00393*		mg/kg wet	*0.005000*		*79*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.00365*		mg/kg wet	*0.005000*		*73*	*30-150*			
LCS										
Aroclor 1016	0.126	0.0100	mg/kg wet	0.1000		126	40-140			
Aroclor 1260	0.118	0.0100	mg/kg wet	0.1000		118	40-140			
Surrogate: Decachlorobiphenyl	*0.00426*		mg/kg wet	*0.005000*		*85*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.00497*		mg/kg wet	*0.005000*		*99*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.00393*		mg/kg wet	*0.005000*		*79*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.00396*		mg/kg wet	*0.005000*		*79*	*30-150*			
LCS Dup										
Aroclor 1016	0.139	0.0100	mg/kg wet	0.1000		139	40-140	9	30	
Aroclor 1260	0.130	0.0100	mg/kg wet	0.1000		130	40-140	10	30	
Surrogate: Decachlorobiphenyl	*0.00441*		mg/kg wet	*0.005000*		*88*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.00506*		mg/kg wet	*0.005000*		*101*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.00411*		mg/kg wet	*0.005000*		*82*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.00414*		mg/kg wet	*0.005000*		*83*	*30-150*			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase ESS Laboratory Work Order: 1503558

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch CD50739 - 3546										
Blank										
1,2,4-Trichlorobenzene	ND	0.333	mg/kg wet							
1,2-Dichlorobenzene	ND	0.333	mg/kg wet							
1,3-Dichlorobenzene	ND	0.333	mg/kg wet							
1,4-Dichlorobenzene	ND	0.333	mg/kg wet							
2,4,5-Trichlorophenol	ND	0.333	mg/kg wet							
2,4,6-Trichlorophenol	ND	0.333	mg/kg wet							
2,4-Dichlorophenol	ND	0.333	mg/kg wet							
2,4-Dimethylphenol	ND	0.333	mg/kg wet							
2,4-Dinitrophenol	ND	1.67	mg/kg wet							
2,4-Dinitrotoluene	ND	0.333	mg/kg wet							
2,6-Dinitrotoluene	ND	0.333	mg/kg wet							
2-Chloronaphthalene	ND	0.333	mg/kg wet							
2-Chlorophenol	ND	0.333	mg/kg wet							
2-Methylphenol	ND	0.333	mg/kg wet							
2-Nitrophenol	ND	0.333	mg/kg wet							
3,3´-Dichlorobenzidine	ND	0.667	mg/kg wet							
3+4-Methylphenol	ND	0.667	mg/kg wet							
4-Bromophenyl-phenylether	ND	0.333	mg/kg wet							
4-Chloroaniline	ND	0.667	mg/kg wet							
4-Nitrophenol	ND	1.67	mg/kg wet							
Acetophenone	ND	0.667	mg/kg wet							
Aniline	ND	1.67	mg/kg wet							
Azobenzene	ND	0.333	mg/kg wet							
bis(2-Chloroethoxy)methane	ND	0.333	mg/kg wet							
bis(2-Chloroethyl)ether	ND	0.333	mg/kg wet							
bis(2-chloroisopropyl)Ether	ND	0.333	mg/kg wet							
bis(2-Ethylhexyl)phthalate	ND	0.333	mg/kg wet							
Butylbenzylphthalate	ND	0.333	mg/kg wet							
Dibenzofuran	ND	0.333	mg/kg wet							
Diethylphthalate	ND	0.333	mg/kg wet							
Dimethylphthalate	ND	0.333	mg/kg wet							
Di-n-butylphthalate	ND	0.333	mg/kg wet							
Di-n-octylphthalate	ND	0.333	mg/kg wet							
Hexachlorobutadiene	ND	0.333	mg/kg wet							
Hexachloroethane	ND	0.333	mg/kg wet							
Isophorone	ND	0.333	mg/kg wet							
Nitrobenzene	ND	0.333	mg/kg wet							
N-Nitrosodimethylamine	ND	0.333	mg/kg wet							
Pentachlorophenol	ND	1.67	mg/kg wet							
Phenol	ND	0.333	mg/kg wet							
Surrogate: 1,2-Dichlorobenzene-d4	*2.24*		mg/kg wet	*3.333*		*67*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*3.04*		mg/kg wet	*5.000*		*61*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*3.42*		mg/kg wet	*5.000*		*68*	*30-130*			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase ESS Laboratory Work Order: 1503558

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch CD50739 - 3546										
Surrogate: 2-Fluorobiphenyl	*2.33*		mg/kg wet	*3.333*		*70*	*30-130*			
Surrogate: 2-Fluorophenol	*3.31*		mg/kg wet	*5.000*		*66*	*30-130*			
Surrogate: Nitrobenzene-d5	*2.20*		mg/kg wet	*3.333*		*66*	*30-130*			
Surrogate: Phenol-d6	*3.45*		mg/kg wet	*5.000*		*69*	*30-130*			
Surrogate: p-Terphenyl-d14	*3.81*		mg/kg wet	*3.333*		*114*	*30-130*			
LCS										
1,2,4-Trichlorobenzene	1.93	0.333	mg/kg wet	3.333		58	40-140			
1,2-Dichlorobenzene	1.76	0.333	mg/kg wet	3.333		53	40-140			
1,3-Dichlorobenzene	1.74	0.333	mg/kg wet	3.333		52	40-140			
1,4-Dichlorobenzene	1.73	0.333	mg/kg wet	3.333		52	40-140			
2,4,5-Trichlorophenol	2.96	0.333	mg/kg wet	3.333		89	30-130			
2,4,6-Trichlorophenol	2.74	0.333	mg/kg wet	3.333		82	30-130			
2,4-Dichlorophenol	2.42	0.333	mg/kg wet	3.333		73	30-130			
2,4-Dimethylphenol	2.42	0.333	mg/kg wet	3.333		73	30-130			
2,4-Dinitrophenol	2.31	1.67	mg/kg wet	3.333		69	30-130			
2,4-Dinitrotoluene	2.89	0.333	mg/kg wet	3.333		87	40-140			
2,6-Dinitrotoluene	2.75	0.333	mg/kg wet	3.333		82	40-140			
2-Chloronaphthalene	2.12	0.333	mg/kg wet	3.333		64	40-140			
2-Chlorophenol	1.92	0.333	mg/kg wet	3.333		58	30-130			
2-Methylphenol	2.10	0.333	mg/kg wet	3.333		63	30-130			
2-Nitrophenol	2.15	0.333	mg/kg wet	3.333		65	30-130			
3,3´-Dichlorobenzidine	2.34	0.667	mg/kg wet	3.333		70	40-140			
3+4-Methylphenol	4.56	0.667	mg/kg wet	6.667		68	30-130			
4-Bromophenyl-phenylether	3.08	0.333	mg/kg wet	3.333		92	40-140			
4-Chloroaniline	1.64	0.667	mg/kg wet	3.333		49	40-140			
4-Nitrophenol	2.54	1.67	mg/kg wet	3.333		76	30-130			
Acetophenone	2.18	0.667	mg/kg wet	3.333		66	40-140			
Aniline	1.31	1.67	mg/kg wet	3.333		39	40-140			B-
Azobenzene	2.89	0.333	mg/kg wet	3.333		87	40-140			
bis(2-Chloroethoxy)methane	2.13	0.333	mg/kg wet	3.333		64	40-140			
bis(2-Chloroethyl)ether	1.90	0.333	mg/kg wet	3.333		57	40-140			
bis(2-chloroisopropyl)Ether	1.88	0.333	mg/kg wet	3.333		56	40-140			
bis(2-Ethylhexyl)phthalate	3.18	0.333	mg/kg wet	3.333		95	40-140			
Butylbenzylphthalate	3.02	0.333	mg/kg wet	3.333		91	40-140			
Dibenzofuran	2.54	0.333	mg/kg wet	3.333		76	40-140			
Diethylphthalate	2.79	0.333	mg/kg wet	3.333		84	40-140			
Dimethylphthalate	2.68	0.333	mg/kg wet	3.333		80	40-140			
Di-n-butylphthalate	3.19	0.333	mg/kg wet	3.333		96	40-140			
Di-n-octylphthalate	3.32	0.333	mg/kg wet	3.333		100	40-140			
Hexachlorobutadiene	1.89	0.333	mg/kg wet	3.333		57	40-140			
Hexachloroethane	1.69	0.333	mg/kg wet	3.333		51	40-140			
Isophorone	2.06	0.333	mg/kg wet	3.333		62	40-140			
Nitrobenzene	1.93	0.333	mg/kg wet	3.333		58	40-140			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase ESS Laboratory Work Order: 1503558

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch CD50739 - 3546										
N-Nitrosodimethylamine	1.70	0.333	mg/kg wet	3.333		51	40-140			
Pentachlorophenol	3.12	1.67	mg/kg wet	3.333		93	30-130			
Phenol	2.00	0.333	mg/kg wet	3.333		60	30-130			
Surrogate: 1,2-Dichlorobenzene-d4	*1.98*		mg/kg wet	*3.333*		*60*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*5.35*		mg/kg wet	*5.000*		*107*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*3.28*		mg/kg wet	*5.000*		*66*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*2.68*		mg/kg wet	*3.333*		*80*	*30-130*			
Surrogate: 2-Fluorophenol	*3.10*		mg/kg wet	*5.000*		*62*	*30-130*			
Surrogate: Nitrobenzene-d5	*2.18*		mg/kg wet	*3.333*		*65*	*30-130*			
Surrogate: Phenol-d6	*3.47*		mg/kg wet	*5.000*		*69*	*30-130*			
Surrogate: p-Terphenyl-d14	*3.44*		mg/kg wet	*3.333*		*103*	*30-130*			
LCS Dup										
1,2,4-Trichlorobenzene	1.83	0.333	mg/kg wet	3.333		55	40-140	5	30	
1,2-Dichlorobenzene	1.67	0.333	mg/kg wet	3.333		50	40-140	5	30	
1,3-Dichlorobenzene	1.67	0.333	mg/kg wet	3.333		50	40-140	4	30	
1,4-Dichlorobenzene	1.65	0.333	mg/kg wet	3.333		49	40-140	5	30	
2,4,5-Trichlorophenol	2.90	0.333	mg/kg wet	3.333		87	30-130	2	30	
2,4,6-Trichlorophenol	2.65	0.333	mg/kg wet	3.333		79	30-130	3	30	
2,4-Dichlorophenol	2.24	0.333	mg/kg wet	3.333		67	30-130	8	30	
2,4-Dimethylphenol	2.26	0.333	mg/kg wet	3.333		68	30-130	7	30	
2,4-Dinitrophenol	2.49	1.67	mg/kg wet	3.333		75	30-130	7	30	
2,4-Dinitrotoluene	2.98	0.333	mg/kg wet	3.333		89	40-140	3	30	
2,6-Dinitrotoluene	2.75	0.333	mg/kg wet	3.333		82	40-140	0.04	30	
2-Chloronaphthalene	2.02	0.333	mg/kg wet	3.333		61	40-140	5	30	
2-Chlorophenol	1.77	0.333	mg/kg wet	3.333		53	30-130	8	30	
2-Methylphenol	1.94	0.333	mg/kg wet	3.333		58	30-130	8	30	
2-Nitrophenol	2.06	0.333	mg/kg wet	3.333		62	30-130	4	30	
3,3´-Dichlorobenzidine	2.32	0.667	mg/kg wet	3.333		69	40-140	0.8	30	
3+4-Methylphenol	4.17	0.667	mg/kg wet	6.667		63	30-130	9	30	
4-Bromophenyl-phenylether	2.83	0.333	mg/kg wet	3.333		85	40-140	9	30	
4-Chloroaniline	1.57	0.667	mg/kg wet	3.333		47	40-140	4	30	
4-Nitrophenol	2.74	1.67	mg/kg wet	3.333		82	30-130	8	30	
Acetophenone	1.99	0.667	mg/kg wet	3.333		60	40-140	10	30	
Aniline	1.27	1.67	mg/kg wet	3.333		38	40-140	4	30	B-
Azobenzene	2.64	0.333	mg/kg wet	3.333		79	40-140	9	30	
bis(2-Chloroethoxy)methane	1.98	0.333	mg/kg wet	3.333		60	40-140	7	30	
bis(2-Chloroethyl)ether	1.78	0.333	mg/kg wet	3.333		53	40-140	7	30	
bis(2-chloroisopropyl)Ether	1.71	0.333	mg/kg wet	3.333		51	40-140	9	30	
bis(2-Ethylhexyl)phthalate	3.19	0.333	mg/kg wet	3.333		96	40-140	0.4	30	
Butylbenzylphthalate	2.95	0.333	mg/kg wet	3.333		89	40-140	2	30	
Dibenzofuran	2.48	0.333	mg/kg wet	3.333		75	40-140	2	30	
Diethylphthalate	2.84	0.333	mg/kg wet	3.333		85	40-140	2	30	
Dimethylphthalate	2.64	0.333	mg/kg wet	3.333		79	40-140	1	30	
Di-n-butylphthalate	3.24	0.333	mg/kg wet	3.333		97	40-140	2	30	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase ESS Laboratory Work Order: 1503558

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch CD50739 - 3546										
Di-n-octylphthalate	3.41	0.333	mg/kg wet	3.333		102	40-140	3	30	
Hexachlorobutadiene	1.82	0.333	mg/kg wet	3.333		55	40-140	3	30	
Hexachloroethane	1.62	0.333	mg/kg wet	3.333		49	40-140	4	30	
Isophorone	1.92	0.333	mg/kg wet	3.333		58	40-140	7	30	
Nitrobenzene	1.84	0.333	mg/kg wet	3.333		55	40-140	5	30	
N-Nitrosodimethylamine	1.62	0.333	mg/kg wet	3.333		49	40-140	5	30	
Pentachlorophenol	3.09	1.67	mg/kg wet	3.333		93	30-130	0.7	30	
Phenol	1.84	0.333	mg/kg wet	3.333		55	30-130	8	30	
Surrogate: 1,2-Dichlorobenzene-d4	*1.82*		mg/kg wet	*3.333*		*55*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*4.82*		mg/kg wet	*5.000*		*96*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*2.92*		mg/kg wet	*5.000*		*58*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*2.42*		mg/kg wet	*3.333*		*73*	*30-130*			
Surrogate: 2-Fluorophenol	*2.77*		mg/kg wet	*5.000*		*55*	*30-130*			
Surrogate: Nitrobenzene-d5	*2.02*		mg/kg wet	*3.333*		*61*	*30-130*			
Surrogate: Phenol-d6	*3.07*		mg/kg wet	*5.000*		*61*	*30-130*			
Surrogate: p-Terphenyl-d14	*3.12*		mg/kg wet	*3.333*		*94*	*30-130*			
8270D(SIM) Polynuclear Aromatic Hydrocarbons										
Batch CD50136 - 3546										
Blank										
2-Methylnaphthalene	ND	0.012	mg/kg wet							
Acenaphthene	ND	0.012	mg/kg wet							
Acenaphthylene	ND	0.012	mg/kg wet							
Anthracene	ND	0.012	mg/kg wet							
Benzo(a)anthracene	ND	0.012	mg/kg wet							
Benzo(a)pyrene	ND	0.012	mg/kg wet							
Benzo(b)fluoranthene	ND	0.012	mg/kg wet							
Benzo(g,h,i)perylene	ND	0.012	mg/kg wet							
Benzo(k)fluoranthene	ND	0.012	mg/kg wet							
Chrysene	ND	0.012	mg/kg wet							
Dibenzo(a,h)Anthracene	ND	0.012	mg/kg wet							
Fluoranthene	ND	0.012	mg/kg wet							
Fluorene	ND	0.012	mg/kg wet							
Hexachlorobenzene	ND	0.012	mg/kg wet							
Indeno(1,2,3-cd)Pyrene	ND	0.012	mg/kg wet							
Naphthalene	ND	0.012	mg/kg wet							
Phenanthrene	ND	0.012	mg/kg wet							
Pyrene	ND	0.012	mg/kg wet							
Surrogate: 1,2-Dichlorobenzene-d4	*0.165*		mg/kg wet	*0.2500*		*66*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*0.193*		mg/kg wet	*0.2500*		*77*	*30-130*			
Surrogate: Nitrobenzene-d5	*0.214*		mg/kg wet	*0.2500*		*85*	*30-130*			
Surrogate: p-Terphenyl-d14	*0.235*		mg/kg wet	*0.2500*		*94*	*30-130*			
LCS										
2-Methylnaphthalene	0.103	0.012	mg/kg wet	0.2000		52	40-140			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase ESS Laboratory Work Order: 1503558

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D(SIM) Polynuclear Aromatic Hydrocarbons										
Batch CD50136 - 3546										
Acenaphthene	0.120	0.012	mg/kg wet	0.2000		60	40-140			
Acenaphthylene	0.118	0.012	mg/kg wet	0.2000		59	40-140			
Anthracene	0.134	0.012	mg/kg wet	0.2000		67	40-140			
Benzo(a)anthracene	0.143	0.012	mg/kg wet	0.2000		72	40-140			
Benzo(a)pyrene	0.148	0.012	mg/kg wet	0.2000		74	40-140			
Benzo(b)fluoranthene	0.152	0.012	mg/kg wet	0.2000		76	40-140			
Benzo(g,h,i)perylene	0.149	0.012	mg/kg wet	0.2000		74	40-140			
Benzo(k)fluoranthene	0.151	0.012	mg/kg wet	0.2000		75	40-140			
Chrysene	0.153	0.012	mg/kg wet	0.2000		77	40-140			
Dibenzo(a,h)Anthracene	0.158	0.012	mg/kg wet	0.2000		79	40-140			
Fluoranthene	0.147	0.012	mg/kg wet	0.2000		73	40-140			
Fluorene	0.133	0.012	mg/kg wet	0.2000		66	40-140			
Hexachlorobenzene	0.138	0.012	mg/kg wet	0.2000		69	40-140			
Indeno(1,2,3-cd)Pyrene	0.147	0.012	mg/kg wet	0.2000		73	40-140			
Naphthalene	0.100	0.012	mg/kg wet	0.2000		50	40-140			
Phenanthrene	0.127	0.012	mg/kg wet	0.2000		63	40-140			
Pyrene	0.151	0.012	mg/kg wet	0.2000		75	40-140			
Surrogate: 1,2-Dichlorobenzene-d4	*0.148*		mg/kg wet	*0.2500*		*59*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*0.181*		mg/kg wet	*0.2500*		*72*	*30-130*			
Surrogate: Nitrobenzene-d5	*0.184*		mg/kg wet	*0.2500*		*74*	*30-130*			
Surrogate: p-Terphenyl-d14	*0.238*		mg/kg wet	*0.2500*		*95*	*30-130*			
LCS Dup										
2-Methylnaphthalene	0.110	0.012	mg/kg wet	0.2000		55	40-140	7	30	
Acenaphthene	0.129	0.012	mg/kg wet	0.2000		65	40-140	7	30	
Acenaphthylene	0.126	0.012	mg/kg wet	0.2000		63	40-140	6	30	
Anthracene	0.132	0.012	mg/kg wet	0.2000		66	40-140	2	30	
Benzo(a)anthracene	0.144	0.012	mg/kg wet	0.2000		72	40-140	0.3	30	
Benzo(a)pyrene	0.144	0.012	mg/kg wet	0.2000		72	40-140	3	30	
Benzo(b)fluoranthene	0.157	0.012	mg/kg wet	0.2000		78	40-140	3	30	
Benzo(g,h,i)perylene	0.156	0.012	mg/kg wet	0.2000		78	40-140	4	30	
Benzo(k)fluoranthene	0.160	0.012	mg/kg wet	0.2000		80	40-140	6	30	
Chrysene	0.160	0.012	mg/kg wet	0.2000		80	40-140	4	30	
Dibenzo(a,h)Anthracene	0.162	0.012	mg/kg wet	0.2000		81	40-140	3	30	
Fluoranthene	0.149	0.012	mg/kg wet	0.2000		74	40-140	2	30	
Fluorene	0.142	0.012	mg/kg wet	0.2000		71	40-140	7	30	
Hexachlorobenzene	0.153	0.012	mg/kg wet	0.2000		77	40-140	11	30	
Indeno(1,2,3-cd)Pyrene	0.158	0.012	mg/kg wet	0.2000		79	40-140	8	30	
Naphthalene	0.110	0.012	mg/kg wet	0.2000		55	40-140	9	30	
Phenanthrene	0.129	0.012	mg/kg wet	0.2000		64	40-140	2	30	
Pyrene	0.149	0.012	mg/kg wet	0.2000		75	40-140	1	30	
Surrogate: 1,2-Dichlorobenzene-d4	*0.146*		mg/kg wet	*0.2500*		*59*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*0.182*		mg/kg wet	*0.2500*		*73*	*30-130*			
Surrogate: Nitrobenzene-d5	*0.184*		mg/kg wet	*0.2500*		*74*	*30-130*			
Surrogate: p-Terphenyl-d14	*0.218*		mg/kg wet	*0.2500*		*87*	*30-130*			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase ESS Laboratory Work Order: 1503558

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D(SIM) Polynuclear Aromatic Hydrocarbons										
Batch CD50227 - 3546										
Blank										
2-Methylnaphthalene	ND	0.017	mg/kg wet							
Acenaphthene	ND	0.017	mg/kg wet							
Acenaphthylene	ND	0.017	mg/kg wet							
Anthracene	ND	0.017	mg/kg wet							
Benzo(a)anthracene	ND	0.017	mg/kg wet							
Benzo(a)pyrene	ND	0.017	mg/kg wet							
Benzo(b)fluoranthene	ND	0.017	mg/kg wet							
Benzo(g,h,i)perylene	ND	0.017	mg/kg wet							
Benzo(k)fluoranthene	ND	0.017	mg/kg wet							
Chrysene	ND	0.017	mg/kg wet							
Dibenzo(a,h)Anthracene	ND	0.017	mg/kg wet							
Fluoranthene	ND	0.017	mg/kg wet							
Fluorene	ND	0.017	mg/kg wet							
Hexachlorobenzene	ND	0.017	mg/kg wet							
Indeno(1,2,3-cd)Pyrene	ND	0.017	mg/kg wet							
Naphthalene	ND	0.017	mg/kg wet							
Phenanthrene	ND	0.017	mg/kg wet							
Pyrene	ND	0.017	mg/kg wet							
Surrogate: 1,2-Dichlorobenzene-d4	*0.295*		mg/kg wet	*0.3333*		*89*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*0.325*		mg/kg wet	*0.3333*		*97*	*30-130*			
Surrogate: Nitrobenzene-d5	*0.307*		mg/kg wet	*0.3333*		*92*	*30-130*			
Surrogate: p-Terphenyl-d14	*0.321*		mg/kg wet	*0.3333*		*96*	*30-130*			
LCS										
2-Methylnaphthalene	0.129	0.017	mg/kg wet	0.2667		48	40-140			
Acenaphthene	0.219	0.017	mg/kg wet	0.2667		82	40-140			
Acenaphthylene	0.027	0.017	mg/kg wet	0.2667		10	40-140			B-
Anthracene	0.125	0.017	mg/kg wet	0.2667		47	40-140			
Benzo(a)anthracene	0.180	0.017	mg/kg wet	0.2667		68	40-140			
Benzo(a)pyrene	0.127	0.017	mg/kg wet	0.2667		48	40-140			
Benzo(b)fluoranthene	0.279	0.017	mg/kg wet	0.2667		105	40-140			
Benzo(g,h,i)perylene	0.273	0.017	mg/kg wet	0.2667		102	40-140			
Benzo(k)fluoranthene	0.268	0.017	mg/kg wet	0.2667		101	40-140			
Chrysene	0.221	0.017	mg/kg wet	0.2667		83	40-140			
Dibenzo(a,h)Anthracene	0.282	0.017	mg/kg wet	0.2667		106	40-140			
Fluoranthene	0.218	0.017	mg/kg wet	0.2667		82	40-140			
Fluorene	0.235	0.017	mg/kg wet	0.2667		88	40-140			
Hexachlorobenzene	0.213	0.017	mg/kg wet	0.2667		80	40-140			
Indeno(1,2,3-cd)Pyrene	0.282	0.017	mg/kg wet	0.2667		106	40-140			
Naphthalene	0.179	0.017	mg/kg wet	0.2667		67	40-140			
Phenanthrene	0.212	0.017	mg/kg wet	0.2667		79	40-140			
Pyrene	0.214	0.017	mg/kg wet	0.2667		80	40-140			
Surrogate: 1,2-Dichlorobenzene-d4	*0.269*		mg/kg wet	*0.3333*		*81*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*0.315*		mg/kg wet	*0.3333*		*94*	*30-130*			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase ESS Laboratory Work Order: 1503558

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D(SIM) Polynuclear Aromatic Hydrocarbons										
Batch CD50227 - 3546										
Surrogate: Nitrobenzene-d5	*0.282*		mg/kg wet	*0.3333*		*85*	*30-130*			
Surrogate: p-Terphenyl-d14	*0.329*		mg/kg wet	*0.3333*		*99*	*30-130*			
LCS Dup										
2-Methylnaphthalene	0.164	0.017	mg/kg wet	0.2667		62	40-140	24	30	
Acenaphthene	0.197	0.017	mg/kg wet	0.2667		74	40-140	11	30	
Acenaphthylene	0.192	0.017	mg/kg wet	0.2667		72	40-140	151	30	D+
Anthracene	0.195	0.017	mg/kg wet	0.2667		73	40-140	44	30	D+
Benzo(a)anthracene	0.189	0.017	mg/kg wet	0.2667		71	40-140	5	30	
Benzo(a)pyrene	0.210	0.017	mg/kg wet	0.2667		79	40-140	49	30	D+
Benzo(b)fluoranthene	0.218	0.017	mg/kg wet	0.2667		82	40-140	25	30	
Benzo(g,h,i)perylene	0.210	0.017	mg/kg wet	0.2667		79	40-140	26	30	
Benzo(k)fluoranthene	0.203	0.017	mg/kg wet	0.2667		76	40-140	27	30	
Chrysene	0.207	0.017	mg/kg wet	0.2667		78	40-140	6	30	
Dibenzo(a,h)Anthracene	0.210	0.017	mg/kg wet	0.2667		79	40-140	29	30	
Fluoranthene	0.201	0.017	mg/kg wet	0.2667		75	40-140	8	30	
Fluorene	0.210	0.017	mg/kg wet	0.2667		79	40-140	11	30	
Hexachlorobenzene	0.184	0.017	mg/kg wet	0.2667		69	40-140	14	30	
Indeno(1,2,3-cd)Pyrene	0.214	0.017	mg/kg wet	0.2667		80	40-140	28	30	
Naphthalene	0.161	0.017	mg/kg wet	0.2667		60	40-140	10	30	
Phenanthrene	0.193	0.017	mg/kg wet	0.2667		72	40-140	10	30	
Pyrene	0.208	0.017	mg/kg wet	0.2667		78	40-140	3	30	
Surrogate: 1,2-Dichlorobenzene-d4	*0.253*		mg/kg wet	*0.3333*		*76*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*0.286*		mg/kg wet	*0.3333*		*86*	*30-130*			
Surrogate: Nitrobenzene-d5	*0.259*		mg/kg wet	*0.3333*		*78*	*30-130*			
Surrogate: p-Terphenyl-d14	*0.342*		mg/kg wet	*0.3333*		*103*	*30-130*			
Classical Chemistry										
Batch CD50128 - General Preparation										
Blank										
Reactive Cyanide	ND	2.0	mg/kg							
Reactive Sulfide	ND	2.0	mg/kg							
LCS										
Reactive Cyanide	3.8	2.0	mg/kg	100.3		4	0.68-5.41			
Reactive Sulfide	0.2	2.0	mg/kg	10.00		2	0-44			
Batch CD50609 - General Preparation										
Blank										
Hexavalent Chromium	ND	0.7	mg/kg wet							
LCS										
Hexavalent Chromium	32.4	0.7	mg/kg wet	33.32		97	80-120			
LCS Dup										
Hexavalent Chromium	32.6	0.7	mg/kg wet	33.32		98	80-120	0.5	20	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase ESS Laboratory Work Order: 1503558

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Classical Chemistry										
Batch CD50609 - General Preparation										
Reference										
Hexavalent Chromium	109	2.0	mg/kg wet	125.0		87	61-139			
MADEP-EPH Extractable Petroleum Hydrocarbons										
Batch CD50135 - 3546										
Blank										
C19-C36 Aliphatics1	ND	15.0	mg/kg wet							
C9-C18 Aliphatics1	ND	15.0	mg/kg wet							
Decane (C10)	ND	0.5	mg/kg wet							
Docosane (C22)	ND	0.5	mg/kg wet							
Dodecane (C12)	ND	0.5	mg/kg wet							
Eicosane (C20)	ND	0.5	mg/kg wet							
Hexacosane (C26)	ND	0.5	mg/kg wet							
Hexadecane (C16)	ND	0.5	mg/kg wet							
Hexatriacontane (C36)	ND	0.5	mg/kg wet							
Nonadecane (C19)	ND	0.5	mg/kg wet							
Nonane (C9)	ND	0.5	mg/kg wet							
Octacosane (C28)	ND	0.5	mg/kg wet							
Octadecane (C18)	ND	0.5	mg/kg wet							
Tetracosane (C24)	ND	0.5	mg/kg wet							
Tetradecane (C14)	ND	0.5	mg/kg wet							
Triacontane (C30)	ND	0.5	mg/kg wet							
Surrogate: 1-Chlorooctadecane	*1.31*		mg/kg wet	*2.000*		*66*	*40-140*			
Blank										
2-Methylnaphthalene	ND	0.20	mg/kg wet							
Acenaphthene	ND	0.40	mg/kg wet							
Acenaphthylene	ND	0.20	mg/kg wet							
Anthracene	ND	0.40	mg/kg wet							
Benzo(a)anthracene	ND	0.40	mg/kg wet							
Benzo(a)pyrene	ND	0.40	mg/kg wet							
Benzo(b)fluoranthene	ND	0.40	mg/kg wet							
Benzo(g,h,i)perylene	ND	0.40	mg/kg wet							
Benzo(k)fluoranthene	ND	0.40	mg/kg wet							
C11-C22 Aromatics1,2	ND	15.0	mg/kg wet							
C11-C22 Unadjusted Aromatics1	ND	15.0	mg/kg wet							
Chrysene	ND	0.40	mg/kg wet							
Dibenzo(a,h)Anthracene	ND	0.20	mg/kg wet							
Fluoranthene	ND	0.40	mg/kg wet							
Fluorene	ND	0.40	mg/kg wet							
Indeno(1,2,3-cd)Pyrene	ND	0.40	mg/kg wet							
Naphthalene	ND	0.40	mg/kg wet							
Phenanthrene	ND	0.40	mg/kg wet							
Pyrene	ND	0.40	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase ESS Laboratory Work Order: 1503558

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
MADEP-EPH Extractable Petroleum Hydrocarbons										
Batch CD50135 - 3546										
Surrogate: 2-Bromonaphthalene	*1.80*		mg/kg wet	*2.000*		*90*	*40-140*			
Surrogate: 2-Fluorobiphenyl	*1.73*		mg/kg wet	*2.000*		*87*	*40-140*			
Surrogate: O-Terphenyl	*1.48*		mg/kg wet	*2.000*		*74*	*40-140*			
LCS										
C19-C36 Aliphatics1	14.3	15.0	mg/kg wet	16.00		89	40-140			
C9-C18 Aliphatics1	8.1	15.0	mg/kg wet	12.00		68	40-140			
Decane (C10)	0.9	0.5	mg/kg wet	2.000		47	40-140			
Docosane (C22)	1.7	0.5	mg/kg wet	2.000		84	40-140			
Dodecane (C12)	0.9	0.5	mg/kg wet	2.000		47	40-140			
Eicosane (C20)	1.6	0.5	mg/kg wet	2.000		81	40-140			
Hexacosane (C26)	1.7	0.5	mg/kg wet	2.000		85	40-140			
Hexadecane (C16)	1.4	0.5	mg/kg wet	2.000		69	40-140			
Hexatriacontane (C36)	1.7	0.5	mg/kg wet	2.000		83	40-140			
Nonadecane (C19)	1.6	0.5	mg/kg wet	2.000		82	40-140			
Nonane (C9)	0.8	0.5	mg/kg wet	2.000		38	30-140			
Octacosane (C28)	1.7	0.5	mg/kg wet	2.000		85	40-140			
Octadecane (C18)	1.6	0.5	mg/kg wet	2.000		78	40-140			
Tetracosane (C24)	1.6	0.5	mg/kg wet	2.000		81	40-140			
Tetradecane (C14)	1.2	0.5	mg/kg wet	2.000		58	40-140			
Triacontane (C30)	1.7	0.5	mg/kg wet	2.000		83	40-140			
Surrogate: 1-Chlorooctadecane	*1.33*		mg/kg wet	*2.000*		*67*	*40-140*			
LCS										
2-Methylnaphthalene	0.98	0.20	mg/kg wet	2.000		49	40-140			
Acenaphthene	1.06	0.40	mg/kg wet	2.000		53	40-140			
Acenaphthylene	1.06	0.20	mg/kg wet	2.000		53	40-140			
Anthracene	1.29	0.40	mg/kg wet	2.000		64	40-140			
Benzo(a)anthracene	1.29	0.40	mg/kg wet	2.000		65	40-140			
Benzo(a)pyrene	1.42	0.40	mg/kg wet	2.000		71	40-140			
Benzo(b)fluoranthene	1.27	0.40	mg/kg wet	2.000		64	40-140			
Benzo(g,h,i)perylene	1.29	0.40	mg/kg wet	2.000		64	40-140			
Benzo(k)fluoranthene	1.26	0.40	mg/kg wet	2.000		63	40-140			
C11-C22 Aromatics1,2	ND	15.0	mg/kg wet							
C11-C22 Unadjusted Aromatics1	19.2	15.0	mg/kg wet	34.00		57	40-140			
Chrysene	1.32	0.40	mg/kg wet	2.000		66	40-140			
Dibenzo(a,h)Anthracene	1.27	0.20	mg/kg wet	2.000		64	40-140			
Fluoranthene	1.27	0.40	mg/kg wet	2.000		64	40-140			
Fluorene	1.14	0.40	mg/kg wet	2.000		57	40-140			
Indeno(1,2,3-cd)Pyrene	1.27	0.40	mg/kg wet	2.000		64	40-140			
Naphthalene	0.94	0.40	mg/kg wet	2.000		47	40-140			
Phenanthrene	1.24	0.40	mg/kg wet	2.000		62	40-140			
Pyrene	1.28	0.40	mg/kg wet	2.000		64	40-140			
Surrogate: 2-Bromonaphthalene	*1.27*		mg/kg wet	*2.000*		*63*	*40-140*			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase ESS Laboratory Work Order: 1503558

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
MADEP-EPH Extractable Petroleum Hydrocarbons										
Batch CD50135 - 3546										
Surrogate: 2-Fluorobiphenyl	*1.25*		mg/kg wet	*2.000*		*63*	*40-140*			
Surrogate: O-Terphenyl	*1.07*		mg/kg wet	*2.000*		*54*	*40-140*			
LCS										
2-Methylnaphthalene Breakthrough	0.0		%				0-5			
Naphthalene Breakthrough	0.0		%				0-5			
LCS Dup										
C19-C36 Aliphatics1	16.4	15.0	mg/kg wet	16.00		102	40-140	14	25	
C9-C18 Aliphatics1	9.3	15.0	mg/kg wet	12.00		78	40-140	14	25	
Decane (C10)	1.0	0.5	mg/kg wet	2.000		51	40-140	8	25	
Docosane (C22)	1.9	0.5	mg/kg wet	2.000		93	40-140	10	25	
Dodecane (C12)	1.0	0.5	mg/kg wet	2.000		52	40-140	10	25	
Eicosane (C20)	1.8	0.5	mg/kg wet	2.000		90	40-140	10	25	
Hexacosane (C26)	1.9	0.5	mg/kg wet	2.000		94	40-140	10	25	
Hexadecane (C16)	1.5	0.5	mg/kg wet	2.000		77	40-140	11	25	
Hexatriacontane (C36)	1.8	0.5	mg/kg wet	2.000		92	40-140	10	25	
Nonadecane (C19)	1.8	0.5	mg/kg wet	2.000		90	40-140	9	25	
Nonane (C9)	0.8	0.5	mg/kg wet	2.000		41	30-140	7	25	
Octacosane (C28)	1.9	0.5	mg/kg wet	2.000		94	40-140	10	25	
Octadecane (C18)	1.7	0.5	mg/kg wet	2.000		85	40-140	9	25	
Tetracosane (C24)	1.8	0.5	mg/kg wet	2.000		89	40-140	10	25	
Tetradecane (C14)	1.3	0.5	mg/kg wet	2.000		63	40-140	8	25	
Triacontane (C30)	1.8	0.5	mg/kg wet	2.000		92	40-140	10	25	
Surrogate: 1-Chlorooctadecane	*1.41*		mg/kg wet	*2.000*		*71*	*40-140*			
LCS Dup										
2-Methylnaphthalene	1.45	0.20	mg/kg wet	2.000		73	40-140	39	20	D+
Acenaphthene	1.51	0.40	mg/kg wet	2.000		76	40-140	35	20	D+
Acenaphthylene	1.57	0.20	mg/kg wet	2.000		79	40-140	39	20	D+
Anthracene	1.85	0.40	mg/kg wet	2.000		92	40-140	36	20	D+
Benzo(a)anthracene	1.86	0.40	mg/kg wet	2.000		93	40-140	36	20	D+
Benzo(a)pyrene	2.00	0.40	mg/kg wet	2.000		100	40-140	34	20	D+
Benzo(b)fluoranthene	1.79	0.40	mg/kg wet	2.000		90	40-140	34	20	D+
Benzo(g,h,i)perylene	1.81	0.40	mg/kg wet	2.000		90	40-140	34	20	D+
Benzo(k)fluoranthene	1.80	0.40	mg/kg wet	2.000		90	40-140	36	20	D+
C11-C22 Aromatics1,2	ND	15.0	mg/kg wet							
C11-C22 Unadjusted Aromatics1	31.7	15.0	mg/kg wet	34.00		93	40-140	49	25	D+
Chrysene	1.86	0.40	mg/kg wet	2.000		93	40-140	34	20	D+
Dibenzo(a,h)Anthracene	1.80	0.20	mg/kg wet	2.000		90	40-140	35	20	D+
Fluoranthene	1.80	0.40	mg/kg wet	2.000		90	40-140	34	20	D+
Fluorene	1.63	0.40	mg/kg wet	2.000		81	40-140	36	20	D+
Indeno(1,2,3-cd)Pyrene	1.81	0.40	mg/kg wet	2.000		90	40-140	35	20	D+
Naphthalene	1.36	0.40	mg/kg wet	2.000		68	40-140	37	20	D+
Phenanthrene	1.77	0.40	mg/kg wet	2.000		89	40-140	35	20	D+

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase ESS Laboratory Work Order: 1503558

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
MADEP-EPH Extractable Petroleum Hydrocarbons										
Batch CD50135 - 3546										
Pyrene	1.81	0.40	mg/kg wet	2.000		91	40-140	34	20	D+
Surrogate: 2-Bromonaphthalene	*1.85*		mg/kg wet	*2.000*		*92*	*40-140*			
Surrogate: 2-Fluorobiphenyl	*1.80*		mg/kg wet	*2.000*		*90*	*40-140*			
Surrogate: O-Terphenyl	*1.49*		mg/kg wet	*2.000*		*75*	*40-140*			
LCS Dup										
2-Methylnaphthalene Breakthrough	0.0		%				0-5		200	
Naphthalene Breakthrough	0.0		%				0-5		200	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase ESS Laboratory Work Order: 1503558

Notes and Definitions

Z-10a	Soil pH measured in water at 14.2 ºC.
Z-10	Soil pH measured in water at 13.8 ºC.
Z-08	See Attached
WL	Results obtained from a deionized water leach of the sample.
U	Analyte included in the analysis, but not detected
S-	Surrogate recovery(ies) below lower control limit (S-).
P	Percent difference between primary and confirmation results exceeds 40% (P).
LC	Lower value is used due to matrix interferences (LC).
H	Estimated value. Sample hold times were exceeded (H).
D+	Relative percent difference for duplicate is outside of criteria (D+).
D	Diluted.
C+	Continuing Calibration recovery is above upper control limit (C+).
C-	Continuing Calibration recovery is below lower control limit (C-).
B+	Blank Spike recovery is above upper control limit (B+).
B-	Blank Spike recovery is below lower control limit (B-).
ND	Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
I/V	Initial Volume
F/V	Final Volume
§	Subcontracted analysis; see attached report
1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of target analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.
Avg	Results reported as a mathematical average.
NR	No Recovery
[CALC]	Calculated Analyte
SUB	Subcontracted analysis; see attached report
[2C]	Result was taken from the second column. Dual column analysis.

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503558

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Department of Defense (DoD) Environmental Laboratory Accreditation Program (ELAP)
A2LA Accredited: Testing Cert# 2864.01
http://www.a2la.org/scopepdf/2864-01.pdf

Rhode Island Potable and Non Potable Water: LAI00179
http://www.health.ri.gov/find/labs/analytical/ESS.pdf

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750
http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutofStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI0002
http://www.maine.gov/dhhs/mecdc/environmental-health/water/dwp-services/labcert/documents/AllLabs.xls

Massachusetts Potable and Non Potable Water: M-RI002
http://public.dep.state.ma.us/Labcert/Labcert.aspx

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424
http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313
http://www.wadsworth.org/labcert/elap/comm.html

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006
http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752
http://www.depweb.state.pa.us/portal/server.pt/community/labs/13780/laboratory_accreditation_program/590095

CHEMISTRY

A2LA Accredited: Testing Cert # 2864.01
Lead in Paint, Phthalates, Lead in Children's Metals Products (Including Jewelry)
http://www.A2LA.org/dirsearchnew/newsearch.cfm

CPSC ID# 1141
Lead Paint, Lead in Children's Metals Jewelry
http://www.cpsc.gov/cgi-bin/labapplist.aspx

Sample and Cooler Receipt Checklist

Client: GZA GeoEnvironmental, Inc.
Client Project ID: _____
Shipped/Delivered Via: ESS Courier

ESS Project ID: 15030558
Date Project Due: 4/7/15
Days For Project: 5 Day

Items to be checked upon receipt:

1. Air Bill Manifest Present?	* No	10. Are the samples properly preserved?	Yes
Air No.:		11. Proper sample containers used?	Yes
2. Were Custody Seals Present?	No	12. Any air bubbles in the VOA vials?	N/A
3. Were Custody Seals Intact?	N/A	13. Holding times exceeded?	No
4. Is Radiation count < 100 CPM?	Yes	14. Sufficient sample volumes?	Yes
5. Is a cooler present?	Yes	15. Any Subcontracting needed?	* Yes
Cooler Temp: **4.6**		16. Are ESS labels on correct containers?	**Yes|No**
Iced With: **Ice**		17. Were samples received intact?	**Yes|No**
6. Was COC included with samples?	Yes	ESS Sample IDs: 09, 15	
7. Was COC signed and dated by client?	Yes	Sub Lab: CTS	
8. Does the COC match the sample	* No	Analysis: Grain Size / % Moisture	
9. Is COC complete and correct?	Yes	TAT: 5 DAY	

18. Was there need to call project manager to discuss status? If yes, please explain.
COC = GZ-226 2-4 Label = GZ-226 2-3.8 MR 3/31/15
Low Level Vials Jaye 3/31/15 MR 4/2/15
EB

Who was called?:_____ By whom? _____

Sample Number	Properly Preserved	Container Type	# of Containers	Preservative
1	Yes	8 oz Soil Jar	2	NP
2	Yes	2 oz Soil Jar	1	NP
2	Yes	8 oz Soil Jar	2	NP
3	Yes	2 oz Soil Jar	1	NP
3	Yes	8 oz Soil Jar	2	NP
4	Yes	8 oz Soil Jar	2	NP
5	Yes	8 oz Soil Jar	2	NP
6	Yes	2 oz Soil Jar	1	NP
6	Yes	8 oz Soil Jar	2	NP
7	Yes	8 oz Soil Jar	2	NP
8	Yes	2 oz Soil Jar	1	NP
8	Yes	8 oz Soil Jar	2	NP
9	Yes	4 oz Soil Jar	1	NP
9	Yes	40 ml - VOA	1	MeOH
9	Yes	40 ml - VOA	2	other
9	Yes	8 oz Soil Jar	2	NP
9	Yes	Other Glass	1	NP
10	Yes	8 oz Soil Jar	2	NP
11	Yes	2 oz Soil Jar	1	NP
11	Yes	8 oz Soil Jar	2	NP
12	Yes	2 oz Soil Jar	1	NP
12	Yes	8 oz Soil Jar	2	NP
13	Yes	8 oz Soil Jar	2	NP
14	Yes	2 oz Soil Jar	1	NP
14	Yes	8 oz Soil Jar	2	NP

Sample and Cooler Receipt Checklist

Client: GZA GeoEnvironmental, Inc. ESS Project ID: 15030558

15	Yes	4 oz Soil Jar	1	NP
15	Yes	40 ml - VOA	1	MeOH
15	Yes	40 ml - VOA	2	other
15	Yes	8 oz Soil Jar	2	NP
15	Yes	Other Glass	1	NP
16	Yes	8 oz Soil Jar	1	NP
17	Yes	8 oz Soil Jar	1	NP
18	Yes	8 oz Soil Jar	1	NP
19	Yes	8 oz Soil Jar	1	NP
20	Yes	8 oz Soil Jar	1	NP
21	Yes	8 oz Soil Jar	1	NP
22	Yes	8 oz Soil Jar	1	NP
23	Yes	8 oz Soil Jar	1	NP
24	Yes	8 oz Soil Jar	1	NP
25	Yes	8 oz Soil Jar	1	NP
26	Yes	8 oz Soil Jar	1	NP
27	Yes	8 oz Soil Jar	1	NP
28	Yes	8 oz Soil Jar	1	NP
29	Yes	8 oz Soil Jar	1	NP
30	Yes	8 oz Soil Jar	1	NP
31	Yes	8 oz Soil Jar	1	NP
32	Yes	8 oz Soil Jar	1	NP
33	Yes	8 oz Soil Jar	1	NP
34	Yes	8 oz Soil Jar	1	NP
35	Yes	8 oz Soil Jar	1	NP
36	Yes	8 oz Soil Jar	1	NP
37	Yes	8 oz Soil Jar	1	NP
38	Yes	8 oz Soil Jar	1	NP

Completed By: _____ Date/Time: 3/31/15 1423

Reviewed By: _____ Date/Time: 3/31/15 1600

ESS Laboratory

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185 Frances Avenue, Cranston, RI 02910-2211
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www.esslaboratory.com

CHAIN OF CUSTODY

ESS LAB PROJECT ID: 1503558

Turn Time ___X___ Standard Rush_____ Approved By: _____

Reporting Limits -

State where samples were collected: **MA** RI CT NH NJ NY ME Other_____

Is this project for any of the following: (please circle)
MA-MCP CT-RCP NJ-DKQP RGP DOD Other___

Electonic Deliverable Yes ✓ No___
Format: Excel ✓ Access___ PDF ✓ Other___

GZA Project Manager: David E. Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Ave
Norwood, MA 02062
(781) 278-3700

Project No.: 01.0171521.13 Task 001

Project Name: Wynn - Everett

Contract Pricing ____
Special Pricing WO#: _____

	ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	Analysis: MCP-14 Metals	PAHs by SIM	TOC	SVOCs	PCBs (Aroclors)	EPH	Hexavalent Chromium	Reactivity (Sulfide and Cyanide)	VOCs	% water	Grain Size Analysis	Comment #
23	8	3/30/15	0830	G	S	GZ-221 (4'-6')		X	X										
24	9 35		0830			GZ-221 (0'-3')		X		X	X	X	X	X	X	X	X	X	(1)
25	10 36		09:05			GZ-222 (0'-0.5')		X	X	X	X	X	X						
26	11					GZ-222 (0.5'-2')		X	X										
27	12					GZ-222 (2'-4')		X	X										
			↓			GZ-222 (4'-6')		HOLD AND FREEZE											
28	13 37		09:18			GZ-223 (0'-0.5')		X	X	X	X	X	X						
						GZ-223 (0.5'-2')		HOLD AND FREEZE											
29	14					GZ-223 (2'-4')		X	X										
30	15 38	↓	↓	↓	↓	GZ-223 (0'-3')		X		X	X	X	X	X	X	X	X	X	(1)

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-_____

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present ___X___Yes _____No

Seals Intact _____Yes _____No NA: X

Cooler Temperature: 3.1°/4.6° ICE mc 3/31/15

Sampled by : Daniel Scanlon (Daniel.Scanlon@gza.com)

Comments: (1) TCLP 20X Rule Applies ONLY if noted in comments column.

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
[signature]	3/30/15 @ 1400	Bill Buccon 3/31/15 0700	Bill Buccon 3/31/15 0830		[signature] 3/31/15 1227

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185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS LAB PROJECT ID: 503558

Turn Time ___X___ Standard Rush_____ Approved By: _____

Reporting Limits -

State where samples were collected: **MA** RI CT NH NJ NY ME Other_____

Is this project for any of the following: (please circle)
MA-MCP CT-RCP NJ-DKQP RGP DOD Other___

Electonic Deliverable Yes ✓ No___
Format: Excel ✓ Access___ PDF ✓ Other___

GZA Project Manager: David E. Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Ave
Norwood, MA 02062
(781) 278-3700

Project No.: 01.0171521.13 Task 001

Project Name: Wynn - Everett

Contract Pricing ____
Special Pricing WO#: _____

	ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	MCP-14 Metals	PAHs by SIM	TOC	SVOCs	PCBs (Aroclors)	EPH	Hexavalent Chromium	Reactivity (Sulfide and Cyanide)	VOCs	% water	Grain Size Analysis	Comment #
							Analysis												
16	1 31	3-30-15	0758	G	S	GZ-226 (0'-0.5')		X	X	X	X	X	X						
17	2					GZ-226 (0.5'-2')		X	X										
18	3					GZ-226 (2'-4')		X	X										
19	4 32		08:11			GZ-220 (0'-0.5')		X	X	X	X	X	X						
20	5 33					GZ-220 (0.5'-2')		X	X	X	X	X	X						
21	6					GZ-220 (2'-4')		X	X										
						GZ-220 (4'-6')		HOLD AND FREEZE											
22	7 34		0830			GZ-221 (0'-0.5')		X	X	X	X	X	X						
						GZ-221 (0.5'-2')		HOLD AND FREEZE											
						GZ-221 (2'-4')		HOLD AND FREEZE											

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-____

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present ___X___Yes _____No

Seals Intact _____Yes _____No NA: X

Cooler Temperature: 3.1°/4.6° ICE

Sampled by : Daniel Scanlon (Daniel.Scanlon@gza.com)

Comments: (1) TCLP 20X Rule Applies ONLY if noted in the comments column
*confirm to run per client request 4/1/15 cmt

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
	3/30/15 @ 1400	Bill Beacon 3/31/15 0700	Bill Beacon 3/31/15 0830		3/31/15 1227

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CHAIN OF CUSTODY

ESS LAB PROJECT ID: 1503558

Turn Time ___X___ Standard Rush_____ Approved By: _____

Reporting Limits -

State where samples were collected: **MA** RI CT NH NJ NY ME Other_____

Is this project for any of the following: (please circle)
MA-MCP CT-RCP NJ-DKQP RGP DOD Other___

Electonic Deliverable Yes ✓ No___
Format: Excel ✓ Access___ PDF ✓ Other___

GZA Project Manager: David E. Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Ave
Norwood, MA 02062
(781) 278-3700

Project No.: 01.0171521.13 Task 001

Project Name: Wynn - Everett

Contract Pricing ____
Special Pricing WO#: _____

	ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	Analysis: MCP-14 Metals	PAHs by SIM	TOC	SVOCs	PCBs (Aroclors)	EPH	Hexavalent Chromium	Reactivity (Sulfide and Cyanide)	VOCs	% water	Grain Size Analysis	Comment #
23	8	3/30/15	0830	G	S	GZ-221 (4'-6')		X	X										
24	9 35		0830			GZ-221 (0'-3')		X		X	X	X	X	X	X	X	X	X	(1)
25	10 36		09:05			GZ-222 (0'-0.5')		X	X	X	X	X	X						
26	11					GZ-222 (0.5'-2')		X	X										
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			↓			GZ-222 (4'-6')		HOLD AND FREEZE											
28	13 37		09:18			GZ-223 (0'-0.5')		X	X	X	X	X	X						
						GZ-223 (0.5'-2')		HOLD AND FREEZE											
29	14					GZ-223 (2'-4')		X	X										
30	15 38	↓	↓	↓	↓	GZ-223 (0'-3')		X		X	X	X	X	X	X	X	X	X	(1)

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-_____

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present ___X___Yes _____No

Seals Intact _____Yes _____No NA: X

Cooler Temperature: 3.1°/4.6° ICE mc 3/31/15

Sampled by : Daniel Scanlon (Daniel.Scanlon@gza.com)

Comments: (1) TCLP 20X Rule Applies ONLY if noted in comments column.

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
[signature]	3/30/15 @ 1400	Bill Buccon 3/31/15 0700	Bill Buccon 3/31/15 0830		[signature] 3/31/15 1227

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www.esslaboratory.com

CHAIN OF CUSTODY

ESS LAB PROJECT ID: 503558

Turn Time ___X___ Standard Rush_____ Approved By: _____

Reporting Limits -

State where samples were collected: **MA** RI CT NH NJ NY ME Other_____

Is this project for any of the following: (please circle)
MA-MCP CT-RCP NJ-DKQP RGP DOD Other___

Electonic Deliverable Yes ✓ No___
Format: Excel ✓ Access___ PDF ✓ Other___

GZA Project Manager: David E. Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Ave
Norwood, MA 02062
(781) 278-3700

Project No.: 01.0171521.13 Task 001

Project Name: Wynn - Everett

Contract Pricing ____
Special Pricing WO#: _____

	ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	MCP-14 Metals	PAHs by SIM	TOC	SVOCs	PCBs (Aroclors)	EPH	Hexavalent Chromium	Reactivity (Sulfide and Cyanide)	VOCs	% water	Grain Size Analysis	Comment #
							Analysis												
16	1 31	3-30-15	0758	G	S	GZ-226 (0'-0.5')		X	X	X	X	X	X						
17	2					GZ-226 (0.5'-2')		X	X										
18	3					GZ-226 (2'-4')		X	X										
19	4 32		08:11			GZ-220 (0'-0.5')		X	X	X	X	X	X						
20	5 33					GZ-220 (0.5'-2')		X	X	X	X	X	X						
21	6					GZ-220 (2'-4')		X	X										
						GZ-220 (4'-6')		HOLD AND FREEZE											
22	7 34		0830			GZ-221 (0'-0.5')		X	X	X	X	X							
						GZ-221 (0.5'-2')		HOLD AND FREEZE											
						GZ-221 (2'-4')		HOLD AND FREEZE											

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-____

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present ___X___Yes _____No

Seals Intact _____Yes _____No NA: X

Cooler Temperature: 3.1°/4.6° ICE

Sampled by : Daniel Scanlon (Daniel.Scanlon@gza.com)

Comments: (1) TCLP 20X Rule Applies ONLY if noted in the comments column

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
	3/30/15 @ 1400	Bill Beacon 0700 3/31/15	Bill Beacon 0830 3/31/15		3/31/15 1227

Page 1 of 4

CERTIFICATE OF ANALYSIS

David E Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Avenue
Norwood, MA 02062

RE: Wynn Everett Sediment Phase (01.0171521.13 Task 001)
ESS Laboratory Work Order Number: 1503559

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director

REVIEWED
By ESS Laboratory at 4:22 pm, Apr 13, 2015

Analytical Summary
The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with NELAC Standards, A2LA and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.

Subcontracted Analyses

CTS - Cranston, RI	Grain Size Analysis, Percent Water

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503559

SAMPLE RECEIPT

The following samples were received on March 31, 2015 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has performed and reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Data Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

For EPH soil samples, the aromatic range results have been corrected for identified cartridge contaminant in accordance with the CAM protocol.

Low Level VOA vials were frozen by ESS Laboratory on March 31, 2015.

Question I: Samples GZ-214 6ft-8ft and GZ-215 4ft6-ft (1503559-06 and 1503559-17) for SVOA were analyzed for a subset of the required MCP list per the client's request.

Samples were decanted by ESS, upon receipt, per client request.

Lab Number	Sample Name	Matrix	Analysis
1503559-01	GZ-224 0ft-0.5ft	Soil	8270D, EPH8270, MADEP-EPH
1503559-02	GZ-224 0.5ft-2ft	Soil	8270D, EPH8270, MADEP-EPH
1503559-03	GZ-214 0ft-0.5ft	Soil	8270D, EPH8270, MADEP-EPH
1503559-04	GZ-214 2ft-4ft	Soil	8270D, EPH8270, MADEP-EPH
1503559-05	GZ-214 4ft-6ft	Soil	8270D, EPH8270, MADEP-EPH
1503559-06	GZ-214 6ft-8ft	Soil	8270D
1503559-07	GZ-215 0ft-0.5ft	Soil	8270D, EPH8270, MADEP-EPH
1503559-08	GZ-215 4ft-6ft	Soil	8270D
1503559-09	GZ-215 0ft-3ft	Soil	§, 2580, 7.3.3.2, 7.3.4.1, 7196A, 8260B Low, 8270D, 9045, EPH8270, MADEP-EPH
1503559-10	GZ-224 0ft-0.5ft	Soil	6010C, 6020A, 7010, 7471B
1503559-11	GZ-224 0.5ft-2ft	Soil	6010C, 7010, 7471B
1503559-12	GZ-214 0ft-0.5ft	Soil	6010C, 6020A, 7010, 7471B
1503559-13	GZ-214 2ft-4ft	Soil	6010C, 6020A, 7010, 7471B
1503559-14	GZ-214 4ft-6ft	Soil	6010C, 6020A, 7010, 7471B

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase ESS Laboratory Work Order: 1503559

1503559-15	GZ-214 6ft-8ft	Soil	6010C, 6020A, 7010, 7471B
1503559-16	GZ-215 0ft-0.5ft	Soil	6010C, 6020A, 7010, 7471B
1503559-17	GZ-215 4ft-6ft	Soil	6010C, 6020A, 7010, 7471B
1503559-18	GZ-215 0ft-3ft	Soil	6010C, 6020A, 7010, 7471B
1503559-19	GZ-224 0ft-0.5ft	Soil	8082A
1503559-20	GZ-224 0.5ft-2ft	Soil	8082A
1503559-21	GZ-214 0ft-0.5ft	Soil	8082A
1503559-22	GZ-214 2ft-4ft	Soil	8082A
1503559-23	GZ-214 4ft-6ft	Soil	8082A
1503559-24	GZ-215 0ft-0.5ft	Soil	8082A
1503559-25	GZ-215 0ft-3ft	Soil	8082A

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase ESS Laboratory Work Order: 1503559

PROJECT NARRATIVE

5035/8260B Volatile Organic Compounds / Low Level

CD50239-BS1	**Blank Spike recovery is above upper control limit (B+).**
	Bromomethane (175% @ 70-130%)
CD50239-BSD1	**Blank Spike recovery is above upper control limit (B+).**
	Bromomethane (157% @ 70-130%)
CYD0025-CCV1	**Continuing Calibration recovery is above upper control limit (C+).**
	Bromomethane (168% @ 70-130%)

8082A Polychlorinated Biphenyls (PCB)

1503559-19	**Percent difference between primary and confirmation results exceeds 40% (P).**
	Aroclor 1254
1503559-20	**Percent difference between primary and confirmation results exceeds 40% (P).**
	Aroclor 1254
1503559-20	**Surrogate recovery(ies) below lower control limit (S-).**
	Tetrachloro-m-xylene [2C] (26% @ 30-150%)
1503559-21	**Percent difference between primary and confirmation results exceeds 40% (P).**
	Aroclor 1248
1503559-24	**Lower value is used due to matrix interferences (LC).**
	Aroclor 1248
1503559-24	**Percent difference between primary and confirmation results exceeds 40% (P).**
	Aroclor 1248

8270D Semi-Volatile Organic Compounds

CD50735-BS1	**Blank Spike recovery is below lower control limit (B-).**
	Aniline (36% @ 40-140%)
CD50739-BS1	**Blank Spike recovery is below lower control limit (B-).**
	Aniline (39% @ 40-140%)
CD50739-BSD1	**Blank Spike recovery is below lower control limit (B-).**
	Aniline (38% @ 40-140%)
CYD0041-CCV1	**Continuing Calibration recovery is above upper control limit (C+).**
	Di-n-octylphthalate (123% @ 80-120%), p-Terphenyl-d14 (122% @ 80-120%), Pyrene (122% @ 80-120%)

8270D(SIM) Polynuclear Aromatic Hydrocarbons

1503559-02	**Surrogate recovery(ies) below lower control limit (S-).**
	1,2-Dichlorobenzene-d4 (29% @ 30-130%)
1503559-03	**Surrogate recovery(ies) below lower control limit (S-).**
	1,2-Dichlorobenzene-d4 (29% @ 30-130%)
CD50227-BS1	**Blank Spike recovery is below lower control limit (B-).**
	Acenaphthylene (10% @ 40-140%)
CD50227-BSD1	**Relative percent difference for duplicate is outside of criteria (D+).**
	Acenaphthylene (151% @ 30%), Anthracene (44% @ 30%), Benzo(a)pyrene (49% @ 30%)

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase ESS Laboratory Work Order: 1503559

CYD0151-CCV1 **Continuing Calibration recovery is above upper control limit (C+).**
Indeno(1,2,3-cd)Pyrene (132% @ 70-130%)

Classical Chemistry
1503559-09 **Estimated value. Sample hold times were exceeded (H).**
Corrosivity (pH) , Corrosivity (pH) Sample Temp , Eh (ORP)

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

Definitions of Quality Control Parameters

Semivolatile Organics Internal Standard Information

Semivolatile Organics Surrogate Information

Volatile Organics Internal Standard Information

Volatile Organics Surrogate Information

EPH and VPH Alkane Lists

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503559

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

1010A - Flashpoint
6010C - ICP
6020A - ICP MS
7010 - Graphite Furnace
7196A - Hexavalent Chromium
7470A - Aqueous Mercury
7471B - Solid Mercury
8011 - EDB/DBCP/TCP
8015D - GRO/DRO
8081B - Pesticides
8082A - PCB
8100M - TPH
8151A - Herbicides
8260B - VOA
8270D - SVOA
8270D SIM - SVOA Low Level
9014 - Cyanide
9038 - Sulfate
9040C - Aqueous pH
9045D - Solid pH (Corrosivity)
9050A - Specific Conductance
9056A - Anions (IC)
9060A - TOC
9095B - Paint Filter
MADEP 04-1.1 - EPH / VPH

Prep Methods

3005A - Aqueous ICP and Graphite Furnace Digestion
3020A - Aqueous ICP MS Digestion
3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
3060A - Solid Hexavalent Chromium Digestion
3510C - Separatory Funnel Extraction
3520C - Liquid / Liquid Extraction
3540C - Manual Soxhlet Extraction
3541 - Automated Soxhlet Extraction
3546 - Microwave Extraction
3580A - Waste Dilution
5030B - Aqueous Purge and Trap
5030C - Aqueous Purge and Trap
5035 - Solid Purge and Trap

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503559

MassDEP Analytical Protocol Certification Form

MADEP RTN: _____

This form provides certification for the following data set: **1503559-01 through 1503559-25**

Matrices: ( ) Ground Water/Surface Water (X) Soil/Sediment ( ) Drinking Water ( ) Air ( ) Other:_____

CAM Protocol (check all that apply below):

(X) 8260 VOC CAM II A	(X) 7470/7471 Hg CAM III B	( ) MassDEP VPH CAM IV A	( ) 8081 Pesticides CAM V B	(X) 7196 Hex Cr CAM VI B	( ) MassDEP APH CAM IX A
(X) 8270 SVOC CAM II B	(X) 7010 Metals CAM III C	(X) MassDEP EPH CAM IV B	( ) 8151 Herbicides CAM V C	( ) 8330 Explosives CAM VIII A	( ) TO-15 VOC CAM IX B
(X) 6010 Metals CAM III A	(X) 6020 Metals CAM III D	(X) 8082 PCB CAM V A	( ) 6860 Perchlorate CAM VIII B	( ) 9014 Total Cyanide/PAC CAM VI A	

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	Yes ( ) No (X)
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	Yes (X) No ( )
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	Yes (X) No ( )
D	Does the laboratory report comply with all the reporting requirements specified in the CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	Yes (X) No ( )
E	a. VPH, EPH, APH and TO-15 only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	Yes (X) No ( )
	b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	Yes ( ) No ( )
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	Yes (X) No ( )

Responses to Questions G, H and I below are required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocols(s)?	Yes (X) No ( )*
	***Data User Note:* Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.**	
H	Were **all** QC performance standards specified in the CAM protocol(s) achieved?	Yes ( ) No (X)*
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	Yes ( ) No (X)*

All negative responses must be addressed in an attached laboratory narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Laurel Stoddard

Date: April 13, 2015

Printed Name: Laurel Stoddard

Position: Laboratory Director

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-224 0ft-0.5ft
Date Sampled: 03/30/15 09:45
Percent Solids: 68
Initial Volume: 30
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503559
ESS Laboratory Sample ID: 1503559-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 4/3/15 12:02

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.244)		8270D		1	04/04/15 8:20	CYD0044	CD50739
1,2-Dichlorobenzene	ND (0.244)		8270D		1	04/04/15 8:20	CYD0044	CD50739
1,3-Dichlorobenzene	ND (0.244)		8270D		1	04/04/15 8:20	CYD0044	CD50739
1,4-Dichlorobenzene	ND (0.244)		8270D		1	04/04/15 8:20	CYD0044	CD50739
2,4,5-Trichlorophenol	ND (0.244)		8270D		1	04/04/15 8:20	CYD0044	CD50739
2,4,6-Trichlorophenol	ND (0.244)		8270D		1	04/04/15 8:20	CYD0044	CD50739
2,4-Dichlorophenol	ND (0.244)		8270D		1	04/04/15 8:20	CYD0044	CD50739
2,4-Dimethylphenol	ND (0.244)		8270D		1	04/04/15 8:20	CYD0044	CD50739
2,4-Dinitrophenol	ND (1.23)		8270D		1	04/04/15 8:20	CYD0044	CD50739
2,4-Dinitrotoluene	ND (0.244)		8270D		1	04/04/15 8:20	CYD0044	CD50739
2,6-Dinitrotoluene	ND (0.244)		8270D		1	04/04/15 8:20	CYD0044	CD50739
2-Chloronaphthalene	ND (0.244)		8270D		1	04/04/15 8:20	CYD0044	CD50739
2-Chlorophenol	ND (0.244)		8270D		1	04/04/15 8:20	CYD0044	CD50739
2-Methylphenol	ND (0.244)		8270D		1	04/04/15 8:20	CYD0044	CD50739
2-Nitrophenol	ND (0.244)		8270D		1	04/04/15 8:20	CYD0044	CD50739
3,3´-Dichlorobenzidine	ND (0.489)		8270D		1	04/04/15 8:20	CYD0044	CD50739
3+4-Methylphenol	ND (0.489)		8270D		1	04/04/15 8:20	CYD0044	CD50739
4-Bromophenyl-phenylether	ND (0.244)		8270D		1	04/04/15 8:20	CYD0044	CD50739
4-Chloroaniline	ND (0.489)		8270D		1	04/04/15 8:20	CYD0044	CD50739
4-Nitrophenol	ND (1.23)		8270D		1	04/04/15 8:20	CYD0044	CD50739
Acetophenone	ND (0.489)		8270D		1	04/04/15 8:20	CYD0044	CD50739
Aniline	ND (1.23)		8270D		1	04/04/15 8:20	CYD0044	CD50739
Azobenzene	ND (0.244)		8270D		1	04/04/15 8:20	CYD0044	CD50739
bis(2-Chloroethoxy)methane	ND (0.244)		8270D		1	04/04/15 8:20	CYD0044	CD50739
bis(2-Chloroethyl)ether	ND (0.244)		8270D		1	04/04/15 8:20	CYD0044	CD50739
bis(2-chloroisopropyl)Ether	ND (0.244)		8270D		1	04/04/15 8:20	CYD0044	CD50739
bis(2-Ethylhexyl)phthalate	**0.502** (0.244)		8270D		1	04/04/15 8:20	CYD0044	CD50739
Butylbenzylphthalate	ND (0.244)		8270D		1	04/04/15 8:20	CYD0044	CD50739
Dibenzofuran	ND (0.244)		8270D		1	04/04/15 8:20	CYD0044	CD50739
Diethylphthalate	ND (0.244)		8270D		1	04/04/15 8:20	CYD0044	CD50739
Dimethylphthalate	ND (0.244)		8270D		1	04/04/15 8:20	CYD0044	CD50739
Di-n-butylphthalate	ND (0.244)		8270D		1	04/04/15 8:20	CYD0044	CD50739

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-224 0ft-0.5ft
Date Sampled: 03/30/15 09:45
Percent Solids: 68
Initial Volume: 30
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503559
ESS Laboratory Sample ID: 1503559-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 4/3/15 12:02

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Di-n-octylphthalate	ND (0.244)		8270D		1	04/04/15 8:20	CYD0044	CD50739
Hexachlorobutadiene	ND (0.244)		8270D		1	04/04/15 8:20	CYD0044	CD50739
Hexachloroethane	ND (0.244)		8270D		1	04/04/15 8:20	CYD0044	CD50739
Isophorone	ND (0.244)		8270D		1	04/04/15 8:20	CYD0044	CD50739
Nitrobenzene	ND (0.244)		8270D		1	04/04/15 8:20	CYD0044	CD50739
N-Nitrosodimethylamine	ND (0.244)		8270D		1	04/04/15 8:20	CYD0044	CD50739
Pentachlorophenol	ND (1.23)		8270D		1	04/04/15 8:20	CYD0044	CD50739
Phenol	ND (0.244)		8270D		1	04/04/15 8:20	CYD0044	CD50739

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*66 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*104 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*72 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*77 %*		*30-130*
Surrogate: 2-Fluorophenol	*68 %*		*30-130*
Surrogate: Nitrobenzene-d5	*69 %*		*30-130*
Surrogate: Phenol-d6	*75 %*		*30-130*
Surrogate: p-Terphenyl-d14	*87 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-224 0ft-0.5ft
Date Sampled: 03/30/15 09:45
Percent Solids: 68
Initial Volume: 20.1
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503559
ESS Laboratory Sample ID: 1503559-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 4/3/15 12:25

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	**0.033** (0.018)		8270D		1	04/10/15 5:41	CYD0151	CD50227
Acenaphthene	**0.046** (0.018)		8270D		1	04/10/15 5:41	CYD0151	CD50227
Acenaphthylene	**0.111** (0.018)		8270D		1	04/10/15 5:41	CYD0151	CD50227
Anthracene	**0.168** (0.018)		8270D		1	04/10/15 5:41	CYD0151	CD50227
Benzo(a)anthracene	**0.578** (0.018)		8270D		1	04/10/15 5:41	CYD0151	CD50227
Benzo(a)pyrene	**0.755** (0.018)		8270D		1	04/10/15 5:41	CYD0151	CD50227
Benzo(b)fluoranthene	**1.13** (0.018)		8270D		1	04/10/15 5:41	CYD0151	CD50227
Benzo(g,h,i)perylene	**0.501** (0.018)		8270D		1	04/10/15 5:41	CYD0151	CD50227
Benzo(k)fluoranthene	**0.311** (0.018)		8270D		1	04/10/15 5:41	CYD0151	CD50227
Chrysene	**0.688** (0.018)		8270D		1	04/10/15 5:41	CYD0151	CD50227
Dibenzo(a,h)Anthracene	**0.167** (0.018)		8270D		1	04/10/15 5:41	CYD0151	CD50227
Fluoranthene	**0.876** (0.018)		8270D		1	04/10/15 5:41	CYD0151	CD50227
Fluorene	**0.059** (0.018)		8270D		1	04/10/15 5:41	CYD0151	CD50227
Hexachlorobenzene	ND (0.018)		8270D		1	04/10/15 5:41	CYD0151	CD50227
Indeno(1,2,3-cd)Pyrene	**0.603** (0.018)		8270D		1	04/10/15 5:41	CYD0151	CD50227
Naphthalene	**0.100** (0.018)		8270D		1	04/10/15 5:41	CYD0151	CD50227
Phenanthrene	**0.353** (0.018)		8270D		1	04/10/15 5:41	CYD0151	CD50227
Pyrene	**0.795** (0.018)		8270D		1	04/10/15 5:41	CYD0151	CD50227

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*39 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*65 %*		*30-130*
Surrogate: Nitrobenzene-d5	*46 %*		*30-130*
Surrogate: p-Terphenyl-d14	*66 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-224 0ft-0.5ft
Date Sampled: 03/30/15 09:45
Percent Solids: 68
Initial Volume: 30.5
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1503559
ESS Laboratory Sample ID: 1503559-01
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 4/2/15 18:04

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	ND (18.0)		MADEP-EPH		1	DPS	04/04/15 10:18	CYD0058	CD50222
C19-C36 Aliphatics1	**38.6** (18.0)		MADEP-EPH		1	DPS	04/04/15 10:18	CYD0058	CD50222
C11-C22 Unadjusted Aromatics1	**24.8** (18.0)		EPH8270		1	JXS	04/03/15 18:02	CYD0054	CD50222
C11-C22 Aromatics1,2	**23.7** (18.0)		EPH8270			JXS	04/03/15 18:02		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*54 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*87 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*82 %*		*40-140*
Surrogate: O-Terphenyl	*65 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-224 0.5ft-2ft
Date Sampled: 03/30/15 09:45
Percent Solids: 53
Initial Volume: 30.3
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503559
ESS Laboratory Sample ID: 1503559-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 4/3/15 12:02

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.309)		8270D		1	04/04/15 8:55	CYD0044	CD50739
1,2-Dichlorobenzene	ND (0.309)		8270D		1	04/04/15 8:55	CYD0044	CD50739
1,3-Dichlorobenzene	ND (0.309)		8270D		1	04/04/15 8:55	CYD0044	CD50739
1,4-Dichlorobenzene	ND (0.309)		8270D		1	04/04/15 8:55	CYD0044	CD50739
2,4,5-Trichlorophenol	ND (0.309)		8270D		1	04/04/15 8:55	CYD0044	CD50739
2,4,6-Trichlorophenol	ND (0.309)		8270D		1	04/04/15 8:55	CYD0044	CD50739
2,4-Dichlorophenol	ND (0.309)		8270D		1	04/04/15 8:55	CYD0044	CD50739
2,4-Dimethylphenol	ND (0.309)		8270D		1	04/04/15 8:55	CYD0044	CD50739
2,4-Dinitrophenol	ND (1.55)		8270D		1	04/04/15 8:55	CYD0044	CD50739
2,4-Dinitrotoluene	ND (0.309)		8270D		1	04/04/15 8:55	CYD0044	CD50739
2,6-Dinitrotoluene	ND (0.309)		8270D		1	04/04/15 8:55	CYD0044	CD50739
2-Chloronaphthalene	ND (0.309)		8270D		1	04/04/15 8:55	CYD0044	CD50739
2-Chlorophenol	ND (0.309)		8270D		1	04/04/15 8:55	CYD0044	CD50739
2-Methylphenol	ND (0.309)		8270D		1	04/04/15 8:55	CYD0044	CD50739
2-Nitrophenol	ND (0.309)		8270D		1	04/04/15 8:55	CYD0044	CD50739
3,3´-Dichlorobenzidine	ND (0.618)		8270D		1	04/04/15 8:55	CYD0044	CD50739
3+4-Methylphenol	ND (0.618)		8270D		1	04/04/15 8:55	CYD0044	CD50739
4-Bromophenyl-phenylether	ND (0.309)		8270D		1	04/04/15 8:55	CYD0044	CD50739
4-Chloroaniline	ND (0.618)		8270D		1	04/04/15 8:55	CYD0044	CD50739
4-Nitrophenol	ND (1.55)		8270D		1	04/04/15 8:55	CYD0044	CD50739
Acetophenone	ND (0.618)		8270D		1	04/04/15 8:55	CYD0044	CD50739
Aniline	ND (1.55)		8270D		1	04/04/15 8:55	CYD0044	CD50739
Azobenzene	ND (0.309)		8270D		1	04/04/15 8:55	CYD0044	CD50739
bis(2-Chloroethoxy)methane	ND (0.309)		8270D		1	04/04/15 8:55	CYD0044	CD50739
bis(2-Chloroethyl)ether	ND (0.309)		8270D		1	04/04/15 8:55	CYD0044	CD50739
bis(2-chloroisopropyl)Ether	ND (0.309)		8270D		1	04/04/15 8:55	CYD0044	CD50739
bis(2-Ethylhexyl)phthalate	ND (0.309)		8270D		1	04/04/15 8:55	CYD0044	CD50739
Butylbenzylphthalate	ND (0.309)		8270D		1	04/04/15 8:55	CYD0044	CD50739
Dibenzofuran	ND (0.309)		8270D		1	04/04/15 8:55	CYD0044	CD50739
Diethylphthalate	ND (0.309)		8270D		1	04/04/15 8:55	CYD0044	CD50739
Dimethylphthalate	ND (0.309)		8270D		1	04/04/15 8:55	CYD0044	CD50739
Di-n-butylphthalate	ND (0.309)		8270D		1	04/04/15 8:55	CYD0044	CD50739

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-224 0.5ft-2ft
Date Sampled: 03/30/15 09:45
Percent Solids: 53
Initial Volume: 30.3
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503559
ESS Laboratory Sample ID: 1503559-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 4/3/15 12:02

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Di-n-octylphthalate	ND (0.309)		8270D		1	04/04/15 8:55	CYD0044	CD50739
Hexachlorobutadiene	ND (0.309)		8270D		1	04/04/15 8:55	CYD0044	CD50739
Hexachloroethane	ND (0.309)		8270D		1	04/04/15 8:55	CYD0044	CD50739
Isophorone	ND (0.309)		8270D		1	04/04/15 8:55	CYD0044	CD50739
Nitrobenzene	ND (0.309)		8270D		1	04/04/15 8:55	CYD0044	CD50739
N-Nitrosodimethylamine	ND (0.309)		8270D		1	04/04/15 8:55	CYD0044	CD50739
Pentachlorophenol	ND (1.55)		8270D		1	04/04/15 8:55	CYD0044	CD50739
Phenol	ND (0.309)		8270D		1	04/04/15 8:55	CYD0044	CD50739

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*98 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*114 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*102 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*102 %*		*30-130*
Surrogate: 2-Fluorophenol	*97 %*		*30-130*
Surrogate: Nitrobenzene-d5	*98 %*		*30-130*
Surrogate: Phenol-d6	*102 %*		*30-130*
Surrogate: p-Terphenyl-d14	*95 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-224 0.5ft-2ft
Date Sampled: 03/30/15 09:45
Percent Solids: 53
Initial Volume: 20
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503559
ESS Laboratory Sample ID: 1503559-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 4/3/15 12:25

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	**0.088** (0.023)		8270D		1	04/10/15 6:29	CYD0151	CD50227
Acenaphthene	**0.070** (0.023)		8270D		1	04/10/15 6:29	CYD0151	CD50227
Acenaphthylene	**1.29** (0.023)		8270D		1	04/10/15 6:29	CYD0151	CD50227
Anthracene	**1.18** (0.023)		8270D		1	04/10/15 6:29	CYD0151	CD50227
Benzo(a)anthracene	**2.85** (0.234)		8270D		10	04/11/15 8:40	CYD0151	CD50227
Benzo(a)pyrene	**2.33** (0.023)		8270D		1	04/10/15 6:29	CYD0151	CD50227
Benzo(b)fluoranthene	**2.87** (0.234)		8270D		10	04/11/15 8:40	CYD0151	CD50227
Benzo(g,h,i)perylene	**1.02** (0.023)		8270D		1	04/10/15 6:29	CYD0151	CD50227
Benzo(k)fluoranthene	**0.593** (0.023)		8270D		1	04/10/15 6:29	CYD0151	CD50227
Chrysene	**3.51** (0.234)		8270D		10	04/11/15 8:40	CYD0151	CD50227
Dibenzo(a,h)Anthracene	**0.395** (0.023)		8270D		1	04/10/15 6:29	CYD0151	CD50227
Fluoranthene	**4.69** (0.234)		8270D		10	04/11/15 8:40	CYD0151	CD50227
Fluorene	**0.257** (0.023)		8270D		1	04/10/15 6:29	CYD0151	CD50227
Hexachlorobenzene	ND (0.023)		8270D		1	04/10/15 6:29	CYD0151	CD50227
Indeno(1,2,3-cd)Pyrene	**1.17** (0.023)		8270D		1	04/10/15 6:29	CYD0151	CD50227
Naphthalene	**0.224** (0.023)		8270D		1	04/10/15 6:29	CYD0151	CD50227
Phenanthrene	**0.933** (0.023)		8270D		1	04/10/15 6:29	CYD0151	CD50227
Pyrene	**5.37** (0.234)		8270D		10	04/11/15 8:40	CYD0151	CD50227

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*29 %*	*S-*	*30-130*
Surrogate: 2-Fluorobiphenyl	*47 %*		*30-130*
Surrogate: Nitrobenzene-d5	*32 %*		*30-130*
Surrogate: p-Terphenyl-d14	*59 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-224 0.5ft-2ft
Date Sampled: 03/30/15 09:45
Percent Solids: 53
Initial Volume: 30.2
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1503559
ESS Laboratory Sample ID: 1503559-02
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 4/2/15 18:04

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	ND (23.2)		MADEP-EPH		1	DPS	04/04/15 11:08	CYD0058	CD50222
C19-C36 Aliphatics1	**166** (23.2)		MADEP-EPH		1	DPS	04/04/15 11:08	CYD0058	CD50222
C11-C22 Unadjusted Aromatics1	**193** (23.2)		EPH8270		1	JXS	04/03/15 18:38	CYD0054	CD50222
C11-C22 Aromatics1,2	**172** (23.2)		EPH8270			JXS	04/03/15 18:38		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*58 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*97 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*95 %*		*40-140*
Surrogate: O-Terphenyl	*67 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-214 0ft-0.5ft
Date Sampled: 03/30/15 10:10
Percent Solids: 50
Initial Volume: 30.1
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503559
ESS Laboratory Sample ID: 1503559-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 4/3/15 12:02

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.329)		8270D		1	04/04/15 9:31	CYD0044	CD50739
1,2-Dichlorobenzene	ND (0.329)		8270D		1	04/04/15 9:31	CYD0044	CD50739
1,3-Dichlorobenzene	ND (0.329)		8270D		1	04/04/15 9:31	CYD0044	CD50739
1,4-Dichlorobenzene	ND (0.329)		8270D		1	04/04/15 9:31	CYD0044	CD50739
2,4,5-Trichlorophenol	ND (0.329)		8270D		1	04/04/15 9:31	CYD0044	CD50739
2,4,6-Trichlorophenol	ND (0.329)		8270D		1	04/04/15 9:31	CYD0044	CD50739
2,4-Dichlorophenol	ND (0.329)		8270D		1	04/04/15 9:31	CYD0044	CD50739
2,4-Dimethylphenol	ND (0.329)		8270D		1	04/04/15 9:31	CYD0044	CD50739
2,4-Dinitrophenol	ND (1.65)		8270D		1	04/04/15 9:31	CYD0044	CD50739
2,4-Dinitrotoluene	ND (0.329)		8270D		1	04/04/15 9:31	CYD0044	CD50739
2,6-Dinitrotoluene	ND (0.329)		8270D		1	04/04/15 9:31	CYD0044	CD50739
2-Chloronaphthalene	ND (0.329)		8270D		1	04/04/15 9:31	CYD0044	CD50739
2-Chlorophenol	ND (0.329)		8270D		1	04/04/15 9:31	CYD0044	CD50739
2-Methylphenol	ND (0.329)		8270D		1	04/04/15 9:31	CYD0044	CD50739
2-Nitrophenol	ND (0.329)		8270D		1	04/04/15 9:31	CYD0044	CD50739
3,3´-Dichlorobenzidine	ND (0.659)		8270D		1	04/04/15 9:31	CYD0044	CD50739
3+4-Methylphenol	ND (0.659)		8270D		1	04/04/15 9:31	CYD0044	CD50739
4-Bromophenyl-phenylether	ND (0.329)		8270D		1	04/04/15 9:31	CYD0044	CD50739
4-Chloroaniline	ND (0.659)		8270D		1	04/04/15 9:31	CYD0044	CD50739
4-Nitrophenol	ND (1.65)		8270D		1	04/04/15 9:31	CYD0044	CD50739
Acetophenone	ND (0.659)		8270D		1	04/04/15 9:31	CYD0044	CD50739
Aniline	ND (1.65)		8270D		1	04/04/15 9:31	CYD0044	CD50739
Azobenzene	ND (0.329)		8270D		1	04/04/15 9:31	CYD0044	CD50739
bis(2-Chloroethoxy)methane	ND (0.329)		8270D		1	04/04/15 9:31	CYD0044	CD50739
bis(2-Chloroethyl)ether	ND (0.329)		8270D		1	04/04/15 9:31	CYD0044	CD50739
bis(2-chloroisopropyl)Ether	ND (0.329)		8270D		1	04/04/15 9:31	CYD0044	CD50739
bis(2-Ethylhexyl)phthalate	**0.874** (0.329)		8270D		1	04/04/15 9:31	CYD0044	CD50739
Butylbenzylphthalate	ND (0.329)		8270D		1	04/04/15 9:31	CYD0044	CD50739
Dibenzofuran	ND (0.329)		8270D		1	04/04/15 9:31	CYD0044	CD50739
Diethylphthalate	ND (0.329)		8270D		1	04/04/15 9:31	CYD0044	CD50739
Dimethylphthalate	ND (0.329)		8270D		1	04/04/15 9:31	CYD0044	CD50739
Di-n-butylphthalate	ND (0.329)		8270D		1	04/04/15 9:31	CYD0044	CD50739

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-214 0ft-0.5ft
Date Sampled: 03/30/15 10:10
Percent Solids: 50
Initial Volume: 30.1
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503559
ESS Laboratory Sample ID: 1503559-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 4/3/15 12:02

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Di-n-octylphthalate	ND (0.329)		8270D		1	04/04/15 9:31	CYD0044	CD50739
Hexachlorobutadiene	ND (0.329)		8270D		1	04/04/15 9:31	CYD0044	CD50739
Hexachloroethane	ND (0.329)		8270D		1	04/04/15 9:31	CYD0044	CD50739
Isophorone	ND (0.329)		8270D		1	04/04/15 9:31	CYD0044	CD50739
Nitrobenzene	ND (0.329)		8270D		1	04/04/15 9:31	CYD0044	CD50739
N-Nitrosodimethylamine	ND (0.329)		8270D		1	04/04/15 9:31	CYD0044	CD50739
Pentachlorophenol	ND (1.65)		8270D		1	04/04/15 9:31	CYD0044	CD50739
Phenol	ND (0.329)		8270D		1	04/04/15 9:31	CYD0044	CD50739

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*84 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*114 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*88 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*91 %*		*30-130*
Surrogate: 2-Fluorophenol	*83 %*		*30-130*
Surrogate: Nitrobenzene-d5	*87 %*		*30-130*
Surrogate: Phenol-d6	*90 %*		*30-130*
Surrogate: p-Terphenyl-d14	*93 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-214 0ft-0.5ft
Date Sampled: 03/30/15 10:10
Percent Solids: 50
Initial Volume: 20.5
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503559
ESS Laboratory Sample ID: 1503559-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 4/3/15 12:25

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	**0.049** (0.024)		8270D		1	04/10/15 7:17	CYD0151	CD50227
Acenaphthene	**0.194** (0.024)		8270D		1	04/10/15 7:17	CYD0151	CD50227
Acenaphthylene	**0.140** (0.024)		8270D		1	04/10/15 7:17	CYD0151	CD50227
Anthracene	**0.346** (0.024)		8270D		1	04/10/15 7:17	CYD0151	CD50227
Benzo(a)anthracene	**0.677** (0.024)		8270D		1	04/10/15 7:17	CYD0151	CD50227
Benzo(a)pyrene	**0.804** (0.024)		8270D		1	04/10/15 7:17	CYD0151	CD50227
Benzo(b)fluoranthene	**1.02** (0.024)		8270D		1	04/10/15 7:17	CYD0151	CD50227
Benzo(g,h,i)perylene	**0.402** (0.024)		8270D		1	04/10/15 7:17	CYD0151	CD50227
Benzo(k)fluoranthene	**0.322** (0.024)		8270D		1	04/10/15 7:17	CYD0151	CD50227
Chrysene	**0.722** (0.024)		8270D		1	04/10/15 7:17	CYD0151	CD50227
Dibenzo(a,h)Anthracene	**0.131** (0.024)		8270D		1	04/10/15 7:17	CYD0151	CD50227
Fluoranthene	**1.33** (0.024)		8270D		1	04/10/15 7:17	CYD0151	CD50227
Fluorene	**0.143** (0.024)		8270D		1	04/10/15 7:17	CYD0151	CD50227
Hexachlorobenzene	ND (0.024)		8270D		1	04/10/15 7:17	CYD0151	CD50227
Indeno(1,2,3-cd)Pyrene	**0.517** (0.024)		8270D		1	04/10/15 7:17	CYD0151	CD50227
Naphthalene	**0.200** (0.024)		8270D		1	04/10/15 7:17	CYD0151	CD50227
Phenanthrene	**0.812** (0.024)		8270D		1	04/10/15 7:17	CYD0151	CD50227
Pyrene	**1.21** (0.024)		8270D		1	04/10/15 7:17	CYD0151	CD50227

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*29 %*	*S-*	*30-130*
Surrogate: 2-Fluorobiphenyl	*49 %*		*30-130*
Surrogate: Nitrobenzene-d5	*33 %*		*30-130*
Surrogate: p-Terphenyl-d14	*56 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-214 0ft-0.5ft
Date Sampled: 03/30/15 10:10
Percent Solids: 50
Initial Volume: 30.1
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1503559
ESS Laboratory Sample ID: 1503559-03
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 4/2/15 18:04

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	**26.1** (24.7)		MADEP-EPH		1	DPS	04/04/15 11:59	CYD0058	CD50222
C19-C36 Aliphatics1	**117** (24.7)		MADEP-EPH		1	DPS	04/04/15 11:59	CYD0058	CD50222
C11-C22 Unadjusted Aromatics1	**103** (24.7)		EPH8270		1	JXS	04/03/15 19:15	CYD0054	CD50222
C11-C22 Aromatics1,2	**101** (24.7)		EPH8270			JXS	04/03/15 19:15		[CALC]

	%Recovery	*Qualifier*	*Limits*
Surrogate: 1-Chlorooctadecane	*58 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*99 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*90 %*		*40-140*
Surrogate: O-Terphenyl	*69 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-214 2ft-4ft
Date Sampled: 03/30/15 10:10
Percent Solids: 66
Initial Volume: 30.3
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503559
ESS Laboratory Sample ID: 1503559-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 4/3/15 12:02

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.250)		8270D		1	04/04/15 10:07	CYD0044	CD50739
1,2-Dichlorobenzene	ND (0.250)		8270D		1	04/04/15 10:07	CYD0044	CD50739
1,3-Dichlorobenzene	ND (0.250)		8270D		1	04/04/15 10:07	CYD0044	CD50739
1,4-Dichlorobenzene	ND (0.250)		8270D		1	04/04/15 10:07	CYD0044	CD50739
2,4,5-Trichlorophenol	ND (0.250)		8270D		1	04/04/15 10:07	CYD0044	CD50739
2,4,6-Trichlorophenol	ND (0.250)		8270D		1	04/04/15 10:07	CYD0044	CD50739
2,4-Dichlorophenol	ND (0.250)		8270D		1	04/04/15 10:07	CYD0044	CD50739
2,4-Dimethylphenol	ND (0.250)		8270D		1	04/04/15 10:07	CYD0044	CD50739
2,4-Dinitrophenol	ND (1.26)		8270D		1	04/04/15 10:07	CYD0044	CD50739
2,4-Dinitrotoluene	ND (0.250)		8270D		1	04/04/15 10:07	CYD0044	CD50739
2,6-Dinitrotoluene	ND (0.250)		8270D		1	04/04/15 10:07	CYD0044	CD50739
2-Chloronaphthalene	ND (0.250)		8270D		1	04/04/15 10:07	CYD0044	CD50739
2-Chlorophenol	ND (0.250)		8270D		1	04/04/15 10:07	CYD0044	CD50739
2-Methylphenol	ND (0.250)		8270D		1	04/04/15 10:07	CYD0044	CD50739
2-Nitrophenol	ND (0.250)		8270D		1	04/04/15 10:07	CYD0044	CD50739
3,3´-Dichlorobenzidine	ND (0.501)		8270D		1	04/04/15 10:07	CYD0044	CD50739
3+4-Methylphenol	ND (0.501)		8270D		1	04/04/15 10:07	CYD0044	CD50739
4-Bromophenyl-phenylether	ND (0.250)		8270D		1	04/04/15 10:07	CYD0044	CD50739
4-Chloroaniline	ND (0.501)		8270D		1	04/04/15 10:07	CYD0044	CD50739
4-Nitrophenol	ND (1.26)		8270D		1	04/04/15 10:07	CYD0044	CD50739
Acetophenone	ND (0.501)		8270D		1	04/04/15 10:07	CYD0044	CD50739
Aniline	ND (1.26)		8270D		1	04/04/15 10:07	CYD0044	CD50739
Azobenzene	ND (0.250)		8270D		1	04/04/15 10:07	CYD0044	CD50739
bis(2-Chloroethoxy)methane	ND (0.250)		8270D		1	04/04/15 10:07	CYD0044	CD50739
bis(2-Chloroethyl)ether	ND (0.250)		8270D		1	04/04/15 10:07	CYD0044	CD50739
bis(2-chloroisopropyl)Ether	ND (0.250)		8270D		1	04/04/15 10:07	CYD0044	CD50739
bis(2-Ethylhexyl)phthalate	ND (0.250)		8270D		1	04/04/15 10:07	CYD0044	CD50739
Butylbenzylphthalate	ND (0.250)		8270D		1	04/04/15 10:07	CYD0044	CD50739
Dibenzofuran	ND (0.250)		8270D		1	04/04/15 10:07	CYD0044	CD50739
Diethylphthalate	ND (0.250)		8270D		1	04/04/15 10:07	CYD0044	CD50739
Dimethylphthalate	ND (0.250)		8270D		1	04/04/15 10:07	CYD0044	CD50739
Di-n-butylphthalate	ND (0.250)		8270D		1	04/04/15 10:07	CYD0044	CD50739

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-214 2ft-4ft
Date Sampled: 03/30/15 10:10
Percent Solids: 66
Initial Volume: 30.3
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503559
ESS Laboratory Sample ID: 1503559-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 4/3/15 12:02

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Di-n-octylphthalate	ND (0.250)		8270D		1	04/04/15 10:07	CYD0044	CD50739
Hexachlorobutadiene	ND (0.250)		8270D		1	04/04/15 10:07	CYD0044	CD50739
Hexachloroethane	ND (0.250)		8270D		1	04/04/15 10:07	CYD0044	CD50739
Isophorone	ND (0.250)		8270D		1	04/04/15 10:07	CYD0044	CD50739
Nitrobenzene	ND (0.250)		8270D		1	04/04/15 10:07	CYD0044	CD50739
N-Nitrosodimethylamine	ND (0.250)		8270D		1	04/04/15 10:07	CYD0044	CD50739
Pentachlorophenol	ND (1.26)		8270D		1	04/04/15 10:07	CYD0044	CD50739
Phenol	ND (0.250)		8270D		1	04/04/15 10:07	CYD0044	CD50739

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*92 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*110 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*96 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*98 %*		*30-130*
Surrogate: 2-Fluorophenol	*91 %*		*30-130*
Surrogate: Nitrobenzene-d5	*94 %*		*30-130*
Surrogate: Phenol-d6	*97 %*		*30-130*
Surrogate: p-Terphenyl-d14	*93 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-214 2ft-4ft
Date Sampled: 03/30/15 10:10
Percent Solids: 66
Initial Volume: 20.1
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503559
ESS Laboratory Sample ID: 1503559-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 4/3/15 12:25

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.019)		8270D		1	04/10/15 8:06	CYD0151	CD50227
Acenaphthene	ND (0.019)		8270D		1	04/10/15 8:06	CYD0151	CD50227
Acenaphthylene	ND (0.019)		8270D		1	04/10/15 8:06	CYD0151	CD50227
Anthracene	ND (0.019)		8270D		1	04/10/15 8:06	CYD0151	CD50227
Benzo(a)anthracene	ND (0.019)		8270D		1	04/10/15 8:06	CYD0151	CD50227
Benzo(a)pyrene	ND (0.019)		8270D		1	04/10/15 8:06	CYD0151	CD50227
Benzo(b)fluoranthene	ND (0.019)		8270D		1	04/10/15 8:06	CYD0151	CD50227
Benzo(g,h,i)perylene	ND (0.019)		8270D		1	04/10/15 8:06	CYD0151	CD50227
Benzo(k)fluoranthene	ND (0.019)		8270D		1	04/10/15 8:06	CYD0151	CD50227
Chrysene	ND (0.019)		8270D		1	04/10/15 8:06	CYD0151	CD50227
Dibenzo(a,h)Anthracene	ND (0.019)		8270D		1	04/10/15 8:06	CYD0151	CD50227
Fluoranthene	ND (0.019)		8270D		1	04/10/15 8:06	CYD0151	CD50227
Fluorene	ND (0.019)		8270D		1	04/10/15 8:06	CYD0151	CD50227
Hexachlorobenzene	ND (0.019)		8270D		1	04/10/15 8:06	CYD0151	CD50227
Indeno(1,2,3-cd)Pyrene	ND (0.019)		8270D		1	04/10/15 8:06	CYD0151	CD50227
Naphthalene	ND (0.019)		8270D		1	04/10/15 8:06	CYD0151	CD50227
Phenanthrene	ND (0.019)		8270D		1	04/10/15 8:06	CYD0151	CD50227
Pyrene	ND (0.019)		8270D		1	04/10/15 8:06	CYD0151	CD50227

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*41 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*57 %*		*30-130*
Surrogate: Nitrobenzene-d5	*45 %*		*30-130*
Surrogate: p-Terphenyl-d14	*73 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-214 2ft-4ft
Date Sampled: 03/30/15 10:10
Percent Solids: 66
Initial Volume: 30.2
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1503559
ESS Laboratory Sample ID: 1503559-04
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 4/2/15 18:04

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	ND (18.9)		MADEP-EPH		1	DPS	04/04/15 12:50	CYD0058	CD50222
C19-C36 Aliphatics1	ND (18.9)		MADEP-EPH		1	DPS	04/04/15 12:50	CYD0058	CD50222
C11-C22 Unadjusted Aromatics1	ND (18.9)		EPH8270		1	JXS	04/03/15 19:51	CYD0054	CD50222
C11-C22 Aromatics1,2	ND (18.9)		EPH8270			JXS	04/03/15 19:51		[CALC]

	%Recovery	*Qualifier*	*Limits*
Surrogate: 1-Chlorooctadecane	*65 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*84 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*77 %*		*40-140*
Surrogate: O-Terphenyl	*74 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-214 4ft-6ft
Date Sampled: 03/30/15 10:10
Percent Solids: 69
Initial Volume: 30.2
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503559
ESS Laboratory Sample ID: 1503559-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 4/3/15 12:02

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.239)		8270D		1	04/04/15 10:43	CYD0044	CD50735
1,2-Dichlorobenzene	ND (0.239)		8270D		1	04/04/15 10:43	CYD0044	CD50735
1,3-Dichlorobenzene	ND (0.239)		8270D		1	04/04/15 10:43	CYD0044	CD50735
1,4-Dichlorobenzene	ND (0.239)		8270D		1	04/04/15 10:43	CYD0044	CD50735
2,4,5-Trichlorophenol	ND (0.239)		8270D		1	04/04/15 10:43	CYD0044	CD50735
2,4,6-Trichlorophenol	ND (0.239)		8270D		1	04/04/15 10:43	CYD0044	CD50735
2,4-Dichlorophenol	ND (0.239)		8270D		1	04/04/15 10:43	CYD0044	CD50735
2,4-Dimethylphenol	ND (0.239)		8270D		1	04/04/15 10:43	CYD0044	CD50735
2,4-Dinitrophenol	ND (1.20)		8270D		1	04/04/15 10:43	CYD0044	CD50735
2,4-Dinitrotoluene	ND (0.239)		8270D		1	04/04/15 10:43	CYD0044	CD50735
2,6-Dinitrotoluene	ND (0.239)		8270D		1	04/04/15 10:43	CYD0044	CD50735
2-Chloronaphthalene	ND (0.239)		8270D		1	04/04/15 10:43	CYD0044	CD50735
2-Chlorophenol	ND (0.239)		8270D		1	04/04/15 10:43	CYD0044	CD50735
2-Methylphenol	ND (0.239)		8270D		1	04/04/15 10:43	CYD0044	CD50735
2-Nitrophenol	ND (0.239)		8270D		1	04/04/15 10:43	CYD0044	CD50735
3,3´-Dichlorobenzidine	ND (0.479)		8270D		1	04/04/15 10:43	CYD0044	CD50735
3+4-Methylphenol	ND (0.479)		8270D		1	04/04/15 10:43	CYD0044	CD50735
4-Bromophenyl-phenylether	ND (0.239)		8270D		1	04/04/15 10:43	CYD0044	CD50735
4-Chloroaniline	ND (0.479)		8270D		1	04/04/15 10:43	CYD0044	CD50735
4-Nitrophenol	ND (1.20)		8270D		1	04/04/15 10:43	CYD0044	CD50735
Acetophenone	ND (0.479)		8270D		1	04/04/15 10:43	CYD0044	CD50735
Aniline	ND (1.20)		8270D		1	04/04/15 10:43	CYD0044	CD50735
Azobenzene	ND (0.239)		8270D		1	04/04/15 10:43	CYD0044	CD50735
bis(2-Chloroethoxy)methane	ND (0.239)		8270D		1	04/04/15 10:43	CYD0044	CD50735
bis(2-Chloroethyl)ether	ND (0.239)		8270D		1	04/04/15 10:43	CYD0044	CD50735
bis(2-chloroisopropyl)Ether	ND (0.239)		8270D		1	04/04/15 10:43	CYD0044	CD50735
bis(2-Ethylhexyl)phthalate	ND (0.239)		8270D		1	04/04/15 10:43	CYD0044	CD50735
Butylbenzylphthalate	ND (0.239)		8270D		1	04/04/15 10:43	CYD0044	CD50735
Dibenzofuran	ND (0.239)		8270D		1	04/04/15 10:43	CYD0044	CD50735
Diethylphthalate	ND (0.239)		8270D		1	04/04/15 10:43	CYD0044	CD50735
Dimethylphthalate	ND (0.239)		8270D		1	04/04/15 10:43	CYD0044	CD50735
Di-n-butylphthalate	ND (0.239)		8270D		1	04/04/15 10:43	CYD0044	CD50735

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-214 4ft-6ft
Date Sampled: 03/30/15 10:10
Percent Solids: 69
Initial Volume: 30.2
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503559
ESS Laboratory Sample ID: 1503559-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 4/3/15 12:02

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Di-n-octylphthalate	ND (0.239)		8270D		1	04/04/15 10:43	CYD0044	CD50735
Hexachlorobutadiene	ND (0.239)		8270D		1	04/04/15 10:43	CYD0044	CD50735
Hexachloroethane	ND (0.239)		8270D		1	04/04/15 10:43	CYD0044	CD50735
Isophorone	ND (0.239)		8270D		1	04/04/15 10:43	CYD0044	CD50735
Nitrobenzene	ND (0.239)		8270D		1	04/04/15 10:43	CYD0044	CD50735
N-Nitrosodimethylamine	ND (0.239)		8270D		1	04/04/15 10:43	CYD0044	CD50735
Pentachlorophenol	ND (1.20)		8270D		1	04/04/15 10:43	CYD0044	CD50735
Phenol	ND (0.239)		8270D		1	04/04/15 10:43	CYD0044	CD50735

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*101 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*115 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*106 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*107 %*		*30-130*
Surrogate: 2-Fluorophenol	*99 %*		*30-130*
Surrogate: Nitrobenzene-d5	*102 %*		*30-130*
Surrogate: Phenol-d6	*107 %*		*30-130*
Surrogate: p-Terphenyl-d14	*99 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-214 4ft-6ft
Date Sampled: 03/30/15 10:10
Percent Solids: 69
Initial Volume: 20.3
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503559
ESS Laboratory Sample ID: 1503559-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 4/3/15 12:25

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.018)		8270D		1	04/10/15 8:55	CYD0151	CD50227
Acenaphthene	ND (0.018)		8270D		1	04/10/15 8:55	CYD0151	CD50227
Acenaphthylene	ND (0.018)		8270D		1	04/10/15 8:55	CYD0151	CD50227
Anthracene	ND (0.018)		8270D		1	04/10/15 8:55	CYD0151	CD50227
Benzo(a)anthracene	ND (0.018)		8270D		1	04/10/15 8:55	CYD0151	CD50227
Benzo(a)pyrene	ND (0.018)		8270D		1	04/10/15 8:55	CYD0151	CD50227
Benzo(b)fluoranthene	ND (0.018)		8270D		1	04/10/15 8:55	CYD0151	CD50227
Benzo(g,h,i)perylene	ND (0.018)		8270D		1	04/10/15 8:55	CYD0151	CD50227
Benzo(k)fluoranthene	ND (0.018)		8270D		1	04/10/15 8:55	CYD0151	CD50227
Chrysene	ND (0.018)		8270D		1	04/10/15 8:55	CYD0151	CD50227
Dibenzo(a,h)Anthracene	ND (0.018)		8270D		1	04/10/15 8:55	CYD0151	CD50227
Fluoranthene	ND (0.018)		8270D		1	04/10/15 8:55	CYD0151	CD50227
Fluorene	ND (0.018)		8270D		1	04/10/15 8:55	CYD0151	CD50227
Hexachlorobenzene	ND (0.018)		8270D		1	04/10/15 8:55	CYD0151	CD50227
Indeno(1,2,3-cd)Pyrene	ND (0.018)		8270D		1	04/10/15 8:55	CYD0151	CD50227
Naphthalene	ND (0.018)		8270D		1	04/10/15 8:55	CYD0151	CD50227
Phenanthrene	ND (0.018)		8270D		1	04/10/15 8:55	CYD0151	CD50227
Pyrene	ND (0.018)		8270D		1	04/10/15 8:55	CYD0151	CD50227

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*46 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*57 %*		*30-130*
Surrogate: Nitrobenzene-d5	*50 %*		*30-130*
Surrogate: p-Terphenyl-d14	*69 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-214 4ft-6ft
Date Sampled: 03/30/15 10:10
Percent Solids: 69
Initial Volume: 30.1
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1503559
ESS Laboratory Sample ID: 1503559-05
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 4/2/15 18:04

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	ND (18.0)		MADEP-EPH		1	DPS	04/04/15 13:40	CYD0058	CD50222
C19-C36 Aliphatics1	ND (18.0)		MADEP-EPH		1	DPS	04/04/15 13:40	CYD0058	CD50222
C11-C22 Unadjusted Aromatics1	ND (18.0)		EPH8270		1	JXS	04/03/15 20:28	CYD0054	CD50222
C11-C22 Aromatics1,2	ND (18.0)		EPH8270			JXS	04/03/15 20:28		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*64 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*85 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*81 %*		*40-140*
Surrogate: O-Terphenyl	*75 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-214 6ft-8ft
Date Sampled: 03/30/15 10:10
Percent Solids: 74
Initial Volume: 20
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503559
ESS Laboratory Sample ID: 1503559-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 4/3/15 12:25

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.017)		8270D		1	04/10/15 9:45	CYD0151	CD50227
Acenaphthene	ND (0.017)		8270D		1	04/10/15 9:45	CYD0151	CD50227
Acenaphthylene	ND (0.017)		8270D		1	04/10/15 9:45	CYD0151	CD50227
Anthracene	ND (0.017)		8270D		1	04/10/15 9:45	CYD0151	CD50227
Benzo(a)anthracene	ND (0.017)		8270D		1	04/10/15 9:45	CYD0151	CD50227
Benzo(a)pyrene	ND (0.017)		8270D		1	04/10/15 9:45	CYD0151	CD50227
Benzo(b)fluoranthene	ND (0.017)		8270D		1	04/10/15 9:45	CYD0151	CD50227
Benzo(g,h,i)perylene	ND (0.017)		8270D		1	04/10/15 9:45	CYD0151	CD50227
Benzo(k)fluoranthene	ND (0.017)		8270D		1	04/10/15 9:45	CYD0151	CD50227
Chrysene	ND (0.017)		8270D		1	04/10/15 9:45	CYD0151	CD50227
Dibenzo(a,h)Anthracene	ND (0.017)		8270D		1	04/10/15 9:45	CYD0151	CD50227
Fluoranthene	ND (0.017)		8270D		1	04/10/15 9:45	CYD0151	CD50227
Fluorene	ND (0.017)		8270D		1	04/10/15 9:45	CYD0151	CD50227
Hexachlorobenzene	ND (0.017)		8270D		1	04/10/15 9:45	CYD0151	CD50227
Indeno(1,2,3-cd)Pyrene	ND (0.017)		8270D		1	04/10/15 9:45	CYD0151	CD50227
Naphthalene	ND (0.017)		8270D		1	04/10/15 9:45	CYD0151	CD50227
Phenanthrene	ND (0.017)		8270D		1	04/10/15 9:45	CYD0151	CD50227
Pyrene	ND (0.017)		8270D		1	04/10/15 9:45	CYD0151	CD50227

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*41 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*54 %*		*30-130*
Surrogate: Nitrobenzene-d5	*44 %*		*30-130*
Surrogate: p-Terphenyl-d14	*69 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-215 0ft-0.5ft
Date Sampled: 03/30/15 10:40
Percent Solids: 57
Initial Volume: 30
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503559
ESS Laboratory Sample ID: 1503559-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 4/3/15 12:02

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.291)		8270D		1	04/07/15 1:42	CYD0082	CD50735
1,2-Dichlorobenzene	ND (0.291)		8270D		1	04/07/15 1:42	CYD0082	CD50735
1,3-Dichlorobenzene	ND (0.291)		8270D		1	04/07/15 1:42	CYD0082	CD50735
1,4-Dichlorobenzene	ND (0.291)		8270D		1	04/07/15 1:42	CYD0082	CD50735
2,4,5-Trichlorophenol	ND (0.291)		8270D		1	04/07/15 1:42	CYD0082	CD50735
2,4,6-Trichlorophenol	ND (0.291)		8270D		1	04/07/15 1:42	CYD0082	CD50735
2,4-Dichlorophenol	ND (0.291)		8270D		1	04/07/15 1:42	CYD0082	CD50735
2,4-Dimethylphenol	ND (0.291)		8270D		1	04/07/15 1:42	CYD0082	CD50735
2,4-Dinitrophenol	ND (1.46)		8270D		1	04/07/15 1:42	CYD0082	CD50735
2,4-Dinitrotoluene	ND (0.291)		8270D		1	04/07/15 1:42	CYD0082	CD50735
2,6-Dinitrotoluene	ND (0.291)		8270D		1	04/07/15 1:42	CYD0082	CD50735
2-Chloronaphthalene	ND (0.291)		8270D		1	04/07/15 1:42	CYD0082	CD50735
2-Chlorophenol	ND (0.291)		8270D		1	04/07/15 1:42	CYD0082	CD50735
2-Methylphenol	ND (0.291)		8270D		1	04/07/15 1:42	CYD0082	CD50735
2-Nitrophenol	ND (0.291)		8270D		1	04/07/15 1:42	CYD0082	CD50735
3,3´-Dichlorobenzidine	ND (0.583)		8270D		1	04/07/15 1:42	CYD0082	CD50735
3+4-Methylphenol	ND (0.583)		8270D		1	04/07/15 1:42	CYD0082	CD50735
4-Bromophenyl-phenylether	ND (0.291)		8270D		1	04/07/15 1:42	CYD0082	CD50735
4-Chloroaniline	ND (0.583)		8270D		1	04/07/15 1:42	CYD0082	CD50735
4-Nitrophenol	ND (1.46)		8270D		1	04/07/15 1:42	CYD0082	CD50735
Acetophenone	ND (0.583)		8270D		1	04/07/15 1:42	CYD0082	CD50735
Aniline	ND (1.46)		8270D		1	04/07/15 1:42	CYD0082	CD50735
Azobenzene	ND (0.291)		8270D		1	04/07/15 1:42	CYD0082	CD50735
bis(2-Chloroethoxy)methane	ND (0.291)		8270D		1	04/07/15 1:42	CYD0082	CD50735
bis(2-Chloroethyl)ether	ND (0.291)		8270D		1	04/07/15 1:42	CYD0082	CD50735
bis(2-chloroisopropyl)Ether	ND (0.291)		8270D		1	04/07/15 1:42	CYD0082	CD50735
bis(2-Ethylhexyl)phthalate	**1.10** (0.291)		8270D		1	04/07/15 1:42	CYD0082	CD50735
Butylbenzylphthalate	ND (0.291)		8270D		1	04/07/15 1:42	CYD0082	CD50735
Dibenzofuran	ND (0.291)		8270D		1	04/07/15 1:42	CYD0082	CD50735
Diethylphthalate	ND (0.291)		8270D		1	04/07/15 1:42	CYD0082	CD50735
Dimethylphthalate	ND (0.291)		8270D		1	04/07/15 1:42	CYD0082	CD50735
Di-n-butylphthalate	ND (0.291)		8270D		1	04/07/15 1:42	CYD0082	CD50735

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-215 0ft-0.5ft
Date Sampled: 03/30/15 10:40
Percent Solids: 57
Initial Volume: 30
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503559
ESS Laboratory Sample ID: 1503559-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 4/3/15 12:02

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Di-n-octylphthalate	ND (0.291)		8270D		1	04/07/15 1:42	CYD0082	CD50735
Hexachlorobutadiene	ND (0.291)		8270D		1	04/07/15 1:42	CYD0082	CD50735
Hexachloroethane	ND (0.291)		8270D		1	04/07/15 1:42	CYD0082	CD50735
Isophorone	ND (0.291)		8270D		1	04/07/15 1:42	CYD0082	CD50735
Nitrobenzene	ND (0.291)		8270D		1	04/07/15 1:42	CYD0082	CD50735
N-Nitrosodimethylamine	ND (0.291)		8270D		1	04/07/15 1:42	CYD0082	CD50735
Pentachlorophenol	ND (1.46)		8270D		1	04/07/15 1:42	CYD0082	CD50735
Phenol	ND (0.291)		8270D		1	04/07/15 1:42	CYD0082	CD50735

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*71 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*99 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*78 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*76 %*		*30-130*
Surrogate: 2-Fluorophenol	*73 %*		*30-130*
Surrogate: Nitrobenzene-d5	*74 %*		*30-130*
Surrogate: Phenol-d6	*80 %*		*30-130*
Surrogate: p-Terphenyl-d14	*82 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-215 0ft-0.5ft
Date Sampled: 03/30/15 10:40
Percent Solids: 57
Initial Volume: 20.4
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503559
ESS Laboratory Sample ID: 1503559-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 4/3/15 12:25

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	**0.030** (0.021)		8270D		1	04/10/15 10:33	CYD0151	CD50227
Acenaphthene	**0.039** (0.021)		8270D		1	04/10/15 10:33	CYD0151	CD50227
Acenaphthylene	**0.081** (0.021)		8270D		1	04/10/15 10:33	CYD0151	CD50227
Anthracene	**0.161** (0.021)		8270D		1	04/10/15 10:33	CYD0151	CD50227
Benzo(a)anthracene	**0.327** (0.021)		8270D		1	04/10/15 10:33	CYD0151	CD50227
Benzo(a)pyrene	**0.382** (0.021)		8270D		1	04/10/15 10:33	CYD0151	CD50227
Benzo(b)fluoranthene	**0.512** (0.021)		8270D		1	04/10/15 10:33	CYD0151	CD50227
Benzo(g,h,i)perylene	**0.217** (0.021)		8270D		1	04/10/15 10:33	CYD0151	CD50227
Benzo(k)fluoranthene	**0.145** (0.021)		8270D		1	04/10/15 10:33	CYD0151	CD50227
Chrysene	**0.371** (0.021)		8270D		1	04/10/15 10:33	CYD0151	CD50227
Dibenzo(a,h)Anthracene	**0.060** (0.021)		8270D		1	04/10/15 10:33	CYD0151	CD50227
Fluoranthene	**0.695** (0.021)		8270D		1	04/10/15 10:33	CYD0151	CD50227
Fluorene	**0.053** (0.021)		8270D		1	04/10/15 10:33	CYD0151	CD50227
Hexachlorobenzene	ND (0.021)		8270D		1	04/10/15 10:33	CYD0151	CD50227
Indeno(1,2,3-cd)Pyrene	**0.265** (0.021)		8270D		1	04/10/15 10:33	CYD0151	CD50227
Naphthalene	**0.130** (0.021)		8270D		1	04/10/15 10:33	CYD0151	CD50227
Phenanthrene	**0.445** (0.021)		8270D		1	04/10/15 10:33	CYD0151	CD50227
Pyrene	**0.654** (0.021)		8270D		1	04/10/15 10:33	CYD0151	CD50227

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*38 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*54 %*		*30-130*
Surrogate: Nitrobenzene-d5	*42 %*		*30-130*
Surrogate: p-Terphenyl-d14	*67 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-215 0ft-0.5ft
Date Sampled: 03/30/15 10:40
Percent Solids: 57
Initial Volume: 30.3
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1503559
ESS Laboratory Sample ID: 1503559-07
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 4/2/15 18:04

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	ND (21.6)		MADEP-EPH		1	JXS	04/04/15 17:53	CYD0058	CD50222
C19-C36 Aliphatics1	**64.9** (21.6)		MADEP-EPH		1	JXS	04/04/15 17:53	CYD0058	CD50222
C11-C22 Unadjusted Aromatics1	**37.6** (21.6)		EPH8270		1	JXS	04/03/15 22:17	CYD0054	CD50222
C11-C22 Aromatics1,2	**37.6** (21.6)		EPH8270			JXS	04/03/15 22:17		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*73 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*92 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*84 %*		*40-140*
Surrogate: O-Terphenyl	*72 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-215 4ft-6ft
Date Sampled: 03/30/15 10:40
Percent Solids: 80
Initial Volume: 20.2
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503559
ESS Laboratory Sample ID: 1503559-08
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 4/3/15 12:25

8270D(SIM) Polynuclear Aromatic Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
2-Methylnaphthalene	ND (0.015)		8270D		1	04/11/15 10:17	CYD0158	CD50227
Acenaphthene	ND (0.015)		8270D		1	04/11/15 10:17	CYD0158	CD50227
Acenaphthylene	ND (0.015)		8270D		1	04/11/15 10:17	CYD0158	CD50227
Anthracene	ND (0.015)		8270D		1	04/11/15 10:17	CYD0158	CD50227
Benzo(a)anthracene	ND (0.015)		8270D		1	04/11/15 10:17	CYD0158	CD50227
Benzo(a)pyrene	ND (0.015)		8270D		1	04/11/15 10:17	CYD0158	CD50227
Benzo(b)fluoranthene	ND (0.015)		8270D		1	04/11/15 10:17	CYD0158	CD50227
Benzo(g,h,i)perylene	ND (0.015)		8270D		1	04/11/15 10:17	CYD0158	CD50227
Benzo(k)fluoranthene	ND (0.015)		8270D		1	04/11/15 10:17	CYD0158	CD50227
Chrysene	ND (0.015)		8270D		1	04/11/15 10:17	CYD0158	CD50227
Dibenzo(a,h)Anthracene	ND (0.015)		8270D		1	04/11/15 10:17	CYD0158	CD50227
Fluoranthene	ND (0.015)		8270D		1	04/11/15 10:17	CYD0158	CD50227
Fluorene	ND (0.015)		8270D		1	04/11/15 10:17	CYD0158	CD50227
Hexachlorobenzene	ND (0.015)		8270D		1	04/11/15 10:17	CYD0158	CD50227
Indeno(1,2,3-cd)Pyrene	ND (0.015)		8270D		1	04/11/15 10:17	CYD0158	CD50227
Naphthalene	ND (0.015)		8270D		1	04/11/15 10:17	CYD0158	CD50227
Phenanthrene	ND (0.015)		8270D		1	04/11/15 10:17	CYD0158	CD50227
Pyrene	ND (0.015)		8270D		1	04/11/15 10:17	CYD0158	CD50227

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*36 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*49 %*		*30-130*
Surrogate: Nitrobenzene-d5	*40 %*		*30-130*
Surrogate: p-Terphenyl-d14	*55 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-215 0ft-3ft
Date Sampled: 03/30/15 10:40
Percent Solids: 77
Initial Volume: 18.8
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1503559
ESS Laboratory Sample ID: 1503559-09
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1,2-Tetrachloroethane	ND (0.0017)		8260B Low		1	04/02/15 13:06	CYD0025	CD50239
1,1,1-Trichloroethane	ND (0.0017)		8260B Low		1	04/02/15 13:06	CYD0025	CD50239
1,1,2,2-Tetrachloroethane	ND (0.0007)		8260B Low		1	04/02/15 13:06	CYD0025	CD50239
1,1,2-Trichloroethane	ND (0.0017)		8260B Low		1	04/02/15 13:06	CYD0025	CD50239
1,1-Dichloroethane	ND (0.0017)		8260B Low		1	04/02/15 13:06	CYD0025	CD50239
1,1-Dichloroethene	ND (0.0017)		8260B Low		1	04/02/15 13:06	CYD0025	CD50239
1,1-Dichloropropene	ND (0.0017)		8260B Low		1	04/02/15 13:06	CYD0025	CD50239
1,2,3-Trichlorobenzene	ND (0.0017)		8260B Low		1	04/02/15 13:06	CYD0025	CD50239
1,2,3-Trichloropropane	ND (0.0017)		8260B Low		1	04/02/15 13:06	CYD0025	CD50239
1,2,4-Trichlorobenzene	ND (0.0017)		8260B Low		1	04/02/15 13:06	CYD0025	CD50239
1,2,4-Trimethylbenzene	ND (0.0017)		8260B Low		1	04/02/15 13:06	CYD0025	CD50239
1,2-Dibromo-3-Chloropropane	ND (0.0017)		8260B Low		1	04/02/15 13:06	CYD0025	CD50239
1,2-Dibromoethane	ND (0.0017)		8260B Low		1	04/02/15 13:06	CYD0025	CD50239
1,2-Dichlorobenzene	ND (0.0017)		8260B Low		1	04/02/15 13:06	CYD0025	CD50239
1,2-Dichloroethane	ND (0.0017)		8260B Low		1	04/02/15 13:06	CYD0025	CD50239
1,2-Dichloropropane	ND (0.0017)		8260B Low		1	04/02/15 13:06	CYD0025	CD50239
1,3,5-Trimethylbenzene	ND (0.0017)		8260B Low		1	04/02/15 13:06	CYD0025	CD50239
1,3-Dichlorobenzene	ND (0.0017)		8260B Low		1	04/02/15 13:06	CYD0025	CD50239
1,3-Dichloropropane	ND (0.0017)		8260B Low		1	04/02/15 13:06	CYD0025	CD50239
1,4-Dichlorobenzene	ND (0.0017)		8260B Low		1	04/02/15 13:06	CYD0025	CD50239
1,4-Dioxane	ND (0.0348)		8260B Low		1	04/02/15 13:06	CYD0025	CD50239
2,2-Dichloropropane	ND (0.0017)		8260B Low		1	04/02/15 13:06	CYD0025	CD50239
2-Butanone	ND (0.0035)		8260B Low		1	04/02/15 13:06	CYD0025	CD50239
2-Chlorotoluene	ND (0.0017)		8260B Low		1	04/02/15 13:06	CYD0025	CD50239
2-Hexanone	ND (0.0035)		8260B Low		1	04/02/15 13:06	CYD0025	CD50239
4-Chlorotoluene	ND (0.0017)		8260B Low		1	04/02/15 13:06	CYD0025	CD50239
4-Isopropyltoluene	ND (0.0017)		8260B Low		1	04/02/15 13:06	CYD0025	CD50239
4-Methyl-2-Pentanone	ND (0.0035)		8260B Low		1	04/02/15 13:06	CYD0025	CD50239
Acetone	**0.0171** (0.0035)		8260B Low		1	04/02/15 13:06	CYD0025	CD50239
Benzene	ND (0.0017)		8260B Low		1	04/02/15 13:06	CYD0025	CD50239
Bromobenzene	ND (0.0017)		8260B Low		1	04/02/15 13:06	CYD0025	CD50239
Bromochloromethane	ND (0.0017)		8260B Low		1	04/02/15 13:06	CYD0025	CD50239

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-215 0ft-3ft
Date Sampled: 03/30/15 10:40
Percent Solids: 77
Initial Volume: 18.8
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1503559
ESS Laboratory Sample ID: 1503559-09
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Bromodichloromethane	ND (0.0017)		8260B Low		1	04/02/15 13:06	CYD0025	CD50239
Bromoform	ND (0.0017)		8260B Low		1	04/02/15 13:06	CYD0025	CD50239
Bromomethane	ND (0.0035)		8260B Low		1	04/02/15 13:06	CYD0025	CD50239
Carbon Disulfide	**0.0066** (0.0017)		8260B Low		1	04/02/15 13:06	CYD0025	CD50239
Carbon Tetrachloride	ND (0.0017)		8260B Low		1	04/02/15 13:06	CYD0025	CD50239
Chlorobenzene	ND (0.0017)		8260B Low		1	04/02/15 13:06	CYD0025	CD50239
Chloroethane	ND (0.0035)		8260B Low		1	04/02/15 13:06	CYD0025	CD50239
Chloroform	ND (0.0017)		8260B Low		1	04/02/15 13:06	CYD0025	CD50239
Chloromethane	ND (0.0035)		8260B Low		1	04/02/15 13:06	CYD0025	CD50239
cis-1,2-Dichloroethene	ND (0.0017)		8260B Low		1	04/02/15 13:06	CYD0025	CD50239
cis-1,3-Dichloropropene	ND (0.0017)		8260B Low		1	04/02/15 13:06	CYD0025	CD50239
Dibromochloromethane	ND (0.0007)		8260B Low		1	04/02/15 13:06	CYD0025	CD50239
Dibromomethane	ND (0.0017)		8260B Low		1	04/02/15 13:06	CYD0025	CD50239
Dichlorodifluoromethane	ND (0.0035)		8260B Low		1	04/02/15 13:06	CYD0025	CD50239
Diethyl Ether	ND (0.0017)		8260B Low		1	04/02/15 13:06	CYD0025	CD50239
Di-isopropyl ether	ND (0.0017)		8260B Low		1	04/02/15 13:06	CYD0025	CD50239
Ethyl tertiary-butyl ether	ND (0.0017)		8260B Low		1	04/02/15 13:06	CYD0025	CD50239
Ethylbenzene	ND (0.0017)		8260B Low		1	04/02/15 13:06	CYD0025	CD50239
Hexachlorobutadiene	ND (0.0017)		8260B Low		1	04/02/15 13:06	CYD0025	CD50239
Isopropylbenzene	ND (0.0017)		8260B Low		1	04/02/15 13:06	CYD0025	CD50239
Methyl tert-Butyl Ether	ND (0.0017)		8260B Low		1	04/02/15 13:06	CYD0025	CD50239
Methylene Chloride	ND (0.0035)		8260B Low		1	04/02/15 13:06	CYD0025	CD50239
Naphthalene	ND (0.0017)		8260B Low		1	04/02/15 13:06	CYD0025	CD50239
n-Butylbenzene	ND (0.0017)		8260B Low		1	04/02/15 13:06	CYD0025	CD50239
n-Propylbenzene	ND (0.0017)		8260B Low		1	04/02/15 13:06	CYD0025	CD50239
sec-Butylbenzene	ND (0.0017)		8260B Low		1	04/02/15 13:06	CYD0025	CD50239
Styrene	ND (0.0017)		8260B Low		1	04/02/15 13:06	CYD0025	CD50239
tert-Butylbenzene	ND (0.0017)		8260B Low		1	04/02/15 13:06	CYD0025	CD50239
Tertiary-amyl methyl ether	ND (0.0017)		8260B Low		1	04/02/15 13:06	CYD0025	CD50239
Tetrachloroethene	ND (0.0017)		8260B Low		1	04/02/15 13:06	CYD0025	CD50239
Tetrahydrofuran	ND (0.0017)		8260B Low		1	04/02/15 13:06	CYD0025	CD50239
Toluene	ND (0.0017)		8260B Low		1	04/02/15 13:06	CYD0025	CD50239

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-215 0ft-3ft
Date Sampled: 03/30/15 10:40
Percent Solids: 77
Initial Volume: 18.8
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1503559
ESS Laboratory Sample ID: 1503559-09
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
trans-1,2-Dichloroethene	ND (0.0017)		8260B Low		1	04/02/15 13:06	CYD0025	CD50239
trans-1,3-Dichloropropene	ND (0.0017)		8260B Low		1	04/02/15 13:06	CYD0025	CD50239
Trichloroethene	ND (0.0017)		8260B Low		1	04/02/15 13:06	CYD0025	CD50239
Trichlorofluoromethane	ND (0.0017)		8260B Low		1	04/02/15 13:06	CYD0025	CD50239
Vinyl Chloride	ND (0.0035)		8260B Low		1	04/02/15 13:06	CYD0025	CD50239
Xylene O	ND (0.0017)		8260B Low		1	04/02/15 13:06	CYD0025	CD50239
Xylene P,M	ND (0.0035)		8260B Low		1	04/02/15 13:06	CYD0025	CD50239
Xylenes (Total)	ND (0.0035)		8260B Low		1	04/02/15 13:06		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	*97 %*		*70-130*
Surrogate: 4-Bromofluorobenzene	*84 %*		*70-130*
Surrogate: Dibromofluoromethane	*90 %*		*70-130*
Surrogate: Toluene-d8	*90 %*		*70-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-215 0ft-3ft
Date Sampled: 03/30/15 10:40
Percent Solids: 77
Initial Volume: 30.3
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503559
ESS Laboratory Sample ID: 1503559-09
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 4/3/15 12:02

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2,4-Trichlorobenzene	ND (0.215)		8270D		1	04/07/15 2:17	CYD0082	CD50735
1,2-Dichlorobenzene	ND (0.215)		8270D		1	04/07/15 2:17	CYD0082	CD50735
1,3-Dichlorobenzene	ND (0.215)		8270D		1	04/07/15 2:17	CYD0082	CD50735
1,4-Dichlorobenzene	ND (0.215)		8270D		1	04/07/15 2:17	CYD0082	CD50735
2,4,5-Trichlorophenol	ND (0.215)		8270D		1	04/07/15 2:17	CYD0082	CD50735
2,4,6-Trichlorophenol	ND (0.215)		8270D		1	04/07/15 2:17	CYD0082	CD50735
2,4-Dichlorophenol	ND (0.215)		8270D		1	04/07/15 2:17	CYD0082	CD50735
2,4-Dimethylphenol	ND (0.215)		8270D		1	04/07/15 2:17	CYD0082	CD50735
2,4-Dinitrophenol	ND (1.08)		8270D		1	04/07/15 2:17	CYD0082	CD50735
2,4-Dinitrotoluene	ND (0.215)		8270D		1	04/07/15 2:17	CYD0082	CD50735
2,6-Dinitrotoluene	ND (0.215)		8270D		1	04/07/15 2:17	CYD0082	CD50735
2-Chloronaphthalene	ND (0.215)		8270D		1	04/07/15 2:17	CYD0082	CD50735
2-Chlorophenol	ND (0.215)		8270D		1	04/07/15 2:17	CYD0082	CD50735
2-Methylphenol	ND (0.215)		8270D		1	04/07/15 2:17	CYD0082	CD50735
2-Nitrophenol	ND (0.215)		8270D		1	04/07/15 2:17	CYD0082	CD50735
3,3´-Dichlorobenzidine	ND (0.431)		8270D		1	04/07/15 2:17	CYD0082	CD50735
3+4-Methylphenol	ND (0.431)		8270D		1	04/07/15 2:17	CYD0082	CD50735
4-Bromophenyl-phenylether	ND (0.215)		8270D		1	04/07/15 2:17	CYD0082	CD50735
4-Chloroaniline	ND (0.431)		8270D		1	04/07/15 2:17	CYD0082	CD50735
4-Nitrophenol	ND (1.08)		8270D		1	04/07/15 2:17	CYD0082	CD50735
Acetophenone	ND (0.431)		8270D		1	04/07/15 2:17	CYD0082	CD50735
Aniline	ND (1.08)		8270D		1	04/07/15 2:17	CYD0082	CD50735
Azobenzene	ND (0.215)		8270D		1	04/07/15 2:17	CYD0082	CD50735
bis(2-Chloroethoxy)methane	ND (0.215)		8270D		1	04/07/15 2:17	CYD0082	CD50735
bis(2-Chloroethyl)ether	ND (0.215)		8270D		1	04/07/15 2:17	CYD0082	CD50735
bis(2-chloroisopropyl)Ether	ND (0.215)		8270D		1	04/07/15 2:17	CYD0082	CD50735
bis(2-Ethylhexyl)phthalate	ND (0.215)		8270D		1	04/07/15 2:17	CYD0082	CD50735
Butylbenzylphthalate	ND (0.215)		8270D		1	04/07/15 2:17	CYD0082	CD50735
Dibenzofuran	ND (0.215)		8270D		1	04/07/15 2:17	CYD0082	CD50735
Diethylphthalate	ND (0.215)		8270D		1	04/07/15 2:17	CYD0082	CD50735
Dimethylphthalate	ND (0.215)		8270D		1	04/07/15 2:17	CYD0082	CD50735
Di-n-butylphthalate	ND (0.215)		8270D		1	04/07/15 2:17	CYD0082	CD50735

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-215 0ft-3ft
Date Sampled: 03/30/15 10:40
Percent Solids: 77
Initial Volume: 30.3
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1503559
ESS Laboratory Sample ID: 1503559-09
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 4/3/15 12:02

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Di-n-octylphthalate	ND (0.215)		8270D		1	04/07/15 2:17	CYD0082	CD50735
Hexachlorobutadiene	ND (0.215)		8270D		1	04/07/15 2:17	CYD0082	CD50735
Hexachloroethane	ND (0.215)		8270D		1	04/07/15 2:17	CYD0082	CD50735
Isophorone	ND (0.215)		8270D		1	04/07/15 2:17	CYD0082	CD50735
Nitrobenzene	ND (0.215)		8270D		1	04/07/15 2:17	CYD0082	CD50735
N-Nitrosodimethylamine	ND (0.215)		8270D		1	04/07/15 2:17	CYD0082	CD50735
Pentachlorophenol	ND (1.08)		8270D		1	04/07/15 2:17	CYD0082	CD50735
Phenol	ND (0.215)		8270D		1	04/07/15 2:17	CYD0082	CD50735

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*99 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*114 %*		*30-130*
Surrogate: 2-Chlorophenol-d4	*106 %*		*30-130*
Surrogate: 2-Fluorobiphenyl	*107 %*		*30-130*
Surrogate: 2-Fluorophenol	*100 %*		*30-130*
Surrogate: Nitrobenzene-d5	*103 %*		*30-130*
Surrogate: Phenol-d6	*108 %*		*30-130*
Surrogate: p-Terphenyl-d14	*97 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-215 0ft-3ft
Date Sampled: 03/30/15 10:40
Percent Solids: 77

ESS Laboratory Work Order: 1503559
ESS Laboratory Sample ID: 1503559-09
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Corrosivity (pH)	**H 7.39** (N/A)		9045		1	JLK	04/01/15 11:12	S.U.	CD50119
Corrosivity (pH) Sample Temp	**Soil pH measured in water at 14.3 °C.**								
Eh (ORP)	**H, WL 177** (N/A)		2580		1	JLK	04/01/15 11:12	mv	CD50120
Grain Size	**See Attached** (N/A)								
Hexavalent Chromium	ND (0.5)		7196A		1	EEM	04/06/15 14:20	mg/kg dry	CD50609
Percent Water	**See Attached** (N/A)								
Reactive Cyanide	ND (2.0)		7.3.3.2		1	JLK	04/01/15 11:34	mg/kg	CD50128
Reactive Sulfide	ND (2.0)		7.3.4.1		1	JLK	04/01/15 11:34	mg/kg	CD50128

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-215 0ft-3ft
Date Sampled: 03/30/15 10:40
Percent Solids: 77
Initial Volume: 30.3
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1503559
ESS Laboratory Sample ID: 1503559-09
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 4/2/15 18:04

MADEP-EPH Extractable Petroleum Hydrocarbons

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
C9-C18 Aliphatics1	ND (16.2)		MADEP-EPH		1	JXS	04/04/15 18:44	CYD0058	CD50222
C19-C36 Aliphatics1	ND (16.2)		MADEP-EPH		1	JXS	04/04/15 18:44	CYD0058	CD50222
C11-C22 Unadjusted Aromatics1	**17.1** (16.2)		EPH8270		1	JXS	04/03/15 22:53	CYD0054	CD50222
C11-C22 Aromatics1,2	**17.1** (16.2)		EPH8270			JXS	04/03/15 22:53		[CALC]

	%Recovery	Qualifier	Limits
Surrogate: 1-Chlorooctadecane	*61 %*		*40-140*
Surrogate: 2-Bromonaphthalene	*91 %*		*40-140*
Surrogate: 2-Fluorobiphenyl	*85 %*		*40-140*
Surrogate: O-Terphenyl	*72 %*		*40-140*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-224 0ft-0.5ft
Date Sampled: 03/30/15 09:45
Percent Solids: 100

ESS Laboratory Work Order: 1503559
ESS Laboratory Sample ID: 1503559-10
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (4.13)		6020A		50	NAR	04/09/15 19:31	2.42	100	CD50830
Arsenic	**70.7** (8.26)		7010		40	KJK	04/11/15 4:44	2.42	100	CD50830
Barium	**35.5** (2.07)		6010C		1	KJK	04/09/15 13:17	2.42	100	CD50830
Beryllium	ND (0.41)		6020A		50	NAR	04/09/15 19:31	2.42	100	CD50830
Cadmium	ND (0.41)		6020A		50	NAR	04/09/15 19:31	2.42	100	CD50830
Chromium	**85.5** (0.83)		6010C		1	KJK	04/09/15 13:17	2.42	100	CD50830
Lead	**649** (4.13)		6010C		1	KJK	04/09/15 13:17	2.42	100	CD50830
Mercury	**0.672** (0.064)		7471B		2	BJV	04/09/15 15:41	0.62	40	CD50831
Nickel	**84.4** (2.07)		6010C		1	NAR	04/09/15 13:17	2.42	100	CD50830
Selenium	ND (8.26)		6020A		50	NAR	04/09/15 19:31	2.42	100	CD50830
Silver	**4.08** (1.65)		6010C		4	KJK	04/10/15 14:02	2.42	100	CD50830
Thallium	ND (0.33)		7010		4	KJK	04/10/15 9:50	2.42	100	CD50830
Vanadium	**54.2** (0.83)		6010C		1	KJK	04/09/15 13:17	2.42	100	CD50830
Zinc	**217** (2.07)		6010C		1	KJK	04/09/15 13:17	2.42	100	CD50830

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-224 0.5ft-2ft
Date Sampled: 03/30/15 09:45
Percent Solids: 100

ESS Laboratory Work Order: 1503559
ESS Laboratory Sample ID: 1503559-11
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (4.20)		6010C		1	KJK	04/09/15 13:44	2.38	100	CD50830
Arsenic	**185** (2.10)		6010C		1	KJK	04/09/15 13:44	2.38	100	CD50830
Barium	**64.0** (2.10)		6010C		1	KJK	04/09/15 13:44	2.38	100	CD50830
Beryllium	**0.64** (0.09)		6010C		1	KJK	04/09/15 13:44	2.38	100	CD50830
Cadmium	**2.47** (0.42)		6010C		1	KJK	04/09/15 13:44	2.38	100	CD50830
Chromium	**71.2** (0.84)		6010C		1	KJK	04/09/15 13:44	2.38	100	CD50830
Lead	**919** (4.20)		6010C		1	KJK	04/09/15 13:44	2.38	100	CD50830
Mercury	**10.6** (3.19)		7471B		100	BJV	04/09/15 15:48	0.62	40	CD50831
Nickel	**15.3** (2.10)		6010C		1	NAR	04/09/15 13:44	2.38	100	CD50830
Selenium	**66.5** (8.40)		7010		20	NAR	04/13/15 15:23	2.38	100	CD50830
Silver	**0.68** (0.42)		6010C		1	KJK	04/09/15 13:44	2.38	100	CD50830
Thallium	ND (0.34)		7010		4	KJK	04/10/15 10:47	2.38	100	CD50830
Vanadium	**41.4** (0.84)		6010C		1	KJK	04/09/15 13:44	2.38	100	CD50830
Zinc	**679** (2.10)		6010C		1	KJK	04/09/15 13:44	2.38	100	CD50830

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-214 0ft-0.5ft
Date Sampled: 03/30/15 10:10
Percent Solids: 100

ESS Laboratory Work Order: 1503559
ESS Laboratory Sample ID: 1503559-12
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (3.97)		6020A		50	NAR	04/09/15 20:18	2.52	100	CD50830
Arsenic	**43.7** (1.98)		6010C		1	KJK	04/09/15 13:50	2.52	100	CD50830
Barium	**42.7** (1.98)		6010C		1	KJK	04/09/15 13:50	2.52	100	CD50830
Beryllium	**0.35** (0.09)		6010C		1	KJK	04/09/15 13:50	2.52	100	CD50830
Cadmium	**0.42** (0.40)		6010C		1	KJK	04/09/15 13:50	2.52	100	CD50830
Chromium	**38.0** (0.79)		6010C		1	KJK	04/09/15 13:50	2.52	100	CD50830
Lead	**263** (3.97)		6010C		1	KJK	04/09/15 13:50	2.52	100	CD50830
Mercury	**0.847** (0.136)		7471B		5	BJV	04/09/15 15:49	0.73	40	CD50831
Nickel	**19.2** (1.98)		6010C		1	NAR	04/09/15 13:50	2.52	100	CD50830
Selenium	ND (7.94)		6020A		50	NAR	04/09/15 20:18	2.52	100	CD50830
Silver	**0.65** (0.40)		6010C		1	KJK	04/09/15 13:50	2.52	100	CD50830
Thallium	ND (0.32)		7010		4	KJK	04/10/15 10:52	2.52	100	CD50830
Vanadium	**56.8** (0.79)		6010C		1	KJK	04/09/15 13:50	2.52	100	CD50830
Zinc	**205** (1.98)		6010C		1	KJK	04/09/15 13:50	2.52	100	CD50830

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-214 2ft-4ft
Date Sampled: 03/30/15 10:10
Percent Solids: 100

ESS Laboratory Work Order: 1503559
ESS Laboratory Sample ID: 1503559-13
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (4.05)		6020A		50	NAR	04/09/15 20:24	2.47	100	CD50830
Arsenic	ND (2.02)		6010C		1	KJK	04/09/15 14:08	2.47	100	CD50830
Barium	**22.0** (2.02)		6010C		1	KJK	04/09/15 14:08	2.47	100	CD50830
Beryllium	**0.41** (0.09)		6010C		1	KJK	04/09/15 14:08	2.47	100	CD50830
Cadmium	ND (0.40)		6010C		1	KJK	04/09/15 14:08	2.47	100	CD50830
Chromium	**19.9** (0.81)		6010C		1	KJK	04/09/15 14:08	2.47	100	CD50830
Lead	**5.70** (4.05)		6010C		1	KJK	04/09/15 14:08	2.47	100	CD50830
Mercury	ND (0.032)		7471B		1	BJV	04/09/15 13:34	0.62	40	CD50831
Nickel	**12.1** (2.02)		6010C		1	NAR	04/09/15 14:08	2.47	100	CD50830
Selenium	ND (8.10)		6020A		50	NAR	04/09/15 20:24	2.47	100	CD50830
Silver	ND (0.40)		6010C		1	KJK	04/09/15 14:08	2.47	100	CD50830
Thallium	ND (0.32)		7010		4	KJK	04/10/15 10:58	2.47	100	CD50830
Vanadium	**26.2** (0.81)		6010C		1	KJK	04/09/15 14:08	2.47	100	CD50830
Zinc	**31.8** (2.02)		6010C		1	KJK	04/09/15 14:08	2.47	100	CD50830

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-214 4ft-6ft
Date Sampled: 03/30/15 10:10
Percent Solids: 100

ESS Laboratory Work Order: 1503559
ESS Laboratory Sample ID: 1503559-14
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (4.02)		6010C		1	KJK	04/09/15 14:12	2.49	100	CD50830
Arsenic	ND (2.01)		6010C		1	KJK	04/09/15 14:12	2.49	100	CD50830
Barium	**15.0** (2.01)		6010C		1	KJK	04/09/15 14:12	2.49	100	CD50830
Beryllium	**0.28** (0.09)		6010C		1	KJK	04/09/15 14:12	2.49	100	CD50830
Cadmium	ND (0.40)		6010C		1	KJK	04/09/15 14:12	2.49	100	CD50830
Chromium	**14.1** (0.80)		6010C		1	KJK	04/09/15 14:12	2.49	100	CD50830
Lead	ND (4.02)		6010C		1	KJK	04/09/15 14:12	2.49	100	CD50830
Mercury	ND (0.030)		7471B		1	BJV	04/09/15 13:39	0.65	40	CD50831
Nickel	**8.76** (2.01)		6010C		1	NAR	04/09/15 14:12	2.49	100	CD50830
Selenium	ND (8.03)		6020A		50	NAR	04/09/15 20:30	2.49	100	CD50830
Silver	ND (0.40)		6010C		1	KJK	04/09/15 14:12	2.49	100	CD50830
Thallium	ND (0.32)		7010		4	KJK	04/10/15 11:03	2.49	100	CD50830
Vanadium	**19.1** (0.80)		6010C		1	KJK	04/09/15 14:12	2.49	100	CD50830
Zinc	**22.6** (2.01)		6010C		1	KJK	04/09/15 14:12	2.49	100	CD50830

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-214 6ft-8ft
Date Sampled: 03/30/15 10:10
Percent Solids: 100

ESS Laboratory Work Order: 1503559
ESS Laboratory Sample ID: 1503559-15
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (3.77)		6010C		1	KJK	04/09/15 14:16	2.65	100	CD50830
Arsenic	**3.31** (1.89)		6010C		1	KJK	04/09/15 14:16	2.65	100	CD50830
Barium	**14.3** (1.89)		6010C		1	KJK	04/09/15 14:16	2.65	100	CD50830
Beryllium	**0.27** (0.08)		6010C		1	KJK	04/09/15 14:16	2.65	100	CD50830
Cadmium	ND (0.38)		6010C		1	KJK	04/09/15 14:16	2.65	100	CD50830
Chromium	**13.2** (0.75)		6010C		1	KJK	04/09/15 14:16	2.65	100	CD50830
Lead	ND (3.77)		6010C		1	KJK	04/09/15 14:16	2.65	100	CD50830
Mercury	ND (0.029)		7471B		1	BJV	04/09/15 13:41	0.69	40	CD50831
Nickel	**8.11** (1.89)		6010C		1	NAR	04/09/15 14:16	2.65	100	CD50830
Selenium	ND (7.55)		6020A		50	NAR	04/09/15 20:36	2.65	100	CD50830
Silver	ND (0.38)		6010C		1	KJK	04/09/15 14:16	2.65	100	CD50830
Thallium	ND (0.30)		7010		4	KJK	04/10/15 11:09	2.65	100	CD50830
Vanadium	**18.6** (0.75)		6010C		1	KJK	04/09/15 14:16	2.65	100	CD50830
Zinc	**23.8** (1.89)		6010C		1	KJK	04/09/15 14:16	2.65	100	CD50830

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-215 0ft-0.5ft
Date Sampled: 03/30/15 10:40
Percent Solids: 100

ESS Laboratory Work Order: 1503559
ESS Laboratory Sample ID: 1503559-16
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (4.13)		6020A		50	NAR	04/09/15 20:42	2.42	100	CD50830
Arsenic	**45.8** (2.07)		6010C		1	KJK	04/09/15 14:20	2.42	100	CD50830
Barium	**30.9** (2.07)		6010C		1	KJK	04/09/15 14:20	2.42	100	CD50830
Beryllium	**0.34** (0.09)		6010C		1	KJK	04/09/15 14:20	2.42	100	CD50830
Cadmium	**0.53** (0.41)		6010C		1	KJK	04/09/15 14:20	2.42	100	CD50830
Chromium	**37.1** (0.83)		6010C		1	KJK	04/09/15 14:20	2.42	100	CD50830
Lead	**234** (4.13)		6010C		1	KJK	04/09/15 14:20	2.42	100	CD50830
Mercury	**0.982** (0.148)		7471B		5	BJV	04/09/15 15:54	0.67	40	CD50831
Nickel	**15.3** (2.07)		6010C		1	NAR	04/09/15 14:20	2.42	100	CD50830
Selenium	ND (8.26)		6020A		50	NAR	04/09/15 20:42	2.42	100	CD50830
Silver	**0.54** (0.41)		6010C		1	KJK	04/09/15 14:20	2.42	100	CD50830
Thallium	ND (0.33)		7010		4	KJK	04/10/15 11:14	2.42	100	CD50830
Vanadium	**53.2** (0.83)		6010C		1	KJK	04/09/15 14:20	2.42	100	CD50830
Zinc	**227** (2.07)		6010C		1	KJK	04/09/15 14:20	2.42	100	CD50830

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-215 4ft-6ft
Date Sampled: 03/30/15 10:40
Percent Solids: 100

ESS Laboratory Work Order: 1503559
ESS Laboratory Sample ID: 1503559-17
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (4.12)		6010C		1	KJK	04/09/15 14:26	2.43	100	CD50830
Arsenic	**2.73** (2.06)		6010C		1	KJK	04/09/15 14:26	2.43	100	CD50830
Barium	**10.7** (2.06)		6010C		1	KJK	04/09/15 14:26	2.43	100	CD50830
Beryllium	**0.19** (0.09)		6010C		1	KJK	04/09/15 14:26	2.43	100	CD50830
Cadmium	ND (0.41)		6010C		1	KJK	04/09/15 14:26	2.43	100	CD50830
Chromium	**10.5** (0.82)		6010C		1	KJK	04/09/15 14:26	2.43	100	CD50830
Lead	ND (4.12)		6010C		1	KJK	04/09/15 14:26	2.43	100	CD50830
Mercury	ND (0.031)		7471B		1	BJV	04/09/15 13:44	0.63	40	CD50831
Nickel	**6.56** (2.06)		6010C		1	NAR	04/09/15 14:26	2.43	100	CD50830
Selenium	ND (8.23)		6020A		50	NAR	04/09/15 20:47	2.43	100	CD50830
Silver	ND (0.41)		6010C		1	KJK	04/09/15 14:26	2.43	100	CD50830
Thallium	ND (0.33)		7010		4	KJK	04/10/15 11:20	2.43	100	CD50830
Vanadium	**15.3** (0.82)		6010C		1	KJK	04/09/15 14:26	2.43	100	CD50830
Zinc	**28.8** (2.06)		6010C		1	KJK	04/09/15 14:26	2.43	100	CD50830

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-215 0ft-3ft
Date Sampled: 03/30/15 10:40
Percent Solids: 100

ESS Laboratory Work Order: 1503559
ESS Laboratory Sample ID: 1503559-18
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (4.08)		6010C		1	KJK	04/09/15 14:31	2.45	100	CD50830
Arsenic	**8.17** (2.04)		6010C		1	KJK	04/09/15 14:31	2.45	100	CD50830
Barium	**21.3** (2.04)		6010C		1	KJK	04/09/15 14:31	2.45	100	CD50830
Beryllium	**0.23** (0.09)		6010C		1	KJK	04/09/15 14:31	2.45	100	CD50830
Cadmium	**0.92** (0.41)		6010C		1	KJK	04/09/15 14:31	2.45	100	CD50830
Chromium	**14.7** (0.82)		6010C		1	KJK	04/09/15 14:31	2.45	100	CD50830
Lead	**42.7** (4.08)		6010C		1	KJK	04/09/15 14:31	2.45	100	CD50830
Mercury	**0.221** (0.030)		7471B		1	BJV	04/09/15 13:46	0.65	40	CD50831
Nickel	**7.87** (2.04)		6010C		1	NAR	04/09/15 14:31	2.45	100	CD50830
Selenium	ND (8.16)		6020A		50	NAR	04/09/15 20:53	2.45	100	CD50830
Silver	ND (0.41)		6010C		1	KJK	04/09/15 14:31	2.45	100	CD50830
Thallium	ND (0.33)		7010		4	KJK	04/10/15 11:43	2.45	100	CD50830
Vanadium	**22.6** (0.82)		6010C		1	KJK	04/09/15 14:31	2.45	100	CD50830
Zinc	**406** (2.04)		6010C		1	KJK	04/09/15 14:31	2.45	100	CD50830

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-224 0ft-0.5ft
Date Sampled: 03/30/15 09:45
Percent Solids: 98
Initial Volume: 26.4
Final Volume: 2
Extraction Method: 3540C

ESS Laboratory Work Order: 1503559
ESS Laboratory Sample ID: 1503559-19
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 4/6/15 18:00
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0077)		8082A		1	04/07/15 18:32		CD50616
Aroclor 1221	ND (0.0077)		8082A		1	04/07/15 18:32		CD50616
Aroclor 1232	ND (0.0077)		8082A		1	04/07/15 18:32		CD50616
Aroclor 1242	ND (0.0077)		8082A		1	04/07/15 18:32		CD50616
Aroclor 1248	**0.0423** (0.0077)		8082A		1	04/07/15 18:32		CD50616
Aroclor 1254	**P 0.110** (0.0077)		8082A		1	04/07/15 18:32		CD50616
Aroclor 1260	**0.0564** (0.0077)		8082A		1	04/07/15 18:32		CD50616
Aroclor 1262	ND (0.0077)		8082A		1	04/07/15 18:32		CD50616
Aroclor 1268	ND (0.0077)		8082A		1	04/07/15 18:32		CD50616

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*68 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*73 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*70 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*50 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-224 0.5ft-2ft
Date Sampled: 03/30/15 09:45
Percent Solids: 97
Initial Volume: 25
Final Volume: 2
Extraction Method: 3540C

ESS Laboratory Work Order: 1503559
ESS Laboratory Sample ID: 1503559-20
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 4/6/15 18:00
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0082)		8082A		1	04/07/15 18:51		CD50616
Aroclor 1221	ND (0.0082)		8082A		1	04/07/15 18:51		CD50616
Aroclor 1232	ND (0.0082)		8082A		1	04/07/15 18:51		CD50616
Aroclor 1242	ND (0.0082)		8082A		1	04/07/15 18:51		CD50616
Aroclor 1248	**0.0211** (0.0082)		8082A		1	04/07/15 18:51		CD50616
Aroclor 1254	**P 0.0174** (0.0082)		8082A		1	04/07/15 18:51		CD50616
Aroclor 1260	ND (0.0082)		8082A		1	04/07/15 18:51		CD50616
Aroclor 1262	ND (0.0082)		8082A		1	04/07/15 18:51		CD50616
Aroclor 1268	ND (0.0082)		8082A		1	04/07/15 18:51		CD50616

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*33 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*31 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*37 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*26 %*	*S-*	*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-214 0ft-0.5ft
Date Sampled: 03/30/15 10:10
Percent Solids: 99
Initial Volume: 27.4
Final Volume: 2
Extraction Method: 3540C

ESS Laboratory Work Order: 1503559
ESS Laboratory Sample ID: 1503559-21
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 4/6/15 18:00
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0074)		8082A		1	04/07/15 19:10		CD50616
Aroclor 1221	ND (0.0074)		8082A		1	04/07/15 19:10		CD50616
Aroclor 1232	ND (0.0074)		8082A		1	04/07/15 19:10		CD50616
Aroclor 1242	ND (0.0074)		8082A		1	04/07/15 19:10		CD50616
Aroclor 1248	**P 0.0924** (0.0074)		8082A		1	04/07/15 19:10		CD50616
Aroclor 1254	**0.247** (0.0369)		8082A		5	04/08/15 16:29		CD50616
Aroclor 1260	**0.0962** (0.0074)		8082A		1	04/07/15 19:10		CD50616
Aroclor 1262	ND (0.0074)		8082A		1	04/07/15 19:10		CD50616
Aroclor 1268	ND (0.0074)		8082A		1	04/07/15 19:10		CD50616

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*106 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*121 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*61 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*44 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-214 2ft-4ft
Date Sampled: 03/30/15 10:10
Percent Solids: 99
Initial Volume: 24.4
Final Volume: 2
Extraction Method: 3540C

ESS Laboratory Work Order: 1503559
ESS Laboratory Sample ID: 1503559-22
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 4/6/15 18:00
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0083)		8082A		1	04/07/15 17:37		CD50616
Aroclor 1221	ND (0.0083)		8082A		1	04/07/15 17:37		CD50616
Aroclor 1232	ND (0.0083)		8082A		1	04/07/15 17:37		CD50616
Aroclor 1242	ND (0.0083)		8082A		1	04/07/15 17:37		CD50616
Aroclor 1248	ND (0.0083)		8082A		1	04/07/15 17:37		CD50616
Aroclor 1254	ND (0.0083)		8082A		1	04/07/15 17:37		CD50616
Aroclor 1260	ND (0.0083)		8082A		1	04/07/15 17:37		CD50616
Aroclor 1262	ND (0.0083)		8082A		1	04/07/15 17:37		CD50616
Aroclor 1268	ND (0.0083)		8082A		1	04/07/15 17:37		CD50616

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*81 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*75 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*80 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*79 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-214 4ft-6ft
Date Sampled: 03/30/15 10:10
Percent Solids: 99
Initial Volume: 26
Final Volume: 2
Extraction Method: 3540C

ESS Laboratory Work Order: 1503559
ESS Laboratory Sample ID: 1503559-23
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 4/6/15 18:00
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0077)		8082A		1	04/07/15 17:56		CD50616
Aroclor 1221	ND (0.0077)		8082A		1	04/07/15 17:56		CD50616
Aroclor 1232	ND (0.0077)		8082A		1	04/07/15 17:56		CD50616
Aroclor 1242	ND (0.0077)		8082A		1	04/07/15 17:56		CD50616
Aroclor 1248	ND (0.0077)		8082A		1	04/07/15 17:56		CD50616
Aroclor 1254	ND (0.0077)		8082A		1	04/07/15 17:56		CD50616
Aroclor 1260	ND (0.0077)		8082A		1	04/07/15 17:56		CD50616
Aroclor 1262	ND (0.0077)		8082A		1	04/07/15 17:56		CD50616
Aroclor 1268	ND (0.0077)		8082A		1	04/07/15 17:56		CD50616

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*88 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*87 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*91 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*84 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-215 0ft-0.5ft
Date Sampled: 03/30/15 10:40
Percent Solids: 99
Initial Volume: 25.1
Final Volume: 2
Extraction Method: 3540C

ESS Laboratory Work Order: 1503559
ESS Laboratory Sample ID: 1503559-24
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 4/6/15 18:00
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0081)		8082A		1	04/07/15 18:15		CD50616
Aroclor 1221	ND (0.0081)		8082A		1	04/07/15 18:15		CD50616
Aroclor 1232	ND (0.0081)		8082A		1	04/07/15 18:15		CD50616
Aroclor 1242	ND (0.0081)		8082A		1	04/07/15 18:15		CD50616
Aroclor 1248	**LC, P 0.122** (0.0404)		8082A		5	04/08/15 16:48		CD50616
Aroclor 1254	**0.435** (0.0404)		8082A		5	04/08/15 16:48		CD50616
Aroclor 1260	**0.167** (0.0404)		8082A		5	04/08/15 16:48		CD50616
Aroclor 1262	ND (0.0081)		8082A		1	04/07/15 18:15		CD50616
Aroclor 1268	ND (0.0081)		8082A		1	04/07/15 18:15		CD50616

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*126 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*84 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*74 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*74 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-215 0ft-3ft
Date Sampled: 03/30/15 10:40
Percent Solids: 99
Initial Volume: 24.2
Final Volume: 2
Extraction Method: 3540C

ESS Laboratory Work Order: 1503559
ESS Laboratory Sample ID: 1503559-25
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TAJ
Prepared: 4/6/15 18:00
Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0083)		8082A		1	04/07/15 18:34		CD50616
Aroclor 1221	ND (0.0083)		8082A		1	04/07/15 18:34		CD50616
Aroclor 1232	ND (0.0083)		8082A		1	04/07/15 18:34		CD50616
Aroclor 1242	ND (0.0083)		8082A		1	04/07/15 18:34		CD50616
Aroclor 1248	ND (0.0083)		8082A		1	04/07/15 18:34		CD50616
Aroclor 1254	ND (0.0083)		8082A		1	04/07/15 18:34		CD50616
Aroclor 1260	ND (0.0083)		8082A		1	04/07/15 18:34		CD50616
Aroclor 1262	ND (0.0083)		8082A		1	04/07/15 18:34		CD50616
Aroclor 1268	ND (0.0083)		8082A		1	04/07/15 18:34		CD50616

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*88 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*89 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*81 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*79 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503559

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Total Metals										
Batch CD50830 - 3050B										
Blank										
Antimony	ND	5.00	mg/kg wet							
Antimony	ND	5.00	mg/kg wet							
Arsenic	ND	2.50	mg/kg wet							
Arsenic	ND	0.25	mg/kg wet							
Arsenic	ND	2.50	mg/kg wet							
Barium	ND	2.50	mg/kg wet							
Barium	ND	2.50	mg/kg wet							
Beryllium	ND	0.11	mg/kg wet							
Beryllium	ND	0.50	mg/kg wet							
Cadmium	ND	0.50	mg/kg wet							
Cadmium	ND	0.50	mg/kg wet							
Cadmium	ND	0.50	mg/kg wet							
Chromium	ND	1.00	mg/kg wet							
Chromium	ND	1.00	mg/kg wet							
Lead	ND	5.00	mg/kg wet							
Lead	ND	5.00	mg/kg wet							
Nickel	ND	2.50	mg/kg wet							
Selenium	ND	0.50	mg/kg wet							
Selenium	ND	10.0	mg/kg wet							
Silver	ND	0.50	mg/kg wet							
Silver	ND	0.50	mg/kg wet							
Thallium	ND	0.25	mg/kg wet							
Vanadium	ND	1.00	mg/kg wet							
Zinc	ND	2.50	mg/kg wet							
LCS										
Antimony	51.0	18.5	mg/kg wet	49.70		103	80-120			
Antimony	48.9	18.5	mg/kg wet	49.70		98	80-120			
Arsenic	111	46.3	mg/kg wet	133.0		84	80-120			
Arsenic	115	9.26	mg/kg wet	133.0		86	80-120			
Arsenic	115	9.26	mg/kg wet	133.0		86	80-120			
Barium	198	9.26	mg/kg wet	229.0		87	80-120			
Barium	198	9.26	mg/kg wet	229.0		87	80-120			
Beryllium	76.4	1.85	mg/kg wet	95.80		80	80-120			
Beryllium	84.6	0.41	mg/kg wet	95.80		88	80-120			
Cadmium	98.7	1.85	mg/kg wet	123.0		80	80-120			
Cadmium	98.7	1.85	mg/kg wet	123.0		80	80-120			
Cadmium	95.0	1.85	mg/kg wet	123.0		77	73-127			
Chromium	52.9	3.70	mg/kg wet	63.20		84	80-120			
Chromium	52.9	3.70	mg/kg wet	63.20		84	80-120			
Lead	92.1	18.5	mg/kg wet	108.0		85	80-120			
Lead	92.1	18.5	mg/kg wet	108.0		85	80-120			
Nickel	250	9.26	mg/kg wet	285.0		88	80-120			
Selenium	65.9	37.0	mg/kg wet	81.40		81	80-120			
Selenium	96.7	18.5	mg/kg wet	81.40		119	80-120			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503559

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Total Metals										
Batch CD50830 - 3050B										
Silver	68.6	1.85	mg/kg wet	74.80		92	80-120			
Silver	68.6	1.85	mg/kg wet	74.80		92	80-120			
Thallium	45.9	9.26	mg/kg wet	50.10		92	80-120			
Vanadium	130	3.70	mg/kg wet	148.0		88	80-120			
Zinc	168	9.26	mg/kg wet	203.0		83	80-120			
LCS Dup										
Antimony	50.7	18.9	mg/kg wet	49.70		102	80-120	4	30	
Antimony	51.9	18.9	mg/kg wet	49.70		104	80-120	2	20	
Arsenic	117	9.43	mg/kg wet	133.0		88	80-120	2	20	
Arsenic	117	9.43	mg/kg wet	133.0		88	80-120	2	20	
Arsenic	121	47.2	mg/kg wet	133.0		91	80-120	9	20	
Barium	187	9.43	mg/kg wet	229.0		82	80-120	6	20	
Barium	187	9.43	mg/kg wet	229.0		82	80-120	6	20	
Beryllium	85.6	0.42	mg/kg wet	95.80		89	80-120	1	20	
Beryllium	78.3	1.89	mg/kg wet	95.80		82	80-120	2	30	
Cadmium	104	1.89	mg/kg wet	123.0		85	80-120	9	30	
Cadmium	100	1.89	mg/kg wet	123.0		82	80-120	2	20	
Cadmium	100	1.89	mg/kg wet	123.0		82	80-120	2	20	
Chromium	53.5	3.77	mg/kg wet	63.20		85	80-120	1	20	
Chromium	53.5	3.77	mg/kg wet	63.20		85	80-120	1	20	
Lead	95.7	18.9	mg/kg wet	108.0		89	80-120	4	20	
Lead	95.7	18.9	mg/kg wet	108.0		89	80-120	4	20	
Nickel	253	9.43	mg/kg wet	285.0		89	80-120	1	20	
Selenium	70.1	37.7	mg/kg wet	81.40		86	80-120	6	30	
Selenium	99.4	18.9	mg/kg wet	81.40		122	64-136	3	20	
Silver	68.9	1.89	mg/kg wet	74.80		92	80-120	0.4	20	
Silver	68.9	1.89	mg/kg wet	74.80		92	80-120	0.4	20	
Thallium	52.0	28.3	mg/kg wet	50.10		104	80-120	13	20	
Vanadium	134	3.77	mg/kg wet	148.0		91	80-120	4	20	
Zinc	177	9.43	mg/kg wet	203.0		87	80-120	5	20	
Batch CD50831 - 7471A										
Blank										
Mercury	ND	0.033	mg/kg wet							
Mercury	ND	0.033	mg/kg wet							
LCS										
Mercury	26.6	3.81	mg/kg wet	24.90		107	80-120			
Mercury	26.6	3.81	mg/kg wet	24.90		107	80-120			
LCS Dup										
Mercury	27.2	3.81	mg/kg wet	24.90		109	80-120	2	20	
Mercury	27.2	3.81	mg/kg wet	24.90		109	80-120	2	20	
5035/8260B Volatile Organic Compounds / Low Level										
Batch CD50239 - 5035										
Blank										

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503559

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch CD50239 - 5035										
1,1,1,2-Tetrachloroethane	ND	0.0050	mg/kg wet							
1,1,1-Trichloroethane	ND	0.0050	mg/kg wet							
1,1,2,2-Tetrachloroethane	ND	0.0020	mg/kg wet							
1,1,2-Trichloroethane	ND	0.0050	mg/kg wet							
1,1-Dichloroethane	ND	0.0050	mg/kg wet							
1,1-Dichloroethene	ND	0.0050	mg/kg wet							
1,1-Dichloropropene	ND	0.0050	mg/kg wet							
1,2,3-Trichlorobenzene	ND	0.0050	mg/kg wet							
1,2,3-Trichloropropane	ND	0.0050	mg/kg wet							
1,2,4-Trichlorobenzene	ND	0.0050	mg/kg wet							
1,2,4-Trimethylbenzene	ND	0.0050	mg/kg wet							
1,2-Dibromo-3-Chloropropane	ND	0.0050	mg/kg wet							
1,2-Dibromoethane	ND	0.0050	mg/kg wet							
1,2-Dichlorobenzene	ND	0.0050	mg/kg wet							
1,2-Dichloroethane	ND	0.0050	mg/kg wet							
1,2-Dichloropropane	ND	0.0050	mg/kg wet							
1,3,5-Trimethylbenzene	ND	0.0050	mg/kg wet							
1,3-Dichlorobenzene	ND	0.0050	mg/kg wet							
1,3-Dichloropropane	ND	0.0050	mg/kg wet							
1,4-Dichlorobenzene	ND	0.0050	mg/kg wet							
1,4-Dioxane	ND	0.100	mg/kg wet							
2,2-Dichloropropane	ND	0.0050	mg/kg wet							
2-Butanone	ND	0.0100	mg/kg wet							
2-Chlorotoluene	ND	0.0050	mg/kg wet							
2-Hexanone	ND	0.0100	mg/kg wet							
4-Chlorotoluene	ND	0.0050	mg/kg wet							
4-Isopropyltoluene	ND	0.0050	mg/kg wet							
4-Methyl-2-Pentanone	ND	0.0100	mg/kg wet							
Acetone	ND	0.0100	mg/kg wet							
Benzene	ND	0.0050	mg/kg wet							
Bromobenzene	ND	0.0050	mg/kg wet							
Bromochloromethane	ND	0.0050	mg/kg wet							
Bromodichloromethane	ND	0.0050	mg/kg wet							
Bromoform	ND	0.0050	mg/kg wet							
Bromomethane	ND	0.0100	mg/kg wet							
Carbon Disulfide	ND	0.0050	mg/kg wet							
Carbon Tetrachloride	ND	0.0050	mg/kg wet							
Chlorobenzene	ND	0.0050	mg/kg wet							
Chloroethane	ND	0.0100	mg/kg wet							
Chloroform	ND	0.0050	mg/kg wet							
Chloromethane	ND	0.0100	mg/kg wet							
cis-1,2-Dichloroethene	ND	0.0050	mg/kg wet							
cis-1,3-Dichloropropene	ND	0.0050	mg/kg wet							
Dibromochloromethane	ND	0.0020	mg/kg wet							
Dibromomethane	ND	0.0050	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503559

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch CD50239 - 5035										
Dichlorodifluoromethane	ND	0.0100	mg/kg wet							
Diethyl Ether	ND	0.0050	mg/kg wet							
Di-isopropyl ether	ND	0.0050	mg/kg wet							
Ethyl tertiary-butyl ether	ND	0.0050	mg/kg wet							
Ethylbenzene	ND	0.0050	mg/kg wet							
Hexachlorobutadiene	ND	0.0050	mg/kg wet							
Isopropylbenzene	ND	0.0050	mg/kg wet							
Methyl tert-Butyl Ether	ND	0.0050	mg/kg wet							
Methylene Chloride	ND	0.0100	mg/kg wet							
Naphthalene	ND	0.0050	mg/kg wet							
n-Butylbenzene	ND	0.0050	mg/kg wet							
n-Propylbenzene	ND	0.0050	mg/kg wet							
sec-Butylbenzene	ND	0.0050	mg/kg wet							
Styrene	ND	0.0050	mg/kg wet							
tert-Butylbenzene	ND	0.0050	mg/kg wet							
Tertiary-amyl methyl ether	ND	0.0050	mg/kg wet							
Tetrachloroethene	ND	0.0050	mg/kg wet							
Tetrahydrofuran	ND	0.0050	mg/kg wet							
Toluene	ND	0.0050	mg/kg wet							
trans-1,2-Dichloroethene	ND	0.0050	mg/kg wet							
trans-1,3-Dichloropropene	ND	0.0050	mg/kg wet							
Trichloroethene	ND	0.0050	mg/kg wet							
Trichlorofluoromethane	ND	0.0050	mg/kg wet							
Vinyl Chloride	ND	0.0100	mg/kg wet							
Xylene O	ND	0.0050	mg/kg wet							
Xylene P,M	ND	0.0100	mg/kg wet							
Surrogate: 1,2-Dichloroethane-d4	*0.0453*		mg/kg wet	*0.05000*		*91*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0460*		mg/kg wet	*0.05000*		*92*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0436*		mg/kg wet	*0.05000*		*87*	*70-130*			
Surrogate: Toluene-d8	*0.0446*		mg/kg wet	*0.05000*		*89*	*70-130*			
LCS										
1,1,1,2-Tetrachloroethane	0.0541	0.0050	mg/kg wet	0.05000		108	70-130			
1,1,1-Trichloroethane	0.0498	0.0050	mg/kg wet	0.05000		100	70-130			
1,1,2,2-Tetrachloroethane	0.0491	0.0020	mg/kg wet	0.05000		98	70-130			
1,1,2-Trichloroethane	0.0454	0.0050	mg/kg wet	0.05000		91	70-130			
1,1-Dichloroethane	0.0446	0.0050	mg/kg wet	0.05000		89	70-130			
1,1-Dichloroethene	0.0423	0.0050	mg/kg wet	0.05000		85	70-130			
1,1-Dichloropropene	0.0434	0.0050	mg/kg wet	0.05000		87	70-130			
1,2,3-Trichlorobenzene	0.0512	0.0050	mg/kg wet	0.05000		102	70-130			
1,2,3-Trichloropropane	0.0520	0.0050	mg/kg wet	0.05000		104	70-130			
1,2,4-Trichlorobenzene	0.0508	0.0050	mg/kg wet	0.05000		102	70-130			
1,2,4-Trimethylbenzene	0.0471	0.0050	mg/kg wet	0.05000		94	70-130			
1,2-Dibromo-3-Chloropropane	0.0575	0.0050	mg/kg wet	0.05000		115	70-130			
1,2-Dibromoethane	0.0517	0.0050	mg/kg wet	0.05000		103	70-130			
1,2-Dichlorobenzene	0.0477	0.0050	mg/kg wet	0.05000		95	70-130			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503559

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch CD50239 - 5035										
1,2-Dichloroethane	0.0480	0.0050	mg/kg wet	0.05000		96	70-130			
1,2-Dichloropropane	0.0430	0.0050	mg/kg wet	0.05000		86	70-130			
1,3,5-Trimethylbenzene	0.0494	0.0050	mg/kg wet	0.05000		99	70-130			
1,3-Dichlorobenzene	0.0478	0.0050	mg/kg wet	0.05000		96	70-130			
1,3-Dichloropropane	0.0525	0.0050	mg/kg wet	0.05000		105	70-130			
1,4-Dichlorobenzene	0.0492	0.0050	mg/kg wet	0.05000		98	70-130			
1,4-Dioxane	0.959	0.100	mg/kg wet	1.000		96	70-130			
2,2-Dichloropropane	0.0514	0.0050	mg/kg wet	0.05000		103	70-130			
2-Butanone	0.232	0.0100	mg/kg wet	0.2500		93	70-130			
2-Chlorotoluene	0.0475	0.0050	mg/kg wet	0.05000		95	70-130			
2-Hexanone	0.270	0.0100	mg/kg wet	0.2500		108	70-130			
4-Chlorotoluene	0.0481	0.0050	mg/kg wet	0.05000		96	70-130			
4-Isopropyltoluene	0.0478	0.0050	mg/kg wet	0.05000		96	70-130			
4-Methyl-2-Pentanone	0.236	0.0100	mg/kg wet	0.2500		94	70-130			
Acetone	0.273	0.0100	mg/kg wet	0.2500		109	70-130			
Benzene	0.0443	0.0050	mg/kg wet	0.05000		89	70-130			
Bromobenzene	0.0489	0.0050	mg/kg wet	0.05000		98	70-130			
Bromochloromethane	0.0469	0.0050	mg/kg wet	0.05000		94	70-130			
Bromodichloromethane	0.0501	0.0050	mg/kg wet	0.05000		100	70-130			
Bromoform	0.0525	0.0050	mg/kg wet	0.05000		105	70-130			
Bromomethane	0.0877	0.0100	mg/kg wet	0.05000		175	70-130			B+
Carbon Disulfide	0.0472	0.0050	mg/kg wet	0.05000		94	70-130			
Carbon Tetrachloride	0.0525	0.0050	mg/kg wet	0.05000		105	70-130			
Chlorobenzene	0.0482	0.0050	mg/kg wet	0.05000		96	70-130			
Chloroethane	0.0412	0.0100	mg/kg wet	0.05000		82	70-130			
Chloroform	0.0477	0.0050	mg/kg wet	0.05000		95	70-130			
Chloromethane	0.0508	0.0100	mg/kg wet	0.05000		102	70-130			
cis-1,2-Dichloroethene	0.0462	0.0050	mg/kg wet	0.05000		92	70-130			
cis-1,3-Dichloropropene	0.0527	0.0050	mg/kg wet	0.05000		105	70-130			
Dibromochloromethane	0.0515	0.0020	mg/kg wet	0.05000		103	70-130			
Dibromomethane	0.0471	0.0050	mg/kg wet	0.05000		94	70-130			
Dichlorodifluoromethane	0.0460	0.0100	mg/kg wet	0.05000		92	70-130			
Diethyl Ether	0.0459	0.0050	mg/kg wet	0.05000		92	70-130			
Di-isopropyl ether	0.0445	0.0050	mg/kg wet	0.05000		89	70-130			
Ethyl tertiary-butyl ether	0.0445	0.0050	mg/kg wet	0.05000		89	70-130			
Ethylbenzene	0.0484	0.0050	mg/kg wet	0.05000		97	70-130			
Hexachlorobutadiene	0.0559	0.0050	mg/kg wet	0.05000		112	70-130			
Isopropylbenzene	0.0477	0.0050	mg/kg wet	0.05000		95	70-130			
Methyl tert-Butyl Ether	0.0477	0.0050	mg/kg wet	0.05000		95	70-130			
Methylene Chloride	0.0443	0.0100	mg/kg wet	0.05000		89	70-130			
Naphthalene	0.0460	0.0050	mg/kg wet	0.05000		92	70-130			
n-Butylbenzene	0.0482	0.0050	mg/kg wet	0.05000		96	70-130			
n-Propylbenzene	0.0469	0.0050	mg/kg wet	0.05000		94	70-130			
sec-Butylbenzene	0.0476	0.0050	mg/kg wet	0.05000		95	70-130			
Styrene	0.0492	0.0050	mg/kg wet	0.05000		98	70-130			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503559

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch CD50239 - 5035										
tert-Butylbenzene	0.0478	0.0050	mg/kg wet	0.05000		96	70-130			
Tertiary-amyl methyl ether	0.0469	0.0050	mg/kg wet	0.05000		94	70-130			
Tetrachloroethene	0.0494	0.0050	mg/kg wet	0.05000		99	70-130			
Tetrahydrofuran	0.0447	0.0050	mg/kg wet	0.05000		89	70-130			
Toluene	0.0443	0.0050	mg/kg wet	0.05000		89	70-130			
trans-1,2-Dichloroethene	0.0409	0.0050	mg/kg wet	0.05000		82	70-130			
trans-1,3-Dichloropropene	0.0528	0.0050	mg/kg wet	0.05000		106	70-130			
Trichloroethene	0.0454	0.0050	mg/kg wet	0.05000		91	70-130			
Trichlorofluoromethane	0.0433	0.0050	mg/kg wet	0.05000		87	70-130			
Vinyl Chloride	0.0442	0.0100	mg/kg wet	0.05000		88	70-130			
Xylene O	0.0479	0.0050	mg/kg wet	0.05000		96	70-130			
Xylene P,M	0.0967	0.0100	mg/kg wet	0.1000		97	70-130			
Surrogate: 1,2-Dichloroethane-d4	*0.0464*		mg/kg wet	*0.05000*		*93*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0469*		mg/kg wet	*0.05000*		*94*	*70-130*			
Surrogate: Dibromofluoromethane	*0.0447*		mg/kg wet	*0.05000*		*89*	*70-130*			
Surrogate: Toluene-d8	*0.0493*		mg/kg wet	*0.05000*		*99*	*70-130*			
LCS Dup										
1,1,1,2-Tetrachloroethane	0.0545	0.0050	mg/kg wet	0.05000		109	70-130	0.8	25	
1,1,1-Trichloroethane	0.0512	0.0050	mg/kg wet	0.05000		102	70-130	3	25	
1,1,2,2-Tetrachloroethane	0.0483	0.0020	mg/kg wet	0.05000		97	70-130	2	25	
1,1,2-Trichloroethane	0.0460	0.0050	mg/kg wet	0.05000		92	70-130	1	25	
1,1-Dichloroethane	0.0452	0.0050	mg/kg wet	0.05000		90	70-130	1	25	
1,1-Dichloroethene	0.0435	0.0050	mg/kg wet	0.05000		87	70-130	3	25	
1,1-Dichloropropene	0.0437	0.0050	mg/kg wet	0.05000		87	70-130	0.9	25	
1,2,3-Trichlorobenzene	0.0506	0.0050	mg/kg wet	0.05000		101	70-130	1	25	
1,2,3-Trichloropropane	0.0510	0.0050	mg/kg wet	0.05000		102	70-130	2	25	
1,2,4-Trichlorobenzene	0.0507	0.0050	mg/kg wet	0.05000		101	70-130	0.08	25	
1,2,4-Trimethylbenzene	0.0477	0.0050	mg/kg wet	0.05000		95	70-130	1	25	
1,2-Dibromo-3-Chloropropane	0.0445	0.0050	mg/kg wet	0.05000		89	70-130	25	25	
1,2-Dibromoethane	0.0509	0.0050	mg/kg wet	0.05000		102	70-130	1	25	
1,2-Dichlorobenzene	0.0477	0.0050	mg/kg wet	0.05000		95	70-130	0.04	25	
1,2-Dichloroethane	0.0490	0.0050	mg/kg wet	0.05000		98	70-130	2	25	
1,2-Dichloropropane	0.0443	0.0050	mg/kg wet	0.05000		89	70-130	3	25	
1,3,5-Trimethylbenzene	0.0498	0.0050	mg/kg wet	0.05000		100	70-130	0.8	25	
1,3-Dichlorobenzene	0.0481	0.0050	mg/kg wet	0.05000		96	70-130	0.7	25	
1,3-Dichloropropane	0.0520	0.0050	mg/kg wet	0.05000		104	70-130	0.9	25	
1,4-Dichlorobenzene	0.0493	0.0050	mg/kg wet	0.05000		99	70-130	0.3	25	
1,4-Dioxane	0.954	0.100	mg/kg wet	1.000		95	70-130	0.5	20	
2,2-Dichloropropane	0.0527	0.0050	mg/kg wet	0.05000		105	70-130	2	25	
2-Butanone	0.233	0.0100	mg/kg wet	0.2500		93	70-130	0.2	25	
2-Chlorotoluene	0.0481	0.0050	mg/kg wet	0.05000		96	70-130	1	25	
2-Hexanone	0.262	0.0100	mg/kg wet	0.2500		105	70-130	3	25	
4-Chlorotoluene	0.0484	0.0050	mg/kg wet	0.05000		97	70-130	0.6	25	
4-Isopropyltoluene	0.0481	0.0050	mg/kg wet	0.05000		96	70-130	0.7	25	
4-Methyl-2-Pentanone	0.232	0.0100	mg/kg wet	0.2500		93	70-130	2	25	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503559

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch CD50239 - 5035										
Acetone	0.265	0.0100	mg/kg wet	0.2500		106	70-130	3	25	
Benzene	0.0450	0.0050	mg/kg wet	0.05000		90	70-130	2	25	
Bromobenzene	0.0487	0.0050	mg/kg wet	0.05000		97	70-130	0.3	25	
Bromochloromethane	0.0472	0.0050	mg/kg wet	0.05000		94	70-130	0.6	25	
Bromodichloromethane	0.0509	0.0050	mg/kg wet	0.05000		102	70-130	2	25	
Bromoform	0.0517	0.0050	mg/kg wet	0.05000		103	70-130	2	25	
Bromomethane	0.0784	0.0100	mg/kg wet	0.05000		157	70-130	11	25	B+
Carbon Disulfide	0.0485	0.0050	mg/kg wet	0.05000		97	70-130	3	25	
Carbon Tetrachloride	0.0534	0.0050	mg/kg wet	0.05000		107	70-130	2	25	
Chlorobenzene	0.0487	0.0050	mg/kg wet	0.05000		97	70-130	1	25	
Chloroethane	0.0417	0.0100	mg/kg wet	0.05000		83	70-130	1	25	
Chloroform	0.0479	0.0050	mg/kg wet	0.05000		96	70-130	0.5	25	
Chloromethane	0.0520	0.0100	mg/kg wet	0.05000		104	70-130	2	25	
cis-1,2-Dichloroethene	0.0466	0.0050	mg/kg wet	0.05000		93	70-130	1	25	
cis-1,3-Dichloropropene	0.0535	0.0050	mg/kg wet	0.05000		107	70-130	2	25	
Dibromochloromethane	0.0516	0.0020	mg/kg wet	0.05000		103	70-130	0.3	25	
Dibromomethane	0.0475	0.0050	mg/kg wet	0.05000		95	70-130	0.8	25	
Dichlorodifluoromethane	0.0472	0.0100	mg/kg wet	0.05000		94	70-130	2	25	
Diethyl Ether	0.0466	0.0050	mg/kg wet	0.05000		93	70-130	2	25	
Di-isopropyl ether	0.0454	0.0050	mg/kg wet	0.05000		91	70-130	2	25	
Ethyl tertiary-butyl ether	0.0453	0.0050	mg/kg wet	0.05000		91	70-130	2	25	
Ethylbenzene	0.0485	0.0050	mg/kg wet	0.05000		97	70-130	0.3	25	
Hexachlorobutadiene	0.0557	0.0050	mg/kg wet	0.05000		111	70-130	0.3	25	
Isopropylbenzene	0.0480	0.0050	mg/kg wet	0.05000		96	70-130	0.7	25	
Methyl tert-Butyl Ether	0.0483	0.0050	mg/kg wet	0.05000		97	70-130	1	25	
Methylene Chloride	0.0449	0.0100	mg/kg wet	0.05000		90	70-130	1	25	
Naphthalene	0.0454	0.0050	mg/kg wet	0.05000		91	70-130	1	25	
n-Butylbenzene	0.0485	0.0050	mg/kg wet	0.05000		97	70-130	0.7	25	
n-Propylbenzene	0.0474	0.0050	mg/kg wet	0.05000		95	70-130	1	25	
sec-Butylbenzene	0.0477	0.0050	mg/kg wet	0.05000		95	70-130	0.1	25	
Styrene	0.0497	0.0050	mg/kg wet	0.05000		99	70-130	1	25	
tert-Butylbenzene	0.0481	0.0050	mg/kg wet	0.05000		96	70-130	0.7	25	
Tertiary-amyl methyl ether	0.0477	0.0050	mg/kg wet	0.05000		95	70-130	2	25	
Tetrachloroethene	0.0499	0.0050	mg/kg wet	0.05000		100	70-130	1	25	
Tetrahydrofuran	0.0439	0.0050	mg/kg wet	0.05000		88	70-130	2	25	
Toluene	0.0451	0.0050	mg/kg wet	0.05000		90	70-130	2	25	
trans-1,2-Dichloroethene	0.0418	0.0050	mg/kg wet	0.05000		84	70-130	2	25	
trans-1,3-Dichloropropene	0.0536	0.0050	mg/kg wet	0.05000		107	70-130	2	25	
Trichloroethene	0.0463	0.0050	mg/kg wet	0.05000		93	70-130	2	25	
Trichlorofluoromethane	0.0439	0.0050	mg/kg wet	0.05000		88	70-130	1	25	
Vinyl Chloride	0.0458	0.0100	mg/kg wet	0.05000		92	70-130	4	25	
Xylene O	0.0479	0.0050	mg/kg wet	0.05000		96	70-130	0	25	
Xylene P,M	0.0974	0.0100	mg/kg wet	0.1000		97	70-130	0.7	25	
Surrogate: 1,2-Dichloroethane-d4	*0.0474*		mg/kg wet	*0.05000*		*95*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0468*		mg/kg wet	*0.05000*		*94*	*70-130*			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503559

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch CD50239 - 5035										
Surrogate: Dibromofluoromethane	*0.0456*		mg/kg wet	*0.05000*		*91*	*70-130*			
Surrogate: Toluene-d8	*0.0491*		mg/kg wet	*0.05000*		*98*	*70-130*			
8082A Polychlorinated Biphenyls (PCB)										
Batch CD50616 - 3540C										
Blank										
Aroclor 1016	ND	0.0100	mg/kg wet							
Aroclor 1221	ND	0.0100	mg/kg wet							
Aroclor 1232	ND	0.0100	mg/kg wet							
Aroclor 1242	ND	0.0100	mg/kg wet							
Aroclor 1248	ND	0.0100	mg/kg wet							
Aroclor 1254	ND	0.0100	mg/kg wet							
Aroclor 1260	ND	0.0100	mg/kg wet							
Aroclor 1262	ND	0.0100	mg/kg wet							
Aroclor 1268	ND	0.0100	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.00429*		mg/kg wet	*0.005000*		*86*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.00467*		mg/kg wet	*0.005000*		*93*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.00393*		mg/kg wet	*0.005000*		*79*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.00365*		mg/kg wet	*0.005000*		*73*	*30-150*			
LCS										
Aroclor 1016	0.126	0.0100	mg/kg wet	0.1000		126	40-140			
Aroclor 1260	0.118	0.0100	mg/kg wet	0.1000		118	40-140			
Surrogate: Decachlorobiphenyl	*0.00426*		mg/kg wet	*0.005000*		*85*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.00497*		mg/kg wet	*0.005000*		*99*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.00393*		mg/kg wet	*0.005000*		*79*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.00396*		mg/kg wet	*0.005000*		*79*	*30-150*			
LCS Dup										
Aroclor 1016	0.139	0.0100	mg/kg wet	0.1000		139	40-140	9	30	
Aroclor 1260	0.130	0.0100	mg/kg wet	0.1000		130	40-140	10	30	
Surrogate: Decachlorobiphenyl	*0.00441*		mg/kg wet	*0.005000*		*88*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.00506*		mg/kg wet	*0.005000*		*101*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.00411*		mg/kg wet	*0.005000*		*82*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.00414*		mg/kg wet	*0.005000*		*83*	*30-150*			
8270D Semi-Volatile Organic Compounds										
Batch CD50735 - 3546										
Blank										
1,2,4-Trichlorobenzene	ND	0.333	mg/kg wet							
1,2-Dichlorobenzene	ND	0.333	mg/kg wet							
1,3-Dichlorobenzene	ND	0.333	mg/kg wet							
1,4-Dichlorobenzene	ND	0.333	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503559

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch CD50735 - 3546										
2,4,5-Trichlorophenol	ND	0.333	mg/kg wet							
2,4,6-Trichlorophenol	ND	0.333	mg/kg wet							
2,4-Dichlorophenol	ND	0.333	mg/kg wet							
2,4-Dimethylphenol	ND	0.333	mg/kg wet							
2,4-Dinitrophenol	ND	1.67	mg/kg wet							
2,4-Dinitrotoluene	ND	0.333	mg/kg wet							
2,6-Dinitrotoluene	ND	0.333	mg/kg wet							
2-Chloronaphthalene	ND	0.333	mg/kg wet							
2-Chlorophenol	ND	0.333	mg/kg wet							
2-Methylphenol	ND	0.333	mg/kg wet							
2-Nitrophenol	ND	0.333	mg/kg wet							
3,3´-Dichlorobenzidine	ND	0.667	mg/kg wet							
3+4-Methylphenol	ND	0.667	mg/kg wet							
4-Bromophenyl-phenylether	ND	0.333	mg/kg wet							
4-Chloroaniline	ND	0.667	mg/kg wet							
4-Nitrophenol	ND	1.67	mg/kg wet							
Acetophenone	ND	0.667	mg/kg wet							
Aniline	ND	1.67	mg/kg wet							
Azobenzene	ND	0.333	mg/kg wet							
bis(2-Chloroethoxy)methane	ND	0.333	mg/kg wet							
bis(2-Chloroethyl)ether	ND	0.333	mg/kg wet							
bis(2-chloroisopropyl)Ether	ND	0.333	mg/kg wet							
bis(2-Ethylhexyl)phthalate	ND	0.333	mg/kg wet							
Butylbenzylphthalate	ND	0.333	mg/kg wet							
Dibenzofuran	ND	0.333	mg/kg wet							
Diethylphthalate	ND	0.333	mg/kg wet							
Dimethylphthalate	ND	0.333	mg/kg wet							
Di-n-butylphthalate	ND	0.333	mg/kg wet							
Di-n-octylphthalate	ND	0.333	mg/kg wet							
Hexachlorobutadiene	ND	0.333	mg/kg wet							
Hexachloroethane	ND	0.333	mg/kg wet							
Isophorone	ND	0.333	mg/kg wet							
Nitrobenzene	ND	0.333	mg/kg wet							
N-Nitrosodimethylamine	ND	0.333	mg/kg wet							
Pentachlorophenol	ND	1.67	mg/kg wet							
Phenol	ND	0.333	mg/kg wet							
Surrogate: 1,2-Dichlorobenzene-d4	*1.84*		mg/kg wet	*3.333*		*55*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*2.56*		mg/kg wet	*5.000*		*51*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*2.67*		mg/kg wet	*5.000*		*53*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*1.87*		mg/kg wet	*3.333*		*56*	*30-130*			
Surrogate: 2-Fluorophenol	*2.55*		mg/kg wet	*5.000*		*51*	*30-130*			
Surrogate: Nitrobenzene-d5	*1.77*		mg/kg wet	*3.333*		*53*	*30-130*			
Surrogate: Phenol-d6	*2.67*		mg/kg wet	*5.000*		*53*	*30-130*			
Surrogate: p-Terphenyl-d14	*2.81*		mg/kg wet	*3.333*		*84*	*30-130*			
LCS										

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503559

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch CD50735 - 3546										
1,2,4-Trichlorobenzene	1.53	0.333	mg/kg wet	3.333		46	40-140			
1,2-Dichlorobenzene	1.52	0.333	mg/kg wet	3.333		45	40-140			
1,3-Dichlorobenzene	1.53	0.333	mg/kg wet	3.333		46	40-140			
1,4-Dichlorobenzene	1.50	0.333	mg/kg wet	3.333		45	40-140			
2,4,5-Trichlorophenol	2.49	0.333	mg/kg wet	3.333		75	30-130			
2,4,6-Trichlorophenol	2.28	0.333	mg/kg wet	3.333		68	30-130			
2,4-Dichlorophenol	1.82	0.333	mg/kg wet	3.333		54	30-130			
2,4-Dimethylphenol	1.82	0.333	mg/kg wet	3.333		55	30-130			
2,4-Dinitrophenol	2.38	1.67	mg/kg wet	3.333		71	30-130			
2,4-Dinitrotoluene	2.70	0.333	mg/kg wet	3.333		81	40-140			
2,6-Dinitrotoluene	2.43	0.333	mg/kg wet	3.333		73	40-140			
2-Chloronaphthalene	1.67	0.333	mg/kg wet	3.333		50	40-140			
2-Chlorophenol	1.53	0.333	mg/kg wet	3.333		46	30-130			
2-Methylphenol	1.57	0.333	mg/kg wet	3.333		47	30-130			
2-Nitrophenol	1.68	0.333	mg/kg wet	3.333		50	30-130			
3,3´-Dichlorobenzidine	2.41	0.667	mg/kg wet	3.333		72	40-140			
3+4-Methylphenol	3.34	0.667	mg/kg wet	6.667		50	30-130			
4-Bromophenyl-phenylether	2.52	0.333	mg/kg wet	3.333		76	40-140			
4-Chloroaniline	1.42	0.667	mg/kg wet	3.333		43	40-140			
4-Nitrophenol	2.51	1.67	mg/kg wet	3.333		75	30-130			
Acetophenone	1.66	0.667	mg/kg wet	3.333		50	40-140			
Aniline	1.19	1.67	mg/kg wet	3.333		36	40-140			B-
Azobenzene	2.34	0.333	mg/kg wet	3.333		70	40-140			
bis(2-Chloroethoxy)methane	1.59	0.333	mg/kg wet	3.333		48	40-140			
bis(2-Chloroethyl)ether	1.55	0.333	mg/kg wet	3.333		47	40-140			
bis(2-chloroisopropyl)Ether	1.49	0.333	mg/kg wet	3.333		45	40-140			
bis(2-Ethylhexyl)phthalate	2.91	0.333	mg/kg wet	3.333		87	40-140			
Butylbenzylphthalate	2.75	0.333	mg/kg wet	3.333		83	40-140			
Dibenzofuran	2.09	0.333	mg/kg wet	3.333		63	40-140			
Diethylphthalate	2.54	0.333	mg/kg wet	3.333		76	40-140			
Dimethylphthalate	2.32	0.333	mg/kg wet	3.333		70	40-140			
Di-n-butylphthalate	2.95	0.333	mg/kg wet	3.333		88	40-140			
Di-n-octylphthalate	3.12	0.333	mg/kg wet	3.333		93	40-140			
Hexachlorobutadiene	1.58	0.333	mg/kg wet	3.333		47	40-140			
Hexachloroethane	1.47	0.333	mg/kg wet	3.333		44	40-140			
Isophorone	1.54	0.333	mg/kg wet	3.333		46	40-140			
Nitrobenzene	1.54	0.333	mg/kg wet	3.333		46	40-140			
N-Nitrosodimethylamine	1.47	0.333	mg/kg wet	3.333		44	40-140			
Pentachlorophenol	3.01	1.67	mg/kg wet	3.333		90	30-130			
Phenol	1.53	0.333	mg/kg wet	3.333		46	30-130			
Surrogate: 1,2-Dichlorobenzene-d4	*1.51*		mg/kg wet	*3.333*		*45*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*4.01*		mg/kg wet	*5.000*		*80*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*2.31*		mg/kg wet	*5.000*		*46*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*1.83*		mg/kg wet	*3.333*		*55*	*30-130*			
Surrogate: 2-Fluorophenol	*2.26*		mg/kg wet	*5.000*		*45*	*30-130*			
Surrogate: Nitrobenzene-d5	*1.54*		mg/kg wet	*3.333*		*46*	*30-130*			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503559

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch CD50735 - 3546										
Surrogate: Phenol-d6	*2.33*		mg/kg wet	*5.000*		*47*	*30-130*			
Surrogate: p-Terphenyl-d14	*2.62*		mg/kg wet	*3.333*		*79*	*30-130*			
LCS Dup										
1,2,4-Trichlorobenzene	1.85	0.333	mg/kg wet	3.333		56	40-140	19	30	
1,2-Dichlorobenzene	1.83	0.333	mg/kg wet	3.333		55	40-140	19	30	
1,3-Dichlorobenzene	1.84	0.333	mg/kg wet	3.333		55	40-140	18	30	
1,4-Dichlorobenzene	1.80	0.333	mg/kg wet	3.333		54	40-140	18	30	
2,4,5-Trichlorophenol	2.72	0.333	mg/kg wet	3.333		82	30-130	9	30	
2,4,6-Trichlorophenol	2.49	0.333	mg/kg wet	3.333		75	30-130	9	30	
2,4-Dichlorophenol	2.15	0.333	mg/kg wet	3.333		64	30-130	17	30	
2,4-Dimethylphenol	2.13	0.333	mg/kg wet	3.333		64	30-130	16	30	
2,4-Dinitrophenol	2.40	1.67	mg/kg wet	3.333		72	30-130	1	30	
2,4-Dinitrotoluene	2.74	0.333	mg/kg wet	3.333		82	40-140	1	30	
2,6-Dinitrotoluene	2.53	0.333	mg/kg wet	3.333		76	40-140	4	30	
2-Chloronaphthalene	1.93	0.333	mg/kg wet	3.333		58	40-140	14	30	
2-Chlorophenol	1.83	0.333	mg/kg wet	3.333		55	30-130	18	30	
2-Methylphenol	1.88	0.333	mg/kg wet	3.333		56	30-130	18	30	
2-Nitrophenol	2.06	0.333	mg/kg wet	3.333		62	30-130	20	30	
3,3´-Dichlorobenzidine	2.40	0.667	mg/kg wet	3.333		72	40-140	0.7	30	
3+4-Methylphenol	3.99	0.667	mg/kg wet	6.667		60	30-130	18	30	
4-Bromophenyl-phenylether	2.54	0.333	mg/kg wet	3.333		76	40-140	1	30	
4-Chloroaniline	1.62	0.667	mg/kg wet	3.333		49	40-140	13	30	
4-Nitrophenol	2.59	1.67	mg/kg wet	3.333		78	30-130	3	30	
Acetophenone	1.99	0.667	mg/kg wet	3.333		60	40-140	18	30	
Aniline	1.38	1.67	mg/kg wet	3.333		41	40-140	15	30	
Azobenzene	2.35	0.333	mg/kg wet	3.333		71	40-140	0.5	30	
bis(2-Chloroethoxy)methane	1.91	0.333	mg/kg wet	3.333		57	40-140	18	30	
bis(2-Chloroethyl)ether	1.84	0.333	mg/kg wet	3.333		55	40-140	17	30	
bis(2-chloroisopropyl)Ether	1.80	0.333	mg/kg wet	3.333		54	40-140	19	30	
bis(2-Ethylhexyl)phthalate	2.96	0.333	mg/kg wet	3.333		89	40-140	2	30	
Butylbenzylphthalate	2.77	0.333	mg/kg wet	3.333		83	40-140	0.7	30	
Dibenzofuran	2.33	0.333	mg/kg wet	3.333		70	40-140	11	30	
Diethylphthalate	2.56	0.333	mg/kg wet	3.333		77	40-140	0.6	30	
Dimethylphthalate	2.40	0.333	mg/kg wet	3.333		72	40-140	3	30	
Di-n-butylphthalate	2.91	0.333	mg/kg wet	3.333		87	40-140	1	30	
Di-n-octylphthalate	3.10	0.333	mg/kg wet	3.333		93	40-140	0.6	30	
Hexachlorobutadiene	1.90	0.333	mg/kg wet	3.333		57	40-140	19	30	
Hexachloroethane	1.76	0.333	mg/kg wet	3.333		53	40-140	18	30	
Isophorone	1.85	0.333	mg/kg wet	3.333		55	40-140	18	30	
Nitrobenzene	1.83	0.333	mg/kg wet	3.333		55	40-140	17	30	
N-Nitrosodimethylamine	1.70	0.333	mg/kg wet	3.333		51	40-140	15	30	
Pentachlorophenol	2.92	1.67	mg/kg wet	3.333		88	30-130	3	30	
Phenol	1.81	0.333	mg/kg wet	3.333		54	30-130	17	30	
Surrogate: 1,2-Dichlorobenzene-d4	*1.74*		mg/kg wet	*3.333*		*52*	*30-130*			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503559

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch CD50735 - 3546										
Surrogate: 2,4,6-Tribromophenol	*3.73*		mg/kg wet	*5.000*		*75*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*2.64*		mg/kg wet	*5.000*		*53*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*2.03*		mg/kg wet	*3.333*		*61*	*30-130*			
Surrogate: 2-Fluorophenol	*2.59*		mg/kg wet	*5.000*		*52*	*30-130*			
Surrogate: Nitrobenzene-d5	*1.79*		mg/kg wet	*3.333*		*54*	*30-130*			
Surrogate: Phenol-d6	*2.68*		mg/kg wet	*5.000*		*54*	*30-130*			
Surrogate: p-Terphenyl-d14	*2.49*		mg/kg wet	*3.333*		*75*	*30-130*			
Batch CD50739 - 3546										
Blank										
1,2,4-Trichlorobenzene	ND	0.333	mg/kg wet							
1,2-Dichlorobenzene	ND	0.333	mg/kg wet							
1,3-Dichlorobenzene	ND	0.333	mg/kg wet							
1,4-Dichlorobenzene	ND	0.333	mg/kg wet							
2,4,5-Trichlorophenol	ND	0.333	mg/kg wet							
2,4,6-Trichlorophenol	ND	0.333	mg/kg wet							
2,4-Dichlorophenol	ND	0.333	mg/kg wet							
2,4-Dimethylphenol	ND	0.333	mg/kg wet							
2,4-Dinitrophenol	ND	1.67	mg/kg wet							
2,4-Dinitrotoluene	ND	0.333	mg/kg wet							
2,6-Dinitrotoluene	ND	0.333	mg/kg wet							
2-Chloronaphthalene	ND	0.333	mg/kg wet							
2-Chlorophenol	ND	0.333	mg/kg wet							
2-Methylphenol	ND	0.333	mg/kg wet							
2-Nitrophenol	ND	0.333	mg/kg wet							
3,3´-Dichlorobenzidine	ND	0.667	mg/kg wet							
3+4-Methylphenol	ND	0.667	mg/kg wet							
4-Bromophenyl-phenylether	ND	0.333	mg/kg wet							
4-Chloroaniline	ND	0.667	mg/kg wet							
4-Nitrophenol	ND	1.67	mg/kg wet							
Acetophenone	ND	0.667	mg/kg wet							
Aniline	ND	1.67	mg/kg wet							
Azobenzene	ND	0.333	mg/kg wet							
bis(2-Chloroethoxy)methane	ND	0.333	mg/kg wet							
bis(2-Chloroethyl)ether	ND	0.333	mg/kg wet							
bis(2-chloroisopropyl)Ether	ND	0.333	mg/kg wet							
bis(2-Ethylhexyl)phthalate	ND	0.333	mg/kg wet							
Butylbenzylphthalate	ND	0.333	mg/kg wet							
Dibenzofuran	ND	0.333	mg/kg wet							
Diethylphthalate	ND	0.333	mg/kg wet							
Dimethylphthalate	ND	0.333	mg/kg wet							
Di-n-butylphthalate	ND	0.333	mg/kg wet							
Di-n-octylphthalate	ND	0.333	mg/kg wet							
Hexachlorobutadiene	ND	0.333	mg/kg wet							
Hexachloroethane	ND	0.333	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503559

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch CD50739 - 3546										
Isophorone	ND	0.333	mg/kg wet							
Nitrobenzene	ND	0.333	mg/kg wet							
N-Nitrosodimethylamine	ND	0.333	mg/kg wet							
Pentachlorophenol	ND	1.67	mg/kg wet							
Phenol	ND	0.333	mg/kg wet							
Surrogate: 1,2-Dichlorobenzene-d4	*2.24*		mg/kg wet	*3.333*		*67*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*3.04*		mg/kg wet	*5.000*		*61*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*3.42*		mg/kg wet	*5.000*		*68*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*2.33*		mg/kg wet	*3.333*		*70*	*30-130*			
Surrogate: 2-Fluorophenol	*3.31*		mg/kg wet	*5.000*		*66*	*30-130*			
Surrogate: Nitrobenzene-d5	*2.20*		mg/kg wet	*3.333*		*66*	*30-130*			
Surrogate: Phenol-d6	*3.45*		mg/kg wet	*5.000*		*69*	*30-130*			
Surrogate: p-Terphenyl-d14	*3.81*		mg/kg wet	*3.333*		*114*	*30-130*			
LCS										
1,2,4-Trichlorobenzene	1.93	0.333	mg/kg wet	3.333		58	40-140			
1,2-Dichlorobenzene	1.76	0.333	mg/kg wet	3.333		53	40-140			
1,3-Dichlorobenzene	1.74	0.333	mg/kg wet	3.333		52	40-140			
1,4-Dichlorobenzene	1.73	0.333	mg/kg wet	3.333		52	40-140			
2,4,5-Trichlorophenol	2.96	0.333	mg/kg wet	3.333		89	30-130			
2,4,6-Trichlorophenol	2.74	0.333	mg/kg wet	3.333		82	30-130			
2,4-Dichlorophenol	2.42	0.333	mg/kg wet	3.333		73	30-130			
2,4-Dimethylphenol	2.42	0.333	mg/kg wet	3.333		73	30-130			
2,4-Dinitrophenol	2.31	1.67	mg/kg wet	3.333		69	30-130			
2,4-Dinitrotoluene	2.89	0.333	mg/kg wet	3.333		87	40-140			
2,6-Dinitrotoluene	2.75	0.333	mg/kg wet	3.333		82	40-140			
2-Chloronaphthalene	2.12	0.333	mg/kg wet	3.333		64	40-140			
2-Chlorophenol	1.92	0.333	mg/kg wet	3.333		58	30-130			
2-Methylphenol	2.10	0.333	mg/kg wet	3.333		63	30-130			
2-Nitrophenol	2.15	0.333	mg/kg wet	3.333		65	30-130			
3,3´-Dichlorobenzidine	2.34	0.667	mg/kg wet	3.333		70	40-140			
3+4-Methylphenol	4.56	0.667	mg/kg wet	6.667		68	30-130			
4-Bromophenyl-phenylether	3.08	0.333	mg/kg wet	3.333		92	40-140			
4-Chloroaniline	1.64	0.667	mg/kg wet	3.333		49	40-140			
4-Nitrophenol	2.54	1.67	mg/kg wet	3.333		76	30-130			
Acetophenone	2.18	0.667	mg/kg wet	3.333		66	40-140			
Aniline	1.31	1.67	mg/kg wet	3.333		39	40-140			B-
Azobenzene	2.89	0.333	mg/kg wet	3.333		87	40-140			
bis(2-Chloroethoxy)methane	2.13	0.333	mg/kg wet	3.333		64	40-140			
bis(2-Chloroethyl)ether	1.90	0.333	mg/kg wet	3.333		57	40-140			
bis(2-chloroisopropyl)Ether	1.88	0.333	mg/kg wet	3.333		56	40-140			
bis(2-Ethylhexyl)phthalate	3.18	0.333	mg/kg wet	3.333		95	40-140			
Butylbenzylphthalate	3.02	0.333	mg/kg wet	3.333		91	40-140			
Dibenzofuran	2.54	0.333	mg/kg wet	3.333		76	40-140			
Diethylphthalate	2.79	0.333	mg/kg wet	3.333		84	40-140			
Dimethylphthalate	2.68	0.333	mg/kg wet	3.333		80	40-140			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503559

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch CD50739 - 3546										
Di-n-butylphthalate	3.19	0.333	mg/kg wet	3.333		96	40-140			
Di-n-octylphthalate	3.32	0.333	mg/kg wet	3.333		100	40-140			
Hexachlorobutadiene	1.89	0.333	mg/kg wet	3.333		57	40-140			
Hexachloroethane	1.69	0.333	mg/kg wet	3.333		51	40-140			
Isophorone	2.06	0.333	mg/kg wet	3.333		62	40-140			
Nitrobenzene	1.93	0.333	mg/kg wet	3.333		58	40-140			
N-Nitrosodimethylamine	1.70	0.333	mg/kg wet	3.333		51	40-140			
Pentachlorophenol	3.12	1.67	mg/kg wet	3.333		93	30-130			
Phenol	2.00	0.333	mg/kg wet	3.333		60	30-130			
Surrogate: 1,2-Dichlorobenzene-d4	*1.98*		mg/kg wet	*3.333*		*60*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*5.35*		mg/kg wet	*5.000*		*107*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*3.28*		mg/kg wet	*5.000*		*66*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*2.68*		mg/kg wet	*3.333*		*80*	*30-130*			
Surrogate: 2-Fluorophenol	*3.10*		mg/kg wet	*5.000*		*62*	*30-130*			
Surrogate: Nitrobenzene-d5	*2.18*		mg/kg wet	*3.333*		*65*	*30-130*			
Surrogate: Phenol-d6	*3.47*		mg/kg wet	*5.000*		*69*	*30-130*			
Surrogate: p-Terphenyl-d14	*3.44*		mg/kg wet	*3.333*		*103*	*30-130*			
LCS Dup										
1,2,4-Trichlorobenzene	1.83	0.333	mg/kg wet	3.333		55	40-140	5	30	
1,2-Dichlorobenzene	1.67	0.333	mg/kg wet	3.333		50	40-140	5	30	
1,3-Dichlorobenzene	1.67	0.333	mg/kg wet	3.333		50	40-140	4	30	
1,4-Dichlorobenzene	1.65	0.333	mg/kg wet	3.333		49	40-140	5	30	
2,4,5-Trichlorophenol	2.90	0.333	mg/kg wet	3.333		87	30-130	2	30	
2,4,6-Trichlorophenol	2.65	0.333	mg/kg wet	3.333		79	30-130	3	30	
2,4-Dichlorophenol	2.24	0.333	mg/kg wet	3.333		67	30-130	8	30	
2,4-Dimethylphenol	2.26	0.333	mg/kg wet	3.333		68	30-130	7	30	
2,4-Dinitrophenol	2.49	1.67	mg/kg wet	3.333		75	30-130	7	30	
2,4-Dinitrotoluene	2.98	0.333	mg/kg wet	3.333		89	40-140	3	30	
2,6-Dinitrotoluene	2.75	0.333	mg/kg wet	3.333		82	40-140	0.04	30	
2-Chloronaphthalene	2.02	0.333	mg/kg wet	3.333		61	40-140	5	30	
2-Chlorophenol	1.77	0.333	mg/kg wet	3.333		53	30-130	8	30	
2-Methylphenol	1.94	0.333	mg/kg wet	3.333		58	30-130	8	30	
2-Nitrophenol	2.06	0.333	mg/kg wet	3.333		62	30-130	4	30	
3,3´-Dichlorobenzidine	2.32	0.667	mg/kg wet	3.333		69	40-140	0.8	30	
3+4-Methylphenol	4.17	0.667	mg/kg wet	6.667		63	30-130	9	30	
4-Bromophenyl-phenylether	2.83	0.333	mg/kg wet	3.333		85	40-140	9	30	
4-Chloroaniline	1.57	0.667	mg/kg wet	3.333		47	40-140	4	30	
4-Nitrophenol	2.74	1.67	mg/kg wet	3.333		82	30-130	8	30	
Acetophenone	1.99	0.667	mg/kg wet	3.333		60	40-140	10	30	
Aniline	1.27	1.67	mg/kg wet	3.333		38	40-140	4	30	B-
Azobenzene	2.64	0.333	mg/kg wet	3.333		79	40-140	9	30	
bis(2-Chloroethoxy)methane	1.98	0.333	mg/kg wet	3.333		60	40-140	7	30	
bis(2-Chloroethyl)ether	1.78	0.333	mg/kg wet	3.333		53	40-140	7	30	
bis(2-chloroisopropyl)Ether	1.71	0.333	mg/kg wet	3.333		51	40-140	9	30	
bis(2-Ethylhexyl)phthalate	3.19	0.333	mg/kg wet	3.333		96	40-140	0.4	30	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503559

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch CD50739 - 3546										
Butylbenzylphthalate	2.95	0.333	mg/kg wet	3.333		89	40-140	2	30	
Dibenzofuran	2.48	0.333	mg/kg wet	3.333		75	40-140	2	30	
Diethylphthalate	2.84	0.333	mg/kg wet	3.333		85	40-140	2	30	
Dimethylphthalate	2.64	0.333	mg/kg wet	3.333		79	40-140	1	30	
Di-n-butylphthalate	3.24	0.333	mg/kg wet	3.333		97	40-140	2	30	
Di-n-octylphthalate	3.41	0.333	mg/kg wet	3.333		102	40-140	3	30	
Hexachlorobutadiene	1.82	0.333	mg/kg wet	3.333		55	40-140	3	30	
Hexachloroethane	1.62	0.333	mg/kg wet	3.333		49	40-140	4	30	
Isophorone	1.92	0.333	mg/kg wet	3.333		58	40-140	7	30	
Nitrobenzene	1.84	0.333	mg/kg wet	3.333		55	40-140	5	30	
N-Nitrosodimethylamine	1.62	0.333	mg/kg wet	3.333		49	40-140	5	30	
Pentachlorophenol	3.09	1.67	mg/kg wet	3.333		93	30-130	0.7	30	
Phenol	1.84	0.333	mg/kg wet	3.333		55	30-130	8	30	
Surrogate: 1,2-Dichlorobenzene-d4	*1.82*		mg/kg wet	*3.333*		*55*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*4.82*		mg/kg wet	*5.000*		*96*	*30-130*			
Surrogate: 2-Chlorophenol-d4	*2.92*		mg/kg wet	*5.000*		*58*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*2.42*		mg/kg wet	*3.333*		*73*	*30-130*			
Surrogate: 2-Fluorophenol	*2.77*		mg/kg wet	*5.000*		*55*	*30-130*			
Surrogate: Nitrobenzene-d5	*2.02*		mg/kg wet	*3.333*		*61*	*30-130*			
Surrogate: Phenol-d6	*3.07*		mg/kg wet	*5.000*		*61*	*30-130*			
Surrogate: p-Terphenyl-d14	*3.12*		mg/kg wet	*3.333*		*94*	*30-130*			
8270D(SIM) Polynuclear Aromatic Hydrocarbons										
Batch CD50227 - 3546										
Blank										
2-Methylnaphthalene	ND	0.017	mg/kg wet							
Acenaphthene	ND	0.017	mg/kg wet							
Acenaphthylene	ND	0.017	mg/kg wet							
Anthracene	ND	0.017	mg/kg wet							
Benzo(a)anthracene	ND	0.017	mg/kg wet							
Benzo(a)pyrene	ND	0.017	mg/kg wet							
Benzo(b)fluoranthene	ND	0.017	mg/kg wet							
Benzo(g,h,i)perylene	ND	0.017	mg/kg wet							
Benzo(k)fluoranthene	ND	0.017	mg/kg wet							
Chrysene	ND	0.017	mg/kg wet							
Dibenzo(a,h)Anthracene	ND	0.017	mg/kg wet							
Fluoranthene	ND	0.017	mg/kg wet							
Fluorene	ND	0.017	mg/kg wet							
Hexachlorobenzene	ND	0.017	mg/kg wet							
Indeno(1,2,3-cd)Pyrene	ND	0.017	mg/kg wet							
Naphthalene	ND	0.017	mg/kg wet							
Phenanthrene	ND	0.017	mg/kg wet							
Pyrene	ND	0.017	mg/kg wet							
Surrogate: 1,2-Dichlorobenzene-d4	*0.295*		mg/kg wet	*0.3333*		*89*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*0.325*		mg/kg wet	*0.3333*		*97*	*30-130*			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503559

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D(SIM) Polynuclear Aromatic Hydrocarbons										
Batch CD50227 - 3546										
Surrogate: Nitrobenzene-d5	*0.307*		mg/kg wet	*0.3333*		*92*	*30-130*			
Surrogate: p-Terphenyl-d14	*0.321*		mg/kg wet	*0.3333*		*96*	*30-130*			
LCS										
2-Methylnaphthalene	0.129	0.017	mg/kg wet	0.2667		48	40-140			
Acenaphthene	0.219	0.017	mg/kg wet	0.2667		82	40-140			
Acenaphthylene	0.027	0.017	mg/kg wet	0.2667		10	40-140			B-
Anthracene	0.125	0.017	mg/kg wet	0.2667		47	40-140			
Benzo(a)anthracene	0.180	0.017	mg/kg wet	0.2667		68	40-140			
Benzo(a)pyrene	0.127	0.017	mg/kg wet	0.2667		48	40-140			
Benzo(b)fluoranthene	0.279	0.017	mg/kg wet	0.2667		105	40-140			
Benzo(g,h,i)perylene	0.273	0.017	mg/kg wet	0.2667		102	40-140			
Benzo(k)fluoranthene	0.268	0.017	mg/kg wet	0.2667		101	40-140			
Chrysene	0.221	0.017	mg/kg wet	0.2667		83	40-140			
Dibenzo(a,h)Anthracene	0.282	0.017	mg/kg wet	0.2667		106	40-140			
Fluoranthene	0.218	0.017	mg/kg wet	0.2667		82	40-140			
Fluorene	0.235	0.017	mg/kg wet	0.2667		88	40-140			
Hexachlorobenzene	0.213	0.017	mg/kg wet	0.2667		80	40-140			
Indeno(1,2,3-cd)Pyrene	0.282	0.017	mg/kg wet	0.2667		106	40-140			
Naphthalene	0.179	0.017	mg/kg wet	0.2667		67	40-140			
Phenanthrene	0.212	0.017	mg/kg wet	0.2667		79	40-140			
Pyrene	0.214	0.017	mg/kg wet	0.2667		80	40-140			
Surrogate: 1,2-Dichlorobenzene-d4	*0.269*		mg/kg wet	*0.3333*		*81*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*0.315*		mg/kg wet	*0.3333*		*94*	*30-130*			
Surrogate: Nitrobenzene-d5	*0.282*		mg/kg wet	*0.3333*		*85*	*30-130*			
Surrogate: p-Terphenyl-d14	*0.329*		mg/kg wet	*0.3333*		*99*	*30-130*			
LCS Dup										
2-Methylnaphthalene	0.164	0.017	mg/kg wet	0.2667		62	40-140	24	30	
Acenaphthene	0.197	0.017	mg/kg wet	0.2667		74	40-140	11	30	
Acenaphthylene	0.192	0.017	mg/kg wet	0.2667		72	40-140	151	30	D+
Anthracene	0.195	0.017	mg/kg wet	0.2667		73	40-140	44	30	D+
Benzo(a)anthracene	0.189	0.017	mg/kg wet	0.2667		71	40-140	5	30	
Benzo(a)pyrene	0.210	0.017	mg/kg wet	0.2667		79	40-140	49	30	D+
Benzo(b)fluoranthene	0.218	0.017	mg/kg wet	0.2667		82	40-140	25	30	
Benzo(g,h,i)perylene	0.210	0.017	mg/kg wet	0.2667		79	40-140	26	30	
Benzo(k)fluoranthene	0.203	0.017	mg/kg wet	0.2667		76	40-140	27	30	
Chrysene	0.207	0.017	mg/kg wet	0.2667		78	40-140	6	30	
Dibenzo(a,h)Anthracene	0.210	0.017	mg/kg wet	0.2667		79	40-140	29	30	
Fluoranthene	0.201	0.017	mg/kg wet	0.2667		75	40-140	8	30	
Fluorene	0.210	0.017	mg/kg wet	0.2667		79	40-140	11	30	
Hexachlorobenzene	0.184	0.017	mg/kg wet	0.2667		69	40-140	14	30	
Indeno(1,2,3-cd)Pyrene	0.214	0.017	mg/kg wet	0.2667		80	40-140	28	30	
Naphthalene	0.161	0.017	mg/kg wet	0.2667		60	40-140	10	30	
Phenanthrene	0.193	0.017	mg/kg wet	0.2667		72	40-140	10	30	
Pyrene	0.208	0.017	mg/kg wet	0.2667		78	40-140	3	30	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503559

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D(SIM) Polynuclear Aromatic Hydrocarbons										
Batch CD50227 - 3546										
Surrogate: 1,2-Dichlorobenzene-d4	*0.253*		mg/kg wet	*0.3333*		*76*	*30-130*			
Surrogate: 2-Fluorobiphenyl	*0.286*		mg/kg wet	*0.3333*		*86*	*30-130*			
Surrogate: Nitrobenzene-d5	*0.259*		mg/kg wet	*0.3333*		*78*	*30-130*			
Surrogate: p-Terphenyl-d14	*0.342*		mg/kg wet	*0.3333*		*103*	*30-130*			
Classical Chemistry										
Batch CD50128 - General Preparation										
Blank										
Reactive Cyanide	ND	2.0	mg/kg							
Reactive Sulfide	ND	2.0	mg/kg							
LCS										
Reactive Cyanide	3.8	2.0	mg/kg	100.3		4	0.68-5.41			
Reactive Sulfide	0.2	2.0	mg/kg	10.00		2	0-44			
Batch CD50609 - General Preparation										
Blank										
Hexavalent Chromium	ND	0.7	mg/kg wet							
LCS										
Hexavalent Chromium	32.4	0.7	mg/kg wet	33.32		97	80-120			
LCS Dup										
Hexavalent Chromium	32.6	0.7	mg/kg wet	33.32		98	80-120	0.5	20	
Reference										
Hexavalent Chromium	109	2.0	mg/kg wet	125.0		87	61-139			
MADEP-EPH Extractable Petroleum Hydrocarbons										
Batch CD50222 - 3546										
Blank										
C19-C36 Aliphatics1	ND	15.0	mg/kg wet							
C9-C18 Aliphatics1	ND	15.0	mg/kg wet							
Decane (C10)	ND	0.5	mg/kg wet							
Docosane (C22)	ND	0.5	mg/kg wet							
Dodecane (C12)	ND	0.5	mg/kg wet							
Eicosane (C20)	ND	0.5	mg/kg wet							
Hexacosane (C26)	ND	0.5	mg/kg wet							
Hexadecane (C16)	ND	0.5	mg/kg wet							
Hexatriacontane (C36)	ND	0.5	mg/kg wet							
Nonadecane (C19)	ND	0.5	mg/kg wet							
Nonane (C9)	ND	0.5	mg/kg wet							
Octacosane (C28)	ND	0.5	mg/kg wet							
Octadecane (C18)	ND	0.5	mg/kg wet							
Tetracosane (C24)	ND	0.5	mg/kg wet							
Tetradecane (C14)	ND	0.5	mg/kg wet							
Triacontane (C30)	ND	0.5	mg/kg wet							

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503559

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
MADEP-EPH Extractable Petroleum Hydrocarbons										
Batch CD50222 - 3546										
Surrogate: 1-Chlorooctadecane	*1.23*		mg/kg wet	*2.000*		*61*	*40-140*			
Blank										
2-Methylnaphthalene	ND	0.20	mg/kg wet							
Acenaphthene	ND	0.40	mg/kg wet							
Acenaphthylene	ND	0.20	mg/kg wet							
Anthracene	ND	0.40	mg/kg wet							
Benzo(a)anthracene	ND	0.40	mg/kg wet							
Benzo(a)pyrene	ND	0.40	mg/kg wet							
Benzo(b)fluoranthene	ND	0.40	mg/kg wet							
Benzo(g,h,i)perylene	ND	0.40	mg/kg wet							
Benzo(k)fluoranthene	ND	0.40	mg/kg wet							
C11-C22 Unadjusted Aromatics1	ND	15.0	mg/kg wet							
Chrysene	ND	0.40	mg/kg wet							
Dibenzo(a,h)Anthracene	ND	0.20	mg/kg wet							
Fluoranthene	ND	0.40	mg/kg wet							
Fluorene	ND	0.40	mg/kg wet							
Indeno(1,2,3-cd)Pyrene	ND	0.40	mg/kg wet							
Naphthalene	ND	0.40	mg/kg wet							
Phenanthrene	ND	0.40	mg/kg wet							
Pyrene	ND	0.40	mg/kg wet							
Surrogate: 2-Bromonaphthalene	*1.86*		mg/kg wet	*2.000*		*93*	*40-140*			
Surrogate: 2-Fluorobiphenyl	*1.72*		mg/kg wet	*2.000*		*86*	*40-140*			
Surrogate: O-Terphenyl	*1.50*		mg/kg wet	*2.000*		*75*	*40-140*			
LCS										
C19-C36 Aliphatics1	16.6	15.0	mg/kg wet	16.00		104	40-140			
C9-C18 Aliphatics1	11.7	15.0	mg/kg wet	12.00		98	40-140			
Decane (C10)	1.1	0.5	mg/kg wet	2.000		57	40-140			
Docosane (C22)	1.8	0.5	mg/kg wet	2.000		90	40-140			
Dodecane (C12)	1.2	0.5	mg/kg wet	2.000		58	40-140			
Eicosane (C20)	1.7	0.5	mg/kg wet	2.000		87	40-140			
Hexacosane (C26)	1.8	0.5	mg/kg wet	2.000		92	40-140			
Hexadecane (C16)	1.5	0.5	mg/kg wet	2.000		77	40-140			
Hexatriacontane (C36)	1.7	0.5	mg/kg wet	2.000		87	40-140			
Nonadecane (C19)	1.8	0.5	mg/kg wet	2.000		88	40-140			
Nonane (C9)	0.9	0.5	mg/kg wet	2.000		45	30-140			
Octacosane (C28)	1.8	0.5	mg/kg wet	2.000		89	40-140			
Octadecane (C18)	1.7	0.5	mg/kg wet	2.000		83	40-140			
Tetracosane (C24)	1.7	0.5	mg/kg wet	2.000		86	40-140			
Tetradecane (C14)	1.4	0.5	mg/kg wet	2.000		69	40-140			
Triacontane (C30)	1.8	0.5	mg/kg wet	2.000		88	40-140			
Surrogate: 1-Chlorooctadecane	*1.36*		mg/kg wet	*2.000*		*68*	*40-140*			
LCS										
2-Methylnaphthalene	1.52	0.20	mg/kg wet	2.000		76	40-140			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503559

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
MADEP-EPH Extractable Petroleum Hydrocarbons										
Batch CD50222 - 3546										
Acenaphthene	1.59	0.40	mg/kg wet	2.000		80	40-140			
Acenaphthylene	1.67	0.20	mg/kg wet	2.000		83	40-140			
Anthracene	1.79	0.40	mg/kg wet	2.000		89	40-140			
Benzo(a)anthracene	1.78	0.40	mg/kg wet	2.000		89	40-140			
Benzo(a)pyrene	1.90	0.40	mg/kg wet	2.000		95	40-140			
Benzo(b)fluoranthene	1.73	0.40	mg/kg wet	2.000		87	40-140			
Benzo(g,h,i)perylene	1.72	0.40	mg/kg wet	2.000		86	40-140			
Benzo(k)fluoranthene	1.69	0.40	mg/kg wet	2.000		84	40-140			
C11-C22 Unadjusted Aromatics1	33.3	15.0	mg/kg wet	34.00		98	40-140			
Chrysene	1.72	0.40	mg/kg wet	2.000		86	40-140			
Dibenzo(a,h)Anthracene	1.69	0.20	mg/kg wet	2.000		85	40-140			
Fluoranthene	1.73	0.40	mg/kg wet	2.000		87	40-140			
Fluorene	1.66	0.40	mg/kg wet	2.000		83	40-140			
Indeno(1,2,3-cd)Pyrene	1.79	0.40	mg/kg wet	2.000		90	40-140			
Naphthalene	1.42	0.40	mg/kg wet	2.000		71	40-140			
Phenanthrene	1.77	0.40	mg/kg wet	2.000		89	40-140			
Pyrene	1.79	0.40	mg/kg wet	2.000		89	40-140			
Surrogate: 2-Bromonaphthalene	*1.76*		mg/kg wet	*2.000*		*88*	*40-140*			
Surrogate: 2-Fluorobiphenyl	*1.72*		mg/kg wet	*2.000*		*86*	*40-140*			
Surrogate: O-Terphenyl	*1.55*		mg/kg wet	*2.000*		*78*	*40-140*			
LCS										
2-Methylnaphthalene Breakthrough	0.0		%				0-5			
Naphthalene Breakthrough	0.0		%				0-5			
LCS Dup										
C19-C36 Aliphatics1	16.3	15.0	mg/kg wet	16.00		102	40-140	2	25	
C9-C18 Aliphatics1	11.6	15.0	mg/kg wet	12.00		97	40-140	1	25	
Decane (C10)	1.1	0.5	mg/kg wet	2.000		57	40-140	0.9	25	
Docosane (C22)	1.8	0.5	mg/kg wet	2.000		91	40-140	1	25	
Dodecane (C12)	1.2	0.5	mg/kg wet	2.000		59	40-140	1	25	
Eicosane (C20)	1.8	0.5	mg/kg wet	2.000		89	40-140	2	25	
Hexacosane (C26)	1.9	0.5	mg/kg wet	2.000		93	40-140	1	25	
Hexadecane (C16)	1.6	0.5	mg/kg wet	2.000		78	40-140	2	25	
Hexatriacontane (C36)	1.8	0.5	mg/kg wet	2.000		89	40-140	2	25	
Nonadecane (C19)	1.8	0.5	mg/kg wet	2.000		89	40-140	2	25	
Nonane (C9)	0.9	0.5	mg/kg wet	2.000		45	30-140	0.07	25	
Octacosane (C28)	1.8	0.5	mg/kg wet	2.000		91	40-140	2	25	
Octadecane (C18)	1.7	0.5	mg/kg wet	2.000		85	40-140	2	25	
Tetracosane (C24)	1.8	0.5	mg/kg wet	2.000		88	40-140	2	25	
Tetradecane (C14)	1.4	0.5	mg/kg wet	2.000		70	40-140	2	25	
Triacontane (C30)	1.8	0.5	mg/kg wet	2.000		89	40-140	2	25	
Surrogate: 1-Chlorooctadecane	*1.39*		mg/kg wet	*2.000*		*70*	*40-140*			
LCS Dup										
2-Methylnaphthalene	1.57	0.20	mg/kg wet	2.000		79	40-140	4	20	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503559

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
MADEP-EPH Extractable Petroleum Hydrocarbons										
Batch CD50222 - 3546										
Acenaphthene	1.65	0.40	mg/kg wet	2.000		82	40-140	3	20	
Acenaphthylene	1.69	0.20	mg/kg wet	2.000		84	40-140	1	20	
Anthracene	1.88	0.40	mg/kg wet	2.000		94	40-140	5	20	
Benzo(a)anthracene	1.92	0.40	mg/kg wet	2.000		96	40-140	7	20	
Benzo(a)pyrene	2.05	0.40	mg/kg wet	2.000		103	40-140	8	20	
Benzo(b)fluoranthene	1.84	0.40	mg/kg wet	2.000		92	40-140	6	20	
Benzo(g,h,i)perylene	1.79	0.40	mg/kg wet	2.000		90	40-140	4	20	
Benzo(k)fluoranthene	1.85	0.40	mg/kg wet	2.000		92	40-140	9	20	
C11-C22 Unadjusted Aromatics1	34.1	15.0	mg/kg wet	34.00		100	40-140	3	25	
Chrysene	1.87	0.40	mg/kg wet	2.000		93	40-140	8	20	
Dibenzo(a,h)Anthracene	1.78	0.20	mg/kg wet	2.000		89	40-140	5	20	
Fluoranthene	1.81	0.40	mg/kg wet	2.000		90	40-140	4	20	
Fluorene	1.76	0.40	mg/kg wet	2.000		88	40-140	6	20	
Indeno(1,2,3-cd)Pyrene	1.89	0.40	mg/kg wet	2.000		94	40-140	5	20	
Naphthalene	1.45	0.40	mg/kg wet	2.000		72	40-140	2	20	
Phenanthrene	1.84	0.40	mg/kg wet	2.000		92	40-140	4	20	
Pyrene	1.91	0.40	mg/kg wet	2.000		95	40-140	6	20	
Surrogate: 2-Bromonaphthalene	*1.80*		mg/kg wet	*2.000*		*90*	*40-140*			
Surrogate: 2-Fluorobiphenyl	*1.74*		mg/kg wet	*2.000*		*87*	*40-140*			
Surrogate: O-Terphenyl	*1.60*		mg/kg wet	*2.000*		*80*	*40-140*			
LCS Dup										
2-Methylnaphthalene Breakthrough	0.0		%				0-5		200	
Naphthalene Breakthrough	0.0		%				0-5		200	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase ESS Laboratory Work Order: 1503559

Notes and Definitions

Z-10	Soil pH measured in water at 14.3 ºC.
Z-08	See Attached
WL	Results obtained from a deionized water leach of the sample.
U	Analyte included in the analysis, but not detected
S-	Surrogate recovery(ies) below lower control limit (S-).
P	Percent difference between primary and confirmation results exceeds 40% (P).
LC	Lower value is used due to matrix interferences (LC).
H	Estimated value. Sample hold times were exceeded (H).
D+	Relative percent difference for duplicate is outside of criteria (D+).
D	Diluted.
C+	Continuing Calibration recovery is above upper control limit (C+).
B+	Blank Spike recovery is above upper control limit (B+).
B-	Blank Spike recovery is below lower control limit (B-).
ND	Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
I/V	Initial Volume
F/V	Final Volume
§	Subcontracted analysis; see attached report
1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of target analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.
Avg	Results reported as a mathematical average.
NR	No Recovery
[CALC]	Calculated Analyte
SUB	Subcontracted analysis; see attached report
[2C]	Result was taken from the second column. Dual column analysis.

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503559

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Department of Defense (DoD) Environmental Laboratory Accreditation Program (ELAP)
A2LA Accredited: Testing Cert# 2864.01
http://www.a2la.org/scopepdf/2864-01.pdf

Rhode Island Potable and Non Potable Water: LAI00179
http://www.health.ri.gov/find/labs/analytical/ESS.pdf

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750
http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutofStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI0002
http://www.maine.gov/dhhs/mecdc/environmental-health/water/dwp-services/labcert/documents/AllLabs.xls

Massachusetts Potable and Non Potable Water: M-RI002
http://public.dep.state.ma.us/Labcert/Labcert.aspx

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424
http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313
http://www.wadsworth.org/labcert/elap/comm.html

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006
http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752
http://www.depweb.state.pa.us/portal/server.pt/community/labs/13780/laboratory_accreditation_program/590095

CHEMISTRY

A2LA Accredited: Testing Cert # 2864.01
Lead in Paint, Phthalates, Lead in Children's Metals Products (Including Jewelry)
http://www.A2LA.org/dirsearchnew/newsearch.cfm

CPSC ID# 1141
Lead Paint, Lead in Children's Metals Jewelry
http://www.cpsc.gov/cgi-bin/labapplist.aspx

LABORATORY TESTING DATA SHEET

Project Name Wynn Everett | Project Location Everett, MA | Reviewed By

Project No. 01.0171521.13 **ESS-1503559** | Assigned By D. Scanlon

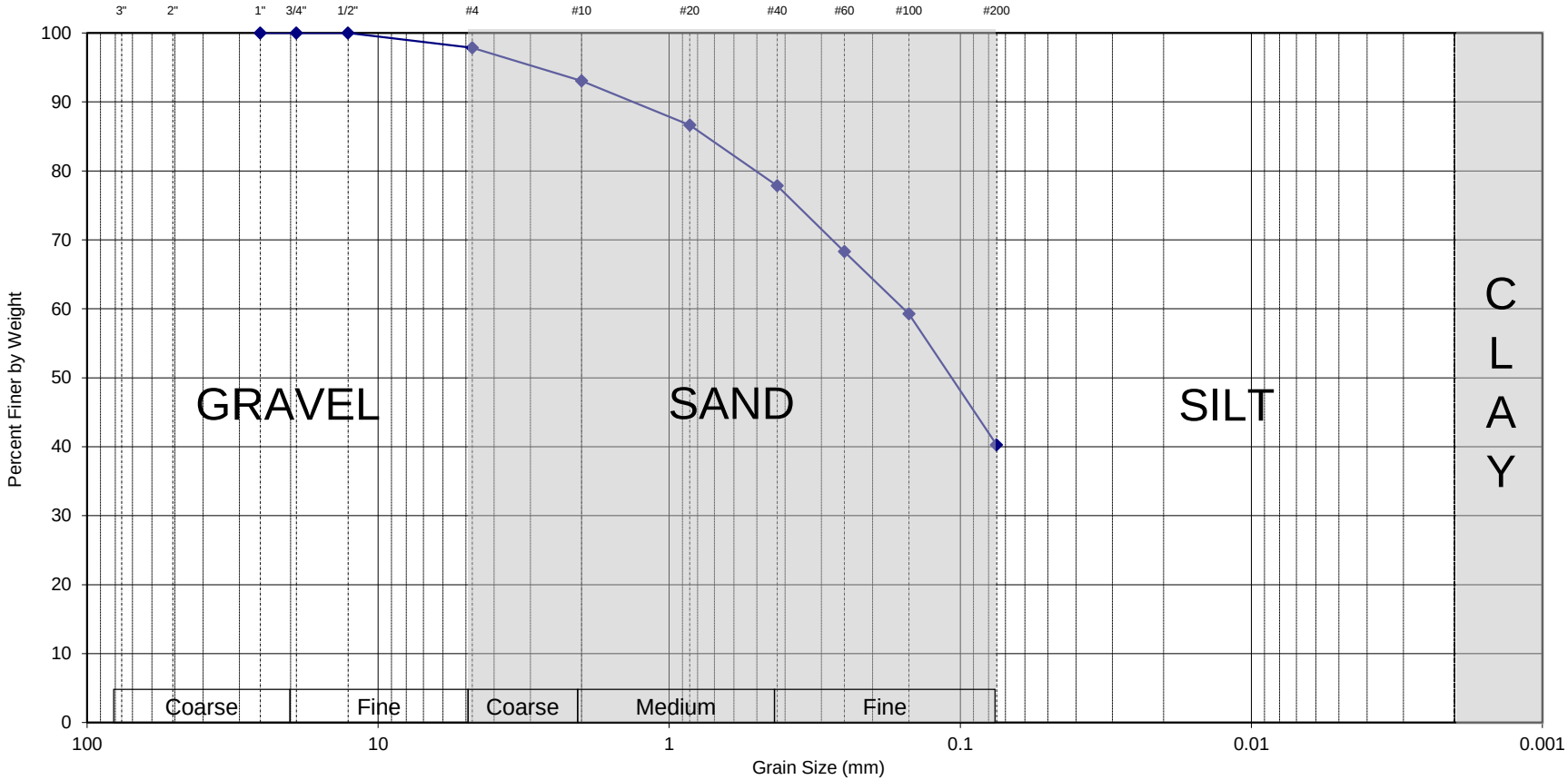
Project Manager D. Leone/C. Taylor | Report Date 4/2/15 | Date Reviewed *4/2/15*

Boring ID	Depth (ft)	ESS Sample ID	Lab No.	Identification Tests								Strength Tests				Laboratory Log and Soil Description
				Water Content %	LL %	PL %	Sieve -200 %	Hyd -2µ %	ORG %	G_s	Dry unit wt. pcf	Torvane or Type Test	Failure Criteria	$\sigma_1 - \sigma_3$ psf	Strain %	
GZ-215	0-3	1503559-09	15-S-282	38.8			40.3									Gray f-m SAND and Organic SILT, trace Gravel

THIELSCH ENGINEERING

195 Frances Avenue
Cranston, RI 02910 401-467-6454

U.S. STANDARD SIEVE AND HYDROMETER



Gravel	Sand	Fines
2.1%	57.6%	40.3%

Lab #	Sample ID	ESS Sample ID	Sample Date	Description	WC	LL	PL	PI
15-S-282	GZ-215	1503559-09	3/30/15	Gray f-m SAND and Organic SILT, trace Gravel	39			

Sieve Size	% Passing
¾"	100.0
½"	100.0
#4	97.9
#10	93.1
#20	86.6
#40	77.8
#60	68.3
#100	59.3
#200	40.3

THIELSCH ENGINEERING
195 Frances Ave., Cranston, RI 02109
401-467-6454

Wynn Everett
ESS Project 1503558
GZA File # 01.0171521.13

Tested by: MS Date: 4/2/15
Reviewed by: MBP Date: 4/2/15

SOILS LABORATORY TESTING ASSIGNMENT SHEET

THIELSCH ENGINEERING 401-467-6454 195 Frances Ave., Cranston, RI 02910

Project Name **Wynn Everett** Client _____ Assigned By _____

CTS Project No. **74-14-0002.01** Site Location _____ Collected By _____

ESS Project No. **1503559** Date Assigned _____ Received By _____

Project Manager **Christine Taylor** Date Received _____ Date Required **5 DAY - 4/7/15**

Sample Information					Lab No.	Identification Tests							Permeability		Compaction			Strength		Consol.	Notes
Boring/ Test Pit No.	Sample No.	Depth Ft.	Sample Date	ESS SAMPLE ID		Water Cont. %	LL & PL %	Org. %	Sieve -200 %	Hyd -2μ %	G_s	γ_t pcf	Sand	Clay	Mod.	Std.	CBR	Tor-vane	Type Test $\bar{\sigma}_c$ or σ^c	Cc/ 1+eo	
						D2216	D4318	D2974	D422		D854		D2434	D5084	D1557	D698	D1883		D2166/ D4767/ D2850	D2435	#
GZ-215	0'-3'		3/30/15	1503559-09		X			X												

Notes: _____

Sample and Cooler Receipt Checklist

Client: GZA GeoEnvironmental, Inc.
Client Project ID: _____
Shipped/Delivered Via: ESS Courier

ESS Project ID: 15030559
Date Project Due: 4/7/15
Days For Project: 5 Day

Items to be checked upon receipt:

1. Air Bill Manifest Present?	* No	10. Are the samples properly preserved?	Yes
Air No.:		11. Proper sample containers used?	Yes
2. Were Custody Seals Present?	No	12. Any air bubbles in the VOA vials?	N/A
3. Were Custody Seals Intact?	N/A	13. Holding times exceeded?	No
4. Is Radiation count < 100 CPM?	Yes	14. Sufficient sample volumes?	Yes
5. Is a cooler present?	Yes	15. Any Subcontracting needed?	* Yes
Cooler Temp: **4.6**		16. Are ESS labels on correct containers?	**Yes|No**
Iced With: **Ice**		17. Were samples received intact?	**Yes|No**
6. Was COC included with samples?	Yes	ESS Sample IDs: 09	
7. Was COC signed and dated by client?	Yes	Sub Lab: CTS	
8. Does the COC match the sample	Yes	Analysis: Grain Size / % Water	
9. Is COC complete and correct?	Yes	TAT: 5DAY	

18. Was there need to call project manager to discuss status? If yes, please explain.
LOW Level vials frozen 3/31/15 mw EB 4/2/15 mw

Who was called?:_____ By whom? _____

Sample Number	Properly Preserved	Container Type	# of Containers	Preservative
1	Yes	8 oz Soil Jar	2	NP
2	Yes	8 oz Soil Jar	2	NP
3	Yes	8 oz Soil Jar	2	NP
4	Yes	8 oz Soil Jar	2	NP
5	Yes	8 oz Soil Jar	2	NP
6	Yes	2 oz Soil Jar	1	NP
6	Yes	8 oz Soil Jar	2	NP
7	Yes	8 oz Soil Jar	2	NP
8	Yes	2 oz Soil Jar	1	NP
8	Yes	8 oz Soil Jar	2	NP
9	Yes	4 oz Soil Jar	1	NP
9	Yes	40 ml - VOA	1	MeOH
9	Yes	40 ml - VOA	2	other
9	Yes	8 oz Soil Jar	2	NP
9	Yes	Other Glass	1	NP
10	Yes	8 oz Soil Jar	1	NP
11	Yes	8 oz Soil Jar	1	NP
12	Yes	8 oz Soil Jar	1	NP
13	Yes	8 oz Soil Jar	1	NP
14	Yes	8 oz Soil Jar	1	NP
15	Yes	8 oz Soil Jar	1	NP
16	Yes	8 oz Soil Jar	1	NP
17	Yes	8 oz Soil Jar	1	NP
18	Yes	8 oz Soil Jar	1	NP
19	Yes	8 oz Soil Jar	1	NP

Sample and Cooler Receipt Checklist

Client: GZA GeoEnvironmental, Inc. ESS Project ID: 15030559

20	Yes	8 oz Soil Jar	1	NP
21	Yes	8 oz Soil Jar	1	NP
22	Yes	8 oz Soil Jar	1	NP
23	Yes	8 oz Soil Jar	1	NP
24	Yes	8 oz Soil Jar	1	NP
25	Yes	8 oz Soil Jar	1	NP

Completed By: _____ Date/Time: 3/31/15 1404

Reviewed By: _____ Date/Time: 3/31/15 1543

ESS Laboratory

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS LAB PROJECT ID: 1503559

Turn Time ___X___ Standard Rush_____ Approved By: _____

Reporting Limits -

State where samples were collected: **MA** RI CT NH NJ NY ME Other_____

Is this project for any of the following: (please circle)
MA-MCP CT-RCP NJ-DKQP RGP DOD Other____

Electonic Deliverable Yes ✓ No____
Format: Excel ✓ Access___ PDF ✓ Other____

GZA Project Manager: David E. Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Ave
Norwood, MA 02062
(781) 278-3700

Project No.: 01.0171521.13 Task 001

Project Name: Wynn - Everett

Contract Pricing ____
Special Pricing WO#: _____

3/31/15

	ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	MCP-14 Metals	PAHs by SIM	TOC	SVOCs	PCBs (Aroclors)	EPH	Hexavalent Chromium	Reactivity (Sulfide and Cyanide)	VOCs	% water	Grain Size Analysis	Comment #
							Analysis												
1	10 16 19	3/30/15	0945	G	S	GZ-224 (0'-0.5')		X	X	X	X	X	X						
2	11 17 20					GZ-224 (0.5'-2')		X	X	X	X	X	X						
			↓			GZ-224 (2'-3')		HOLD	AND	FREEZE									
3	12 18 21		1010			GZ-214 (0'-0.5')		X	X	X	X	X	X						
						GZ-214 (0.5'-2')		HOLD	AND	FREEZE									
4	13 19 22					GZ-214 (2'-4')		X	X	X	X	X	X						
5	14 20 23					GZ-214 (4'-6')		X	X	X	X	X	X						
6	15		↓			GZ-214 (6'-8')		X	X										
7	16 24		1040			GZ-215 (0'-0.5')		X	X	X	X	X	X						
		↓	1040	↓	↓	GZ-215 (0.5'-2')		HOLD	AND	FREEZE									

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-____

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present ___X___ Yes _____ No

Seals Intact _____ Yes _____ No NA: X

Cooler Temperature: 3.1°/4.6° ice @ 3/31/15

Sampled by : Daniel Scanlon (Daniel.Scanlon@gza.com)

Comments: (1) TCLP 20X Rule Applies ONLY if noted in comments column.

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
	3/30/15 @ 1400	0700 B. O'Beacon 3/31/15	0830 B. O'Beacon 3/31/15		3/31/15 1227

ESS Laboratory

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Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS LAB PROJECT ID: 1503559

Turn Time ___X___ Standard Rush_____ Approved By: _____

Reporting Limits -

State where samples were collected: **MA** RI CT NH NJ NY ME Other_____

Is this project for any of the following: (please circle)
MA-MCP CT-RCP NJ-DKQP RGP DOD Other___

Electonic Deliverable Yes ✓ No___
Format: Excel___ ✓Access___ PDF ✓ Other___

GZA Project Manager: David E. Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Ave
Norwood, MA 02062
(781) 278-3700

Project No.: 01.0171521.13 Task 001

Project Name: Wynn - Everett

Contract Pricing ____
Special Pricing WO#: _____

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	Analysis: # of Containers	MCP-14 Metals	PAHs by SIM	TOC	SVOCs	PCBs (Aroclors)	EPH	Hexavalent Chromium	Reactivity (Sulfide and Cyanide)	VOCs	% water	Grain Size Analysis	Comment #
	3/30/15	1040	G	S	GZ-215 (2'-4')		HOLD		AND			FREEZE						
B17	↓	↓	G	S	GZ-215 (4'-6')		X	X										
9 18 25	↓	↓	G	S	GZ-215 (0'-3')		X		X	X	X	X	X	X	X	X	X	(1)

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-_____

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present ___X___Yes _____No

Seals Intact _____Yes _____No NA: X

Cooler Temperature: 3.1°/4.6°ICE 3/31/15

Sampled by : Daniel Scanlon (Daniel.Scanlon@gza.com)

Comments: (1) TCLP 20X Rule Applies ONLY if indicated in comments column

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
	3/30/15 C 1400	0700 Bill Bisson 3/31/15	0830 Bill Bisson 3/31/15		3/31/15 1227

CERTIFICATE OF ANALYSIS

David E Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Avenue
Norwood, MA 02062

RE: Wynn Everett Sediment Phase (01.0171521.13 Task 001)
ESS Laboratory Work Order Number: 1503590

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.



Laurel Stoddard
Laboratory Director

REVIEWED
By ESS Laboratory at 1:57 pm, Apr 10, 2015

Analytical Summary
The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with NELAC Standards, A2LA and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.

Subcontracted Analyses

TestAmerica Laboratories, Inc. - Burlington, VT	Total Organic Carbon

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503590

SAMPLE RECEIPT

The following samples were received on March 31, 2015 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has performed and reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Data Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

For EPH soil samples, the aromatic range results have been corrected for identified cartridge contaminant in accordance with the CAM protocol.

Revision 1 April 10, 2015: This report has been revised to include revised COC.

Lab Number	Sample Name	Matrix	Analysis
1503590-01	GZ-211 0ft-0.5ft	Soil	TOC-LK
1503590-02	GZ-211 0ft-3ft	Soil	TOC-LK
1503590-03	GZ-210 0ft-0.5ft	Soil	TOC-LK

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503590

PROJECT NARRATIVE

No unusual observations noted.

End of Project Narrative.

DATA USABILITY LINKS

Definitions of Quality Control Parameters

Semivolatile Organics Internal Standard Information

Semivolatile Organics Surrogate Information

Volatile Organics Internal Standard Information

Volatile Organics Surrogate Information

EPH and VPH Alkane Lists

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503590

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

1010A - Flashpoint
6010C - ICP
6020A - ICP MS
7010 - Graphite Furnace
7196A - Hexavalent Chromium
7470A - Aqueous Mercury
7471B - Solid Mercury
8011 - EDB/DBCP/TCP
8015D - GRO/DRO
8081B - Pesticides
8082A - PCB
8100M - TPH
8151A - Herbicides
8260B - VOA
8270D - SVOA
8270D SIM - SVOA Low Level
9014 - Cyanide
9038 - Sulfate
9040C - Aqueous pH
9045D - Solid pH (Corrosivity)
9050A - Specific Conductance
9056A - Anions (IC)
9060A - TOC
9095B - Paint Filter
MADEP 04-1.1 - EPH / VPH

Prep Methods

3005A - Aqueous ICP and Graphite Furnace Digestion
3020A - Aqueous ICP MS Digestion
3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
3060A - Solid Hexavalent Chromium Digestion
3510C - Separatory Funnel Extraction
3520C - Liquid / Liquid Extraction
3540C - Manual Soxhlet Extraction
3541 - Automated Soxhlet Extraction
3546 - Microwave Extraction
3580A - Waste Dilution
5030B - Aqueous Purge and Trap
5030C - Aqueous Purge and Trap
5035 - Solid Purge and Trap

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-211 0ft-0.5ft
Date Sampled: 03/31/15 10:07
Percent Solids: N/A

ESS Laboratory Work Order: 1503590
ESS Laboratory Sample ID: 1503590-01
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**12600** (1000)		TOC-LK		1	SUB	04/03/15 0:39	mg/kg	CD50906

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-211 0ft-3ft
Date Sampled: 03/31/15 10:07
Percent Solids: N/A

ESS Laboratory Work Order: 1503590
ESS Laboratory Sample ID: 1503590-02
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**19900** (1000)		TOC-LK		1	SUB	04/03/15 0:46	mg/kg	CD50906

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-210 0ft-0.5ft
Date Sampled: 03/31/15 10:30
Percent Solids: N/A

ESS Laboratory Work Order: 1503590
ESS Laboratory Sample ID: 1503590-03
Sample Matrix: Soil

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Total Organic Carbon	**9610** (1000)		TOC-LK		1	SUB	04/03/15 0:52	mg/kg	CD50906

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase ESS Laboratory Work Order: 1503590

Notes and Definitions

ND	Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
I/V	Initial Volume
F/V	Final Volume
§	Subcontracted analysis; see attached report
1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of target analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.
Avg	Results reported as a mathematical average.
NR	No Recovery
[CALC]	Calculated Analyte
SUB	Subcontracted analysis; see attached report
[2C]	Result was taken from the second column. Dual column analysis.

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1503590

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Department of Defense (DoD) Environmental Laboratory Accreditation Program (ELAP)
A2LA Accredited: Testing Cert# 2864.01
http://www.a2la.org/scopepdf/2864-01.pdf

Rhode Island Potable and Non Potable Water: LAI00179
http://www.health.ri.gov/find/labs/analytical/ESS.pdf

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750
http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutofStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI0002
http://www.maine.gov/dhhs/mecdc/environmental-health/water/dwp-services/labcert/documents/AllLabs.xls

Massachusetts Potable and Non Potable Water: M-RI002
http://public.dep.state.ma.us/Labcert/Labcert.aspx

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424
http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313
http://www.wadsworth.org/labcert/elap/comm.html

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006
http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752
http://www.depweb.state.pa.us/portal/server.pt/community/labs/13780/laboratory_accreditation_program/590095

CHEMISTRY

A2LA Accredited: Testing Cert # 2864.01
Lead in Paint, Phthalates, Lead in Children's Metals Products (Including Jewelry)
http://www.A2LA.org/dirsearchnew/newsearch.cfm

CPSC ID# 1141
Lead Paint, Lead in Children's Metals Jewelry
http://www.cpsc.gov/cgi-bin/labapplist.aspx

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING



ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Burlington
30 Community Drive
Suite 11
South Burlington, VT 05403
Tel: (802)660-1990

TestAmerica Job ID: 200-27360-2
TestAmerica Sample Delivery Group: 1503590
Client Project/Site: 1503590

For:
ESS Laboratory
185 Frances Ave.
Cranston, Rhode Island 02910

Attn: Ms. Elizabeth Ouk

Authorized for release by:
4/9/2015 10:42:49 AM

Kathryn Kelly, Project Manager I
(802)660-1990
kathryn.kelly@testamericainc.com

LINKS
Review your project results through TotalAccess
Have a Question? Ask The Expert
Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Qualifiers

General Chemistry

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Job ID: 200-27360-2

Laboratory: TestAmerica Burlington

Narrative

CASE NARRATIVE

Client: ESS Laboratory

Project: 1503556

Report Number: 200-27360-2

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The samples were received on 04/02/2015; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 5.2 C.

TOTAL ORGANIC CARBON

Samples 1503590-01, 1503590-02 and 1503590-03 were analyzed for total organic carbon in accordance with Lloyd Kahn Method. The samples were analyzed on 04/03/2015.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: ESS Laboratory
Project/Site: 1503590

TestAmerica Job ID: 200-27360-2
SDG: 1503590

Client Sample ID: 1503590-01 — Lab Sample ID: 200-27360-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	12600		1000	120	mg/Kg	1		Lloyd Kahn	Total/NA

Client Sample ID: 1503590-02 — Lab Sample ID: 200-27360-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	19900		1000	120	mg/Kg	1		Lloyd Kahn	Total/NA

Client Sample ID: 1503590-03 — Lab Sample ID: 200-27360-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	9610		1000	120	mg/Kg	1		Lloyd Kahn	Total/NA

This Detection Summary does not include radiochemical test results.

Client: ESS Laboratory
Project/Site: 1503590

TestAmerica Job ID: 200-27360-2
SDG: 1503590

Client Sample ID: 1503590-01 — **Lab Sample ID: 200-27360-16**
Date Collected: 03/31/15 10:07 — **Matrix: Sediment**
Date Received: 04/02/15 11:00

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	12600		1000	120	mg/Kg			04/03/15 00:39	1

Client Sample ID: 1503590-02 — **Lab Sample ID: 200-27360-17**
Date Collected: 03/31/15 10:07 — **Matrix: Sediment**
Date Received: 04/02/15 11:00

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	19900		1000	120	mg/Kg			04/03/15 00:46	1

Client Sample ID: 1503590-03 — **Lab Sample ID: 200-27360-18**
Date Collected: 03/31/15 10:30 — **Matrix: Sediment**
Date Received: 04/02/15 11:00

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	9610		1000	120	mg/Kg			04/03/15 00:52	1

Client: ESS Laboratory
Project/Site: 1503590

TestAmerica Job ID: 200-27360-2
SDG: 1503590

Method: Lloyd Kahn - Organic Carbon, Total (TOC)

Lab Sample ID: MB 200-86423/5
Matrix: Sediment
Analysis Batch: 86423

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	1000	U	1000	120	mg/Kg			04/02/15 22:13	1

Lab Sample ID: LCS 200-86423/6
Matrix: Sediment
Analysis Batch: 86423

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	20100	20170		mg/Kg		100	75 - 125

QC Association Summary

Client: ESS Laboratory
Project/Site: 1503590

TestAmerica Job ID: 200-27360-2
SDG: 1503590

General Chemistry

Analysis Batch: 86423

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
200-27360-16	1503590-01	Total/NA	Sediment	Lloyd Kahn	
200-27360-17	1503590-02	Total/NA	Sediment	Lloyd Kahn	
200-27360-18	1503590-03	Total/NA	Sediment	Lloyd Kahn	
LCS 200-86423/6	Lab Control Sample	Total/NA	Sediment	Lloyd Kahn	
MB 200-86423/5	Method Blank	Total/NA	Sediment	Lloyd Kahn	

Lab Chronicle

Client: ESS Laboratory
Project/Site: 1503590

TestAmerica Job ID: 200-27360-2
SDG: 1503590

Client Sample ID: 1503590-01

Lab Sample ID: 200-27360-16

Date Collected: 03/31/15 10:07

Matrix: Sediment

Date Received: 04/02/15 11:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Lloyd Kahn		1	86423	04/03/15 00:39	MDK	TAL BUR

Client Sample ID: 1503590-02

Lab Sample ID: 200-27360-17

Date Collected: 03/31/15 10:07

Matrix: Sediment

Date Received: 04/02/15 11:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Lloyd Kahn		1	86423	04/03/15 00:46	MDK	TAL BUR

Client Sample ID: 1503590-03

Lab Sample ID: 200-27360-18

Date Collected: 03/31/15 10:30

Matrix: Sediment

Date Received: 04/02/15 11:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Lloyd Kahn		1	86423	04/03/15 00:52	MDK	TAL BUR

Laboratory References:

TAL BUR = TestAmerica Burlington, 30 Community Drive, Suite 11, South Burlington, VT 05403, TEL (802)660-1990

Certification Summary

Client: ESS Laboratory
Project/Site: 1503590

TestAmerica Job ID: 200-27360-2
SDG: 1503590

Laboratory: TestAmerica Burlington

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Connecticut	State Program	1	PH-0751	09-30-15
DE Haz. Subst. Cleanup Act (HSCA)	State Program	3	NA	02-13-16
Florida	NELAP	4	E87467	06-30-15
L-A-B	DoD ELAP		L2336	02-26-17
Maine	State Program	1	VT00008	04-17-15 *
Minnesota	NELAP	5	050-999-436	12-31-15
New Hampshire	NELAP	1	2006	12-18-15
New Jersey	NELAP	2	VT972	06-30-15
New York	NELAP	2	10391	03-31-16
Pennsylvania	NELAP	3	68-00489	04-30-15 *
Rhode Island	State Program	1	LAO00298	12-30-15
US Fish & Wildlife	Federal		LE-058448-0	02-28-16
USDA	Federal		P330-11-00093	10-28-16
Vermont	State Program	1	VT-4000	12-31-15
Virginia	NELAP	3	460209	12-14-15

* Certification renewal pending - certification considered valid.

Method Summary

Client: ESS Laboratory
Project/Site: 1503590

TestAmerica Job ID: 200-27360-2
SDG: 1503590

Method	Method Description	Protocol	Laboratory
Lloyd Kahn	Organic Carbon, Total (TOC)	EPA	TAL BUR

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

TAL BUR = TestAmerica Burlington, 30 Community Drive, Suite 11, South Burlington, VT 05403, TEL (802)660-1990

Sample Summary

Client: ESS Laboratory
Project/Site: 1503590

TestAmerica Job ID: 200-27360-2
SDG: 1503590

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
200-27360-16	1503590-01	Sediment	03/31/15 10:07	04/02/15 11:00
200-27360-17	1503590-02	Sediment	03/31/15 10:07	04/02/15 11:00
200-27360-18	1503590-03	Sediment	03/31/15 10:30	04/02/15 11:00

ESS Laboratory — T. America — CHAIN OF CUSTODY

Division of Thielsch Engineering, Inc.

185 Frances Avenue,Cranston RI 02910-2211
Tel. (401)461-7181 Fax (401)461-4486
www.esslaboratory.com

ESS Lab # 1503590

Turn Time _____Standard Other **5 DAY**

Reporting Limits - _____

Regulatory State: **MA** RI CT NH NJ NY ME Other_____

Is this project for any of the following:(please circle)
MA-MCP Navy USACE CT DEP Other_____

Electonic Deliverables **Excel** Access **PDF** *

Co. Name: **ESS Laboratory**	Project #:	Project Name: **1503590**	
Contact Person: **Christine Taylor**	Proj. Location:		
Address:	City , State:	Zip:	PO #: B02192
Tel. ext. 3039	email: ctaylor@thielsch.com	email: smorrell@thielsch.com	

ESS Lab ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample ID	Pres Code	# of Containers	Type of Container	Vol of Container	Analysis: TOC Lloyd Kahn									
	3/31/15	**1007**	**G**	**SED**	**1503590-01**	**1**	**1**	**G**	**2oz**	**X**									
	3/31/15	**1007**	**G**	**SED**	**1503590-02**	**1**	**1**	**G**	**2oz**	**X**									
	3/31/15	**1030**	**G**	**SED**	**1503590-03**	**1**	**1**	**G**	**2oz**	**X**									

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present _____Yes _____No Internal Use Only

Seals Intact ____ Yes _____No NA:____ [ ] Pickup

Cooler Temperature: _____ [ ] Technician____

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-_____

Sampled by :

Comments:

Relinquished by: (Signature, Date & Time)	Received by: (Signature, Date & Time)	Relinquished by: (Signature, Date & Time)	Received by: (Signature, Date & Time)
4/1/15 1410		4/1/15	*
Relinquished by: (Signature, Date & Time)	Received by: (Signature, Date & Time)	Relinquished by: (Signature, Date & Time)	Received by: (Signature, Date & Time)
	* TASTV 4/2/15 1100		

By circling MA-MCP, client acknowledges sampels were collected in accordance with MADEP CAM VIIA

Please fax to the laboratory all changes to Chain of Custody

Report Method Blank & Laboratory Control Sample Results



ORIGIN ID:BXCA (781) 466-6900
PAUL HOBART
TESTAMERICA
240 BEAR HILL ROAD
SUITE 104
WALTHAM, MA 02451
UNITED STATES US

SHIP DATE: 01APR15
ACTWGT: 49.3 LB
CAD: 590687/CAFE2807

BILL RECIPIENT

TO SAMPLE RECEIVING
TESTAMERICA BURLINGTON
30 COMMUNITY DRIVE
SUITE 11
SOUTH BURLINGTON VT 05403
(802) 660-1990 REF:
INV:
PO: DEPT:

FedEx Express

THU - 02 APR AA
STANDARD OVERNIGHT

TRK# 0201 4258 8388 7934

EK BTVA

05403
VT-US BTV

Part # 156148-43-I RIT2 07/14 ea

Login Sample Receipt Checklist

Client: ESS Laboratory

Job Number: 200-27360-2
SDG Number: 1503590

Login Number: 27360
List Number: 1
Creator: Atherton, Joel E

List Source: TestAmerica Burlington

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	TAMPER EVIDENT TAPE
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	5.2ºC
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	IDs on containers do not match the COC. Logged in per COC.
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Sample and Cooler Receipt Checklist

Client: GZA GeoEnvironmental, Inc.
Client Project ID: _____
Shipped/Delivered Via: ESS Courier

ESS Project ID: 15030590
Date Project Due: 4/7/15
Days For Project: 5 Day

Items to be checked upon receipt:

1. Air Bill Manifest Present?	* No	10. Are the samples properly preserved?	Yes
Air No.:		11. Proper sample containers used?	Yes
2. Were Custody Seals Present?	No	12. Any air bubbles in the VOA vials?	N/A
3. Were Custody Seals Intact?	N/A	13. Holding times exceeded?	No
4. Is Radiation count < 100 CPM?	Yes	14. Sufficient sample volumes?	Yes
5. Is a cooler present?	Yes	15. Any Subcontracting needed?	* Yes
Cooler Temp: **0.9**		16. Are ESS labels on correct containers?	Yes | No
Iced With: **Ice**		17. Were samples received intact?	Yes | No
6. Was COC included with samples?	Yes	ESS Sample IDs:	01-03
7. Was COC signed and dated by client?	Yes	Sub Lab:	Test America
8. Does the COC match the sample	Yes	Analysis:	TOC LK
9. Is COC complete and correct?	Yes	TAT:	5 DAY

18. Was there need to call project manager to discuss status? If yes, please explain.

_____

_____

_____

Who was called?:_____ By whom? _____

Sample Number	Properly Preserved	Container Type	# of Containers	Preservative
1	Yes	2 oz Soil Jar	1	NP
2	Yes	2 oz Soil Jar	1	NP
3	Yes	2 oz Soil Jar	1	NP

Completed By: _____ Date/Time: 4/1/15 0929
Reviewed By: _____ Date/Time: 4/1/15 1013

ESS Laboratory

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS LAB PROJECT ID: 1503590

Turn Time ___X___ Standard Rush_____ Approved By: _____

Reporting Limits -

State where samples were collected: **MA** RI CT NH NJ NY ME Other_____

Is this project for any of the following: (please circle)
MA-MCP CT-RCP NJ-DKQP RGP DOD Other____

Electonic Deliverable Yes ✓ No____
Format: Excel ✓ Access___ PDF ✓ Other____

GZA Project Manager: David E. Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Ave
Norwood, MA 02062
(781) 278-3700

Project No.: 01.0171521.13 Task 001

Project Name: Wynn - Everett

Contract Pricing ____
Special Pricing WO#: _____

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	MCP 14 Metals	PAHs by SIM	TOC	SVOCs	PCBs (Aroclors)	EPH	Hexavalent Chromium	Reactivity (Sulfide and Cyanide)	VOCs	% water	Grain Size Analysis	Comment #
						Analysis												
1	3/31/15	10:07	6	S	GZ-211 (0'-0.5')		X	X	X	X	X	X						
					GZ-211 (0.5'-2')		HOLD	AND	FREEZE									
					GZ-211 (2'-4')		HOLD	AND	FREEZE									
					GZ-211 (4'-6')		X	X										
2		↓			GZ-211 (0'-3')		X		X	X	X	X	X	X	X	X	X	(1)
3		10:30			GZ-210 (0'-0.5')		X	X	X	X	X	X						
					GZ-210 (0.5'-2')		X	X										
					GZ-210 (2'-4')		X	X										
	↓	↓	↓	↓	GZ-210 (4'-5½')		HOLD	AND	FREEZE									

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-____
Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA
Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present ✓ Yes ____ No
Seals Intact ____ Yes ____ No NA: ✓
Cooler Temperature: 0.9 ICE

Sampled by : Daniel Scanlon (Daniel.Scanlon@gza.com)

Comments: (1) TCLP 20X Rule Applies ONLY if noted in comments column
TOC only reported with this WO - cmt 4/1/15

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
[signature]	3/31/15		GZA FRIDGE WALKER	3/31/15 1515	[signature] 3/31/15 1515

Relinquished Dick Halladay @ 1345 3/31/15 1620 [signature] 3/31/15 1818

Page 1 of 1

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ESS Laboratory

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS LAB PROJECT ID: 1503590

Turn Time ___X___ Standard Rush_____ Approved By: _____

Reporting Limits -

State where samples were collected: **MA** RI CT NH NJ NY ME Other_____

Is this project for any of the following: (please circle)
MA-MCP CT-RCP NJ-DKQP RGP DOD Other____

Electonic Deliverable Yes ✓ No____
Format: Excel ✓ Access___ PDF ✓ Other____

GZA Project Manager: David E. Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Ave
Norwood, MA 02062
(781) 278-3700

Project No.: 01.0171521.13 Task 001

Project Name: Wynn - Everett

Contract Pricing ____
Special Pricing WO#: _____

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	Analysis: MCP-14 Metals	PAHs by SIM	TOC	SVOCs	PCBs (Aroclors)	EPH	Hexavalent Chromium	Reactivity (Sulfide and Cyanide)	VOCs	% water	Grain Size Analysis	Comment #
1	3/31/15	10:07	6	S	GZ-211 (0'-0.5')		X	X	X	X	X	X						
					GZ-211 (0.5'-2')		HOLD AND FREEZE											
					GZ-211 (2'-4')		HOLD AND FREEZE											
					GZ-211 (4'-6')		X	X										
2		↓			GZ-211 (0'-3')		X		X	X	X	X	X	X	X	X	X	(1)
3		10:30			GZ-210 (0'-0.5')		X	X	X	X	X	X						
					GZ-210 (0.5'-2')		X	X										
					GZ-210 (2'-4')		X	X										
	↓	↓	↓	↓	GZ-210 (4'-5½')		HOLD AND FREEZE											

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-_____
Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA
Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present ✓ Yes ____ No
Seals Intact ____ Yes ____ No NA: ✓
Cooler Temperature: 0.9 ICE

Sampled by : Daniel Scanlon (Daniel.Scanlon@gza.com)

Comments: (1) TCLP 20X Rule Applies ONLY if noted in comments column

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
[signature]	3/31/15		GZA FRIDGE WALKER	3/31/15 1515	[signature] 3/31/15 1515

Relinquished Dick Halladay @ 1345 3/31/15 1620 [signature] 3/31/15 1818

CERTIFICATE OF ANALYSIS

David E Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Avenue
Norwood, MA 02062

RE: Wynn Everett Sediment Phase (01.0171521.13 Task 001)
ESS Laboratory Work Order Number: 1504045

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.



Laurel Stoddard
Laboratory Director

REVIEWED
By ESS Laboratory at 3:11 pm, Apr 16, 2015

Analytical Summary
The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with NELAC Standards, A2LA and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1504045

SAMPLE RECEIPT

The following samples were received on April 09, 2015 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has performed and reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Data Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

For EPH soil samples, the aromatic range results have been corrected for identified cartridge contaminant in accordance with the CAM protocol.

Samples 1504045-01 and 1504045-02 were originally received on March 25, 2015 as ESS Laboratory Sample IDs 1503415-21 and 1503415-31. Sample 1504045-03 was originally received on March 26, 2015 as ESS Laboratory Sample ID 1503447-20. Samples 1504045-04, 1504045-05, 1504045-06 and 1504045-07 were originally received on March 26, 2015 as ESS Laboratory Sample IDs 1503448-15, 1503448-19, 1503448-22 and 1503448-28. Samples 1504045-08 and 1504045-09 were originally received on March 31, 2015 as ESS Laboratory Sample IDs 1503558-24 and 1503558-30. Sample 1504045-10 was originally received on March 27, 2015 as ESS Laboratory Sample ID 1503512-24.

Lab Number	Sample Name	Matrix	Analysis
1504045-01	GZ-203 0ft-3ft	Soil	1311, 1311/6010C
1504045-02	GZ-217 0ft-3ft	Soil	1311, 1311/6010C
1504045-03	GZ-207 0ft-3ft	Soil	1311, 1311/6010C
1504045-04	GZ-206 0ft-3ft	Soil	1311, 1311/6010C
1504045-05	GZ-205 0ft-3ft	Soil	1311, 1311/6010C
1504045-06	GZ-213 0ft-3ft	Soil	1311, 1311/6010C
1504045-07	GZ-219 0ft-3ft	Soil	1311, 1311/6010C
1504045-08	GZ-211 0ft-3ft	Soil	1311, 1311/6010C, 1311/7470A
1504045-09	GZ-223 0ft-3ft	Soil	1311, 1311/6010C, 1311/7470A
1504045-10	GZ-201 0ft-3ft	Soil	1311, 1311/6010C

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1504045

PROJECT NARRATIVE

No unusual observations noted.

End of Project Narrative.

DATA USABILITY LINKS

Definitions of Quality Control Parameters

Semivolatile Organics Internal Standard Information

Semivolatile Organics Surrogate Information

Volatile Organics Internal Standard Information

Volatile Organics Surrogate Information

EPH and VPH Alkane Lists

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1504045

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

1010A - Flashpoint
6010C - ICP
6020A - ICP MS
7010 - Graphite Furnace
7196A - Hexavalent Chromium
7470A - Aqueous Mercury
7471B - Solid Mercury
8011 - EDB/DBCP/TCP
8015D - GRO/DRO
8081B - Pesticides
8082A - PCB
8100M - TPH
8151A - Herbicides
8260B - VOA
8270D - SVOA
8270D SIM - SVOA Low Level
9014 - Cyanide
9038 - Sulfate
9040C - Aqueous pH
9045D - Solid pH (Corrosivity)
9050A - Specific Conductance
9056A - Anions (IC)
9060A - TOC
9095B - Paint Filter
MADEP 04-1.1 - EPH / VPH

Prep Methods

3005A - Aqueous ICP and Graphite Furnace Digestion
3020A - Aqueous ICP MS Digestion
3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
3060A - Solid Hexavalent Chromium Digestion
3510C - Separatory Funnel Extraction
3520C - Liquid / Liquid Extraction
3540C - Manual Soxhlet Extraction
3541 - Automated Soxhlet Extraction
3546 - Microwave Extraction
3580A - Waste Dilution
5030B - Aqueous Purge and Trap
5030C - Aqueous Purge and Trap
5035 - Solid Purge and Trap

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-203 0ft-3ft
Date Sampled: 03/24/15 12:30
Percent Solids: N/A

ESS Laboratory Work Order: 1504045
ESS Laboratory Sample ID: 1504045-01
Sample Matrix: Soil
Units: mg/L

Extraction Method: 3005A TCLP

TCLP Extraction Date: 4/7/15 18:42

1311 TCLP Metals

Analyte	Results (MRL)	MDL	Method	TCLP Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Lead	**0.179** (0.050)		1311/6010C		1	KJK	04/08/15 13:39	50	50	CD50752

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-203 0ft-3ft
Date Sampled: 03/24/15 12:30
Percent Solids: N/A
Initial Volume: 100
Final Volume: 2000
Extraction Method: 3005A TCLP

ESS Laboratory Work Order: 1504045
ESS Laboratory Sample ID: 1504045-01
Sample Matrix: Soil
Units: °C
Analyst: NRA
Prepared: 4/6/15 21:20

TCLP Extraction by 1311

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Batch
Temperature (Min C)	**21.5** (N/A)		1311		1	NRA	04/07/15 13:20	CD50645
Temperature (Max C)	**21.5** (N/A)		1311		1	NRA	04/07/15 13:20	CD50645
Temperature (Range)	**Temperature is within 23 +/-2 °C.** (N/A)							

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-217 0ft-3ft
Date Sampled: 03/24/15 16:10
Percent Solids: N/A

ESS Laboratory Work Order: 1504045
ESS Laboratory Sample ID: 1504045-02
Sample Matrix: Soil
Units: mg/L

Extraction Method: 3005A TCLP

TCLP Extraction Date: 4/7/15 18:42

1311 TCLP Metals

Analyte	Results (MRL)	MDL	Method	TCLP Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Lead	**0.365** (0.050)		1311/6010C		1	KJK	04/08/15 13:43	50	50	CD50752
Selenium	ND (0.050)		1311/6010C		1	KJK	04/08/15 13:43	50	50	CD50752

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-217 0ft-3ft
Date Sampled: 03/24/15 16:10
Percent Solids: N/A
Initial Volume: 100
Final Volume: 2000
Extraction Method: 3005A TCLP

ESS Laboratory Work Order: 1504045
ESS Laboratory Sample ID: 1504045-02
Sample Matrix: Soil
Units: °C
Analyst: NRA
Prepared: 4/6/15 21:20

TCLP Extraction by 1311

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Batch
Temperature (Min C)	**21.5** (N/A)		1311		1	NRA	04/07/15 13:20	CD50645
Temperature (Max C)	**21.5** (N/A)		1311		1	NRA	04/07/15 13:20	CD50645
Temperature (Range)	**Temperature is within 23 +/-2 °C.** (N/A)							

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-207 0ft-3ft
Date Sampled: 03/25/15 10:45
Percent Solids: N/A

ESS Laboratory Work Order: 1504045
ESS Laboratory Sample ID: 1504045-03
Sample Matrix: Soil
Units: mg/L

Extraction Method: 3005A TCLP

TCLP Extraction Date: 4/7/15 18:42

1311 TCLP Metals

Analyte	Results (MRL)	MDL	Method	TCLP Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Lead	ND (0.050)		1311/6010C		1	KJK	04/08/15 13:47	50	50	CD50752

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-207 0ft-3ft
Date Sampled: 03/25/15 10:45
Percent Solids: N/A
Initial Volume: 100
Final Volume: 2000
Extraction Method: 3005A TCLP

ESS Laboratory Work Order: 1504045
ESS Laboratory Sample ID: 1504045-03
Sample Matrix: Soil
Units: °C
Analyst: NRA
Prepared: 4/6/15 21:20

TCLP Extraction by 1311

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Batch
Temperature (Min C)	**21.5** (N/A)		1311		1	NRA	04/07/15 13:20	CD50645
Temperature (Max C)	**21.5** (N/A)		1311		1	NRA	04/07/15 13:20	CD50645
Temperature (Range)	**Temperature is within 23 +/-2 °C.** (N/A)							

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-206 0ft-3ft
Date Sampled: 03/25/15 11:10
Percent Solids: N/A

ESS Laboratory Work Order: 1504045
ESS Laboratory Sample ID: 1504045-04
Sample Matrix: Soil
Units: mg/L

Extraction Method: 3005A TCLP

TCLP Extraction Date: 4/7/15 18:42

1311 TCLP Metals

Analyte	Results (MRL)	MDL	Method	TCLP Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Lead	ND (0.050)		1311/6010C		1	KJK	04/08/15 13:51	50	50	CD50752

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-206 0ft-3ft
Date Sampled: 03/25/15 11:10
Percent Solids: N/A
Initial Volume: 100
Final Volume: 2000
Extraction Method: 3005A TCLP

ESS Laboratory Work Order: 1504045
ESS Laboratory Sample ID: 1504045-04
Sample Matrix: Soil
Units: °C
Analyst: NRA
Prepared: 4/6/15 21:20

TCLP Extraction by 1311

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Batch
Temperature (Min C)	**21.5** (N/A)		1311		1	NRA	04/07/15 13:20	CD50645
Temperature (Max C)	**21.5** (N/A)		1311		1	NRA	04/07/15 13:20	CD50645
Temperature (Range)	**Temperature is within 23 +/-2 °C.** (N/A)							

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-205 0ft-3ft
Date Sampled: 03/25/15 11:46
Percent Solids: N/A

ESS Laboratory Work Order: 1504045
ESS Laboratory Sample ID: 1504045-05
Sample Matrix: Soil
Units: mg/L

Extraction Method: 3005A TCLP

TCLP Extraction Date: 4/7/15 18:42

1311 TCLP Metals

Analyte	Results (MRL)	MDL	Method	TCLP Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Lead	**0.062** (0.050)		1311/6010C		1	KJK	04/08/15 13:55	50	50	CD50752

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-205 0ft-3ft
Date Sampled: 03/25/15 11:46
Percent Solids: N/A
Initial Volume: 100
Final Volume: 2000
Extraction Method: 3005A TCLP

ESS Laboratory Work Order: 1504045
ESS Laboratory Sample ID: 1504045-05
Sample Matrix: Soil
Units: °C
Analyst: NRA
Prepared: 4/6/15 21:20

TCLP Extraction by 1311

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Batch
Temperature (Min C)	**21.5** (N/A)		1311		1	NRA	04/07/15 13:20	CD50645
Temperature (Max C)	**21.5** (N/A)		1311		1	NRA	04/07/15 13:20	CD50645
Temperature (Range)	**Temperature is within 23 +/-2 °C.** (N/A)							

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-213 0ft-3ft
Date Sampled: 03/25/15 13:52
Percent Solids: N/A

ESS Laboratory Work Order: 1504045
ESS Laboratory Sample ID: 1504045-06
Sample Matrix: Soil
Units: mg/L

Extraction Method: 3005A TCLP

TCLP Extraction Date: 4/7/15 18:42

1311 TCLP Metals

Analyte	Results (MRL)	MDL	Method	TCLP Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Lead	**1.32** (0.050)		1311/6010C		1	KJK	04/08/15 13:59	50	50	CD50752

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-213 0ft-3ft
Date Sampled: 03/25/15 13:52
Percent Solids: N/A
Initial Volume: 100
Final Volume: 2000
Extraction Method: 3005A TCLP

ESS Laboratory Work Order: 1504045
ESS Laboratory Sample ID: 1504045-06
Sample Matrix: Soil
Units: °C
Analyst: NRA
Prepared: 4/6/15 21:20

TCLP Extraction by 1311

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Batch
Temperature (Min C)	**21.5** (N/A)		1311		1	NRA	04/07/15 13:20	CD50645
Temperature (Max C)	**21.5** (N/A)		1311		1	NRA	04/07/15 13:20	CD50645
Temperature (Range)	**Temperature is within 23 +/-2 °C.** (N/A)							

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-219 0ft-3ft
Date Sampled: 03/25/15 15:06
Percent Solids: N/A

ESS Laboratory Work Order: 1504045
ESS Laboratory Sample ID: 1504045-07
Sample Matrix: Soil
Units: mg/L

Extraction Method: 3005A TCLP

TCLP Extraction Date: 4/7/15 18:42

1311 TCLP Metals

Analyte	Results (MRL)	MDL	Method	TCLP Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Lead	**3.20** (0.050)		1311/6010C		1	KJK	04/08/15 14:32	50	50	CD50752

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-219 0ft-3ft
Date Sampled: 03/25/15 15:06
Percent Solids: N/A
Initial Volume: 100
Final Volume: 2000
Extraction Method: 3005A TCLP

ESS Laboratory Work Order: 1504045
ESS Laboratory Sample ID: 1504045-07
Sample Matrix: Soil
Units: °C
Analyst: NRA
Prepared: 4/6/15 21:20

TCLP Extraction by 1311

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Batch
Temperature (Min C)	**21.5** (N/A)		1311		1	NRA	04/07/15 13:20	CD50645
Temperature (Max C)	**21.5** (N/A)		1311		1	NRA	04/07/15 13:20	CD50645
Temperature (Range)	**Temperature is within 23 +/-2 °C.** (N/A)							

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-211 0ft-3ft
Date Sampled: 03/30/15 08:30
Percent Solids: N/A

ESS Laboratory Work Order: 1504045
ESS Laboratory Sample ID: 1504045-08
Sample Matrix: Soil
Units: mg/L

Extraction Method: 3005A TCLP

TCLP Extraction Date: 4/11/15 14:40

1311 TCLP Metals

Analyte	Results (MRL)	MDL	Method	TCLP Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Arsenic	**0.133** (0.050)		1311/6010C		1	KJK	04/14/15 16:47	50	50	CD51109
Lead	ND (0.050)		1311/6010C		1	KJK	04/14/15 16:47	50	50	CD51109
Mercury	ND (0.00050)		1311/7470A		1	RLA	04/14/15 15:02	20	40	CD51108

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-211 0ft-3ft
Date Sampled: 03/30/15 08:30
Percent Solids: N/A
Initial Volume: 100
Final Volume: 2000
Extraction Method: 3005A TCLP

ESS Laboratory Work Order: 1504045
ESS Laboratory Sample ID: 1504045-08
Sample Matrix: Soil
Units: °C
Analyst: EVR
Prepared: 4/10/15 18:24

TCLP Extraction by 1311

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Batch
Temperature (Min C)	**21.5** (N/A)		1311		1	EVR	04/11/15 10:30	CD51035
Temperature (Max C)	**22.0** (N/A)		1311		1	EVR	04/11/15 10:30	CD51035
Temperature (Range)	**Temperature is within 23 +/-2 °C.** (N/A)							

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-223 0ft-3ft
Date Sampled: 03/30/15 09:18
Percent Solids: N/A

ESS Laboratory Work Order: 1504045
ESS Laboratory Sample ID: 1504045-09
Sample Matrix: Soil
Units: mg/L

Extraction Method: 3005A TCLP

TCLP Extraction Date: 4/11/15 14:40

1311 TCLP Metals

Analyte	Results (MRL)	MDL	Method	TCLP Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Arsenic	**0.171** (0.050)		1311/6010C		1	KJK	04/14/15 16:51	50	50	CD51109
Lead	**0.620** (0.050)		1311/6010C		1	KJK	04/14/15 16:51	50	50	CD51109
Mercury	ND (0.00050)		1311/7470A		1	RLA	04/14/15 15:04	20	40	CD51108

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-223 0ft-3ft
Date Sampled: 03/30/15 09:18
Percent Solids: N/A
Initial Volume: 100
Final Volume: 2000
Extraction Method: 3005A TCLP

ESS Laboratory Work Order: 1504045
ESS Laboratory Sample ID: 1504045-09
Sample Matrix: Soil
Units: °C
Analyst: EVR
Prepared: 4/10/15 18:24

TCLP Extraction by 1311

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Batch
Temperature (Min C)	**21.5** (N/A)		1311		1	EVR	04/11/15 10:30	CD51035
Temperature (Max C)	**22.0** (N/A)		1311		1	EVR	04/11/15 10:30	CD51035
Temperature (Range)	**Temperature is within 23 +/-2 °C.** (N/A)							

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-201 0ft-3ft
Date Sampled: 03/27/15 09:24
Percent Solids: N/A

ESS Laboratory Work Order: 1504045
ESS Laboratory Sample ID: 1504045-10
Sample Matrix: Soil
Units: mg/L

Extraction Method: 3005A TCLP

TCLP Extraction Date: 4/11/15 14:40

1311 TCLP Metals

Analyte	Results (MRL)	MDL	Method	TCLP Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Arsenic	ND (0.050)		1311/6010C		1	KJK	04/14/15 16:55	50	50	CD51109
Lead	ND (0.050)		1311/6010C		1	KJK	04/14/15 16:55	50	50	CD51109

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase
Client Sample ID: GZ-201 0ft-3ft
Date Sampled: 03/27/15 09:24
Percent Solids: N/A
Initial Volume: 100
Final Volume: 2000
Extraction Method: 3005A TCLP

ESS Laboratory Work Order: 1504045
ESS Laboratory Sample ID: 1504045-10
Sample Matrix: Soil
Units: °C
Analyst: EVR
Prepared: 4/10/15 18:24

TCLP Extraction by 1311

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Batch
Temperature (Min C)	**21.5** (N/A)		1311		1	EVR	04/11/15 10:30	CD51035
Temperature (Max C)	**22.0** (N/A)		1311		1	EVR	04/11/15 10:30	CD51035
Temperature (Range)	**Temperature is within 23 +/-2 °C.** (N/A)							

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1504045

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
				1311 TCLP Metals						
Batch CD50752 - 3005A_TCLP										
Blank										
Lead	ND	0.050	mg/L							
Selenium	ND	0.050	mg/L							
Blank										
Lead	ND	0.050	mg/L							
Selenium	ND	0.050	mg/L							
LCS										
Lead	0.482	0.050	mg/L	0.5000		96	80-120			
Selenium	1.01	0.050	mg/L	1.000		101	80-120			
LCS Dup										
Lead	0.467	0.050	mg/L	0.5000		93	80-120	3	20	
Selenium	0.986	0.050	mg/L	1.000		99	80-120	3	20	
Batch CD51108 - 245.1/7470A										
Blank										
Mercury	ND	0.00050	mg/L							
Blank										
Mercury	ND	0.00050	mg/L							
LCS										
Mercury	0.00601	0.00050	mg/L	0.006000		100	80-120			
LCS Dup										
Mercury	0.00612	0.00050	mg/L	0.006000		102	80-120	2	20	
Batch CD51109 - 3005A_TCLP										
Blank										
Arsenic	ND	0.050	mg/L							
Lead	ND	0.050	mg/L							
LCS										
Arsenic	0.484	0.050	mg/L	0.5000		97	80-120			
Lead	0.465	0.050	mg/L	0.5000		93	80-120			
LCS Dup										
Arsenic	0.560	0.050	mg/L	0.5000		112	80-120	15	20	
Lead	0.531	0.050	mg/L	0.5000		106	80-120	13	20	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase ESS Laboratory Work Order: 1504045

Notes and Definitions

Z17	Temperature is within 23 +/-2 ºC.
U	Analyte included in the analysis, but not detected
ND	Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
I/V	Initial Volume
F/V	Final Volume
§	Subcontracted analysis; see attached report
1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of target analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.
Avg	Results reported as a mathematical average.
NR	No Recovery
[CALC]	Calculated Analyte
SUB	Subcontracted analysis; see attached report
[2C]	Result was taken from the second column. Dual column analysis.

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Wynn Everett Sediment Phase

ESS Laboratory Work Order: 1504045

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Department of Defense (DoD) Environmental Laboratory Accreditation Program (ELAP)
A2LA Accredited: Testing Cert# 2864.01
http://www.a2la.org/scopepdf/2864-01.pdf

Rhode Island Potable and Non Potable Water: LAI00179
http://www.health.ri.gov/find/labs/analytical/ESS.pdf

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750
http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutofStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI0002
http://www.maine.gov/dhhs/mecdc/environmental-health/water/dwp-services/labcert/documents/AllLabs.xls

Massachusetts Potable and Non Potable Water: M-RI002
http://public.dep.state.ma.us/Labcert/Labcert.aspx

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424
http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313
http://www.wadsworth.org/labcert/elap/comm.html

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006
http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752
http://www.depweb.state.pa.us/portal/server.pt/community/labs/13780/laboratory_accreditation_program/590095

CHEMISTRY

A2LA Accredited: Testing Cert # 2864.01
Lead in Paint, Phthalates, Lead in Children's Metals Products (Including Jewelry)
http://www.A2LA.org/dirsearchnew/newsearch.cfm

CPSC ID# 1141
Lead Paint, Lead in Children's Metals Jewelry
http://www.cpsc.gov/cgi-bin/labapplist.aspx

Sample and Cooler Receipt Checklist

Client: GZA GeoEnvironmental, Inc.
Client Project ID: _____
Shipped/Delivered Via: ESS Courier

ESS Project ID: 15040045
Date Project Due: 4/9/15
Days For Project: 5 Day

Items to be checked upon receipt:

1. Air Bill Manifest Present?	* No	10. Are the samples properly preserved?	Yes
Air No.:		11. Proper sample containers used?	Yes
2. Were Custody Seals Present?	No	12. Any air bubbles in the VOA vials?	N/A
3. Were Custody Seals Intact?	N/A	13. Holding times exceeded?	No
4. Is Radiation count < 100 CPM?	Yes	14. Sufficient sample volumes?	Yes
5. Is a cooler present?	Yes	15. Any Subcontracting needed?	No
Cooler Temp: **3.6**		16. Are ESS labels on correct containers?	Yes|No
Iced With: **Ice**		17. Were samples received intact?	Yes|No
6. Was COC included with samples?	Yes	ESS Sample IDs: _____	
7. Was COC signed and dated by client?	Yes	Sub Lab: _____	
8. Does the COC match the sample	Yes	Analysis: _____	
9. Is COC complete and correct?	Yes	TAT: _____	

18. Was there need to call project manager to discuss status? If yes, please explain.
Adding -08 to -10 per EO 4/9/15

Who was called?: _____ By whom? _____

Sample Number	Properly Preserved	Container Type	# of Containers	Preservative
1	Yes	8 oz Soil Jar	2	NP
2	Yes	8 oz Soil Jar	2	NP
3	Yes	8 oz Soil Jar	2	NP
4	Yes	2 oz Soil Jar	1	NP
4	Yes	8 oz Soil Jar	2	NP
5	Yes	8 oz Soil Jar	2	NP
6	Yes	2 oz Soil Jar	1	NP
6	Yes	8 oz Soil Jar	2	NP
7	Yes	8 oz Soil Jar	2	NP
8	Yes	8 oz Soil Jar	1	NP
9	Yes	8 oz Soil Jar	1	NP
10	Yes	~~4oz~~ 8 oz Soil Jar	1	NP

Completed By: _____ Date/Time: 4/9/15 1659
Reviewed By: _____ Date/Time: 4/9/15 17:00

Sample and Cooler Receipt Checklist

Client: GZA GeoEnvironmental, Inc.
Client Project ID: _____
Shipped/Delivered Via: ESS Courier

ESS Project ID: 15040045
Date Project Due: 4/9/15
Days For Project: 5 Day

Items to be checked upon receipt:

1. Air Bill Manifest Present?	* No	10. Are the samples properly preserved?	Yes
Air No.:		11. Proper sample containers used?	Yes
2. Were Custody Seals Present?	No	12. Any air bubbles in the VOA vials?	N/A
3. Were Custody Seals Intact?	N/A	13. Holding times exceeded?	No
4. Is Radiation count < 100 CPM?	Yes	14. Sufficient sample volumes?	Yes
5. Is a cooler present?	Yes	15. Any Subcontracting needed?	No
Cooler Temp: **3.6**		16. Are ESS labels on correct containers?	**Yes** | **No**
Iced With: **Ice**		17. Were samples received intact?	(Yes) | **No**
6. Was COC included with samples?	Yes	ESS Sample IDs:	
7. Was COC signed and dated by client?	Yes	Sub Lab:	
8. Does the COC match the sample	Yes	Analysis:	
9. Is COC complete and correct?	Yes	TAT:	

18. Was there need to call project manager to discuss status? If yes, please explain.

re/og per Email ar 4/4/15

Who was called?:_____ By whom? _____

Sample Number	Properly Preserved	Container Type	# of Containers	Preservative
1	Yes	8 oz Soil Jar	2	NP
2	Yes	8 oz Soil Jar	2	NP
3	Yes	8 oz Soil Jar	2	NP
4	Yes	2 oz Soil Jar	1	NP
4	Yes	8 oz Soil Jar	2	NP
5	Yes	8 oz Soil Jar	2	NP
6	Yes	2 oz Soil Jar	1	NP
6	Yes	8 oz Soil Jar	2	NP
7	Yes	8 oz Soil Jar	2	NP

Completed By: _____ Date/Time: 4/2/15 1504
Reviewed By: Tomasa Rose Date/Time: 4/8/15 1520

1504045

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www.esslaboratory.com

CHAIN OF CUSTODY

ESS LAB PROJECT ID: ~~15035~~58 4/9/15

Turn Time ___X___ Standard Rush_____ Approved By: _____

Reporting Limits -

State where samples were collected: **MA** RI CT NH NJ NY ME Other_____

Is this project for any of the following: (please circle)
MA-MCP CT-RCP NJ-DKQP RGP DOD Other____

Electonic Deliverable Yes ✓ No____
Format: Excel ✓ Access___ PDF ✓ Other____

GZA Project Manager: David E. Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Ave
Norwood, MA 02062
(781) 278-3700

Project No.: 01.0171521.13 Task 001

Project Name: Wynn - Everett

Contract Pricing ____
Special Pricing WO#: _____

	ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	MCP-14 Metals	~~PAHs by SIM~~	TOC	~~SVOCs~~	~~PCBs (Aroclors)~~	~~EPH~~	~~Hexavalent Chromium~~	~~Reactivity (Sulfide and Cyanide)~~	~~VOCs~~	~~% water~~	~~Grain Size Analysis~~	Comment #
23	8	3/30/15	0830	G	S	GZ-221 (4'-6')		X	X										
24	9 35		0830			GZ-221 (0'-3') *		X		X	X	X	X	X	X	X	X	X	(1)
25	10 36		09:05			GZ-222 (0'-0.5')		X	X	X	X	X	X						
26	11					GZ-222 (0.5'-2')		X	X										
27	12					GZ-222 (2'-4')		X	X										
			↓			GZ-222 (4'-6')		HOLD AND FREEZE											
28	13 37		09:18			GZ-223 (0'-0.5')		X	X	X	X	X	X						
						GZ-223 (0.5'-2')		HOLD AND FREEZE											
29	14					GZ-223 (2'-4')		X	X										
30	9 15 38	↓	↓	↓	↓	GZ-223 (0'-3') *		X		X	X	X	X	X	X	X	X	X	(1)

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-____

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present ___X___ Yes ____ No

Seals Intact ____ Yes ____ No NA: X

Cooler Temperature: 3.1°/4.6° ICE nr 3/31/15

Sampled by : Daniel Scanlon (Daniel.Scanlon@gza.com)

Comments: (1) TCLP 20X Rule Applies ONLY if noted in comments column.
* Relog for TCLP metals.

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
[signature]	3/30/15 @ 1400	Bill Buscan 3/31/15 0700	Bill Buscan 3/31/15 0830		[signature] 3/31/15 1227

1504075

ESS Laboratory

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www.esslaboratory.com

CHAIN OF CUSTODY

ESS LAB PROJECT ID ~~150354~~ 1504075

Turn Time ___X___ Standard Rush_____ Approved By: _____

Reporting Limits -

State where samples were collected: **MA** RI CT NH NJ NY ME Other_____

Is this project for any of the following: (please circle)
MA-MCP CT-RCP NJ-DKQP RGP DOD Other____

Electonic Deliverable Yes ✓ No___
Format: Excel ✓ Access___ PDF ✓ Other_____

GZA Project Manager: David E. Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Ave
Norwood, MA 02062
(781) 278-3700

Project No.: 01.0171521.13 Task 001
Project Name: Wynn - Everett
Contract Pricing _____
Special Pricing WO#: _____

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	Analysis: MCP-14 Metals	PAHs by SIM	TOC	SVOCs	PCBs (Aroclors)	EPH	Hexavalent Chromium	Reactivity (Sulfide and Cyanide)	VOCs	% water	Grain Size Analysis	Comment #
10 ~~7~~ 7	3-27-16	09:24	G	S	GZ-201 (0'-3') ✱		X		X	X	X	X	X	X	X	X	X	(1)
8					LC-106 (0'-0.5')		X	X	X	X	X	X						
9					LC-106 (0.5'-2')		X	X	X	X	X	X						
					LC-106 (2'-4')		HOLD	AND	FREEZE									
10					LC-106 (4'-6')		X	X										
		↓			LC-106 (6'-7')		HOLD	AND	FREEZE									
11		10:27			LC-110 (0'-0.5')		X	X	X	X	X	X						
					LC-110 (0.5'-2')		HOLD	AND	FREEZE									
12					LC-110 (2'-4')		X	X										
	↓	↓	↓	↓	LC-110 (4'-6')		HOLD	AND	FREEZE									

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-_____

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present ✓ Yes ____No

Seals Intact ____Yes ____No NA: ✓

Cooler Temperature: 3.5 + 2.8 in ice

Sampled by : Daniel Scanlon (Daniel.Scanlon@gza.com)

Comments: (1) TCLP 20X Rule Applies ONLY if noted in comments column
* Relog for TCLP Lead eD 4/9/15

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
[signature]	3/27/15 @ 1430	[signature] 3/27/15 1447	[signature] 3/27/15	1643	[signature] 3/30/15 1816

Page 2 of 3

Re/log TCLP 4/1/15 OUT

1504045

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www.esslaboratory.com

CHAIN OF CUSTODY

ESS LAB PROJECT ID 1503415 — 10 4/2/15

Turn Time ___X___Standard Rush_____ Approved By: _____

Reporting Limits -

State where samples were collected: MA RI CT NH NJ NY ME Other_____

Is this project for any of the following: (please circle)
MA-MCP CT-RCP NJ-DKQP RGP DOD Other____

Electonic Deliverable Yes ✓ No____
Format: Excel ✓ Access___ PDF___ Other____

GZA Project Manager: David E. Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Ave
Norwood, MA 02062
(781) 278-3700

Project No.: 01.0171521.13 Task 001

Project Name: Wynn - Everett

Contract Pricing ____
Special Pricing WO#: _____

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	MCP-14 Metals	PAHs by SIM	TOC	SVOCs	PCBs (Aroclors)	EPH	Hexavalent Chromium	Reactivity (Sulfide and Cyanide)	VOCs	% water	Grain Size Analysis	Comment #
1 17	3-24-15	1130	G	S	GZ-202 (0'-0.5')		X	X	X	X	X	X						
2 18		1130	G	S	GZ-202 (2'-4')		X	X										
3 19		1230	G	S	GZ-203 (0'-0.5')		X	X	X	X	X	X						
4 20		1230	G	S	GZ-203 (4'-6')		X	X										
5 ~~21~~		1230	G	S	GZ-203 (0'-3')		X		X	X	X	X	X	X	X	X	X	(1) X
6 22		1250	G	S	GZ-204 (0'-0.5')		X	X	X	X	X	X						
7 23		1250	G	S	GZ-204 (2'-4')		X	X	X	X	X	X						
8 24		1250	G	S	GZ-204 (6'-8')		X	X										
9 25		1420	G	S	GZ-AZ (0'-0.5')		X	X	X	X	X	X						
10 26	✓	1420	G	S	GZ-AZ (0.5'-2')		X	X										

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-____

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present ___✓___Yes _____No

Seals Intact _____ Yes _____No NA: 0845

Cooler Temperature: 2-6°C+3.6°C BB 3/25/15 0630

Sampled by : Daniel Scanlon (Daniel.Scanlon@gza.com)

Comments: (1) TCLP 20X Rule Applies

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
[signature]	3-24-15 @ 18:20	[signature] 3/25/15	[signature] 3/25/15 0845		[signature] 3/25/15 1207

Page 1 of 2

Page 32 of 37

Relog 4/1/15 CAT

1504045

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www.esslaboratory.com

CHAIN OF CUSTODY

ESS LAB PROJECT ID 1503475 4/2/15

Turn Time ___X___ Standard Rush_____ Approved By: _____

Reporting Limits -

State where samples were collected: MA RI CT NH NJ NY ME Other_____

Is this project for any of the following: (please circle)
MA-MCP CT-RCP NJ-DKQP RGP DOD Other____

Electonic Deliverable Yes ✓ No____
Format: Excel ✓ Access___ PDF___ Other_____

GZA Project Manager: David E. Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Ave
Norwood, MA 02062
(781) 278-3700

Project No.: 01.0171521.13 Task 001

Project Name: Wynn - Everett

Contract Pricing ____
Special Pricing WO#: _____

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	MCP-14 Metals	PAHs by SIM	TOC	SVOCs	PCBs (Aroclors)	EPH	Hexavalent Chromium	Reactivity (Sulfide and Cyanide)	VOCs	% water	Grain Size Analysis	Comment #
~~11 27~~	~~3-24-15~~	15:15	G	S	GZ-216 (0'-0.5')		X	X	X	X	X	X						
~~12 28~~		15:15	G	S	GZ-216 (4'-6')		X	X										
~~13 29~~		15:15	G	S	GZ-216 (2'-4')		X	X	X	X	X	X						
~~14 30~~		16:10	G	S	GZ-217 (0'-0.5')		X	X	X	X	X	X						
15 ~~31~~		16:10	G	S	GZ-217 (0'-3')		X	X	X	X	X	X	X	X	X	X	X	(1)
~~16 32~~		16:00	G	S	GZ-217 (6'-8')		X	X										

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-_____

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present _____Yes _____No

Seals Intact 2 Coolers Yes ____No NA: ~~0845~~

Cooler Temperature: 2.8&3.6°C 3B 3/25 15

Sampled by : Daniel Scanlon (Daniel.Scanlon@gza.com)

Comments: (1) TCLP 20X Rule Applies

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
[signature]	3-24-15	[signature] 3/25/15	[signature] 3/25/15 0845		[signature] 3/25/15 1207

C1820

Page 2 of 2

TCLP Pb ATTACHED 4/1/15

2

Page 33 of 37

Kelog 4/1/15 ALT

1504045

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www.esslaboratory.com

CHAIN OF CUSTODY

ESS LAB PROJECT ID 1503447 4/2/15

Turn Time ___X___ Standard Rush_____ Approved By: _____

Reporting Limits -

State where samples were collected: MA RI CT NH NJ NY ME Other_____

Is this project for any of the following: (please circle)
MA-MCP CT-RCP NJ-DKQP RGP DOD Other___

Electonic Deliverable Yes___ No___
Format: Excel___ Access___ PDF___ Other_____

GZA Project Manager: David E. Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Ave
Norwood, MA 02062
(781) 278-3700

Project No.: 01.0171521.13 Task 001
Project Name: Wynn - Everett
Contract Pricing ____
Special Pricing WO#: _____

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	Analysis: MCP-14 Metals	PAHs by SIM	TOC	SVOCs	PCBs (Aroclors)	EPH	Hexavalent Chromium	Reactivity (Sulfide and Cyanide)	VOCs	% water	Grain Size Analysis	Comment #
26																		TCLP Pb
28	6 17	3-25-15	1045	C	S	GZ-207 (0'-0.5')		X	X	X	X	X	X						
25						GZ-207 (0.5'-2')		HOLD AND FREEZE										
						GZ-207 (2'-4')		HOLD AND FREEZE										
27	7 11					GZ-207 (4'-6')		X X										
30	8 19					GZ-207 (6'-7.5')		X X										
31	(9) 20	1046				GZ-207 (0'-3')		X	X	X	X	X	X	X	X	X	X	(1) X
32	10 21	1110				GZ-206 (0-0.5')		X	X	X	X	X	X					
						GZ-206 (0.5'-2')		HOLD AND FREEZE										
29						GZ-206 (2'-4')		HOLD AND FREEZE										
35	11 22					GZ-206 (4'-6')		X X	X	X	X	X	X					

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-_____

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present ___X___ Yes _____ No

Seals Intact _____ Yes _____ No NA: X

Cooler Temperature: 3.5°/4.2° IR NJ 3/26/15

Sampled by : Daniel Scanlon (Daniel.Scanlon@gza.com)

Comments: (1) TCLP 20X Rule Applies

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
	3-25-15 @ 1800	0845 Bill Bloom 3/26/15	0845 Bill Bloom 3/26/15		1011 3/26/15

Page 2 of 5

Relog 4/1/15 AJT

1504045

ESS Laboratory

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS LAB PROJECT ID: ~~1503448~~ 4/2/15

Turn Time ___X___ Standard Rush_____ Approved By: _____

Reporting Limits -

State where samples were collected: MA RI CT NH NJ NY ME Other_____

Is this project for any of the following: (please circle)
MA-MCP CT-RCP NJ-DKQP RGP DOD Other____

Electonic Deliverable Yes____ No____
Format: Excel___ Access___ PDF___ Other_____

GZA Project Manager: David E. Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Ave
Norwood, MA 02062
(781) 278-3700

Project No.: 01.0171521.13 Task 001
Project Name: Wynn - Everett
Contract Pricing ____
Special Pricing WO#: _____

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	MCP-14 Metals	PAHs by SIM	TOC	SVOCs	PCBs (Aroclors)	EPH	Hexavalent Chromium	Reactivity (Sulfide and Cyanide)	VOCs	% water	Grain Size Analysis	Comment #
	3-25-15	1110	G	S	62-206 (6'-8')		HOLD AND FREEZE											
29	(1)	1110			62-206 (0'-3')		X		X	X	X	X	X	X	X	X	X	(1) X
30		1146			62-205 (0'-0.5')		X	X	X	X	X	X						
					62-205 (0.5'-2')		HOLD AND FREEZE											
					62-205 (2'-4')		HOLD AND FREEZE											
					62-205 (4'-6')		X	X										
					62-205 (6'-8')		X	X										
31	(5)	↓			62-205 (0'-3')		X		X	X	X	X	X	X	X	X	X	(1) X
32		1352			62-213 (0'-0.5')		X	X	X	X	X	X						
	↓	1352	↓	↓	62-213 (0.5'-2')		HOLD AND FREEZE											

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-_____

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present ___X___ Yes _____No

Seals Intact _____ Yes _____No NA: X

Cooler Temperature: 3.8°/4.2° ice 3/26/15

Sampled by : Daniel Scanlon (Daniel.Scanlon@gza.com)

Comments: (1) TCLP 20X Rule Applies

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Daniel Scanlon	3-25-15	Bill Buccon 3/26/15 0830	Bill Buccon 3/26/15 0845		Lleigh 3/26/15 1011

P1800

TCLP Pb

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Relog TCLP 4/1/15 CMT

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www.esslaboratory.com

CHAIN OF CUSTODY

ESS LAB PROJECT ID 1503448 4/2/15

Turn Time ___X___ Standard Rush_____ Approved By: _____

Reporting Limits -

State where samples were collected: MA RI CT NH NJ NY ME Other_____

Is this project for any of the following: (please circle)
MA-MCP CT-RCP NJ-DKQP RGP DOD Other____

Electonic Deliverable Yes____ No____
Format: Excel___ Access___ PDF___ Other_____

GZA Project Manager: David E. Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Ave
Norwood, MA 02062
(781) 278-3700

Project No.: 01.0171521.13 Task 001

Project Name: Wynn - Everett

Contract Pricing ____
Special Pricing WO#: _____

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	MCP-14 Metals	PAHs by SIM	TOC	SVOCs	PCBs (Aroclors)	EPH	Hexavalent Chromium	Reactivity (Sulfide and Cyanide)	VOCs	% water	Grain Size Analysis	Comment #
	3-25-15	1352	G	S	GZ-213 (2'-4')		HOLD AND FREEZE											
7	21				GZ-215 (4'-6')		X	X										
33 8	22				GZ-213 (0'-3')		X	X	X	X	X	X	X	X	X	X		(1) X
34 9	23	1425			GZ-218 (0'-0.5')		X	X	X	X	X	X						
35 10	24				GZ-218 (0.5'-2')		X	X	X	X	X	X						
					GZ-218 (2'-4')		HOLD AND FREEZE											
11	25				GZ-218 (4'-6')		X	X										
36 12	26	1506			GZ-219 (0'-0.5')		X	X	X	X	X	X						
					GZ-219 (0.5'-2')		HOLD AND FREEZE											
					GZ-219 (2'-4')		HOLD AND FREEZE											

TCLP Pb

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-_____

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present X Yes ____No

Seals Intact ____Yes ____No NA: X

Cooler Temperature: 3.8°/4.2°IR 3/26/15

Sampled by : Daniel Scanlon (Daniel.Scanlon@gza.com)

Comments: (1) TCLP 20X Rule Applies

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
	3/25/15 @1800		0845		3/26/15 1011

Page 4 of 5

Keep if TCLP 4/1/15 OK?

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www.esslaboratory.com

CHAIN OF CUSTODY

ESS LAB PROJECT ID 1503448 4/2/15

Turn Time __X__ Standard Rush_____ Approved By: _____

Reporting Limits -

State where samples were collected: MA RI CT NH NJ NY ME Other_____

Is this project for any of the following: (please circle)
MA-MCP CT-RCP NJ-DKQP RGP DOD Other____

Electonic Deliverable Yes____ No____
Format: Excel___ Access___ PDF___ Other_____

GZA Project Manager: David E. Leone
GZA GeoEnvironmental, Inc.
249 Vanderbilt Ave
Norwood, MA 02062
(781) 278-3700

Project No.: 01.0171521.13 Task 001
Project Name: Wynn - Everett
Contract Pricing ____
Special Pricing WO#: _____

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	MCP-14 Metals	PAHs by SIM	TOC	SVOCs	PCBs (Aroclors)	EPH	Hexavalent Chromium	Reactivity (Sulfide and Cyanide)	VOCs	% water	Grain Size Analysis	Comment #
~~13771~~	~~3/25/15~~	~~1506~~	~~G~~	~~S~~	~~GZ-219 (4'-6')~~		~~X~~	~~X~~										
					GZ-219 (6'-8')		HOLD	AND	ARCHIVE									
7 37	14	↓	↓	↓	GZ-219 (0'-3')		X	X	X	X	X	X	X	X	X	X	X	(1)

TCLP Pb

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-_____

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present __X__ Yes ____No
Seals Intact _____ Yes _____No NA: X
Cooler Temperature: 38°/42°F W 3/26/15

Sampled by : Daniel Scanlon (Daniel.Scanlon@gza.com)

Comments: (1) TCLP 20X Rule Applies

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
	3/25/15 @1800	0830 Bill Buscan 3/26/15	0845 Bill Buscan 3/26/15		3/26/15 1011

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APPENDIX D

SEDIMENT SIEVE ANALYSES

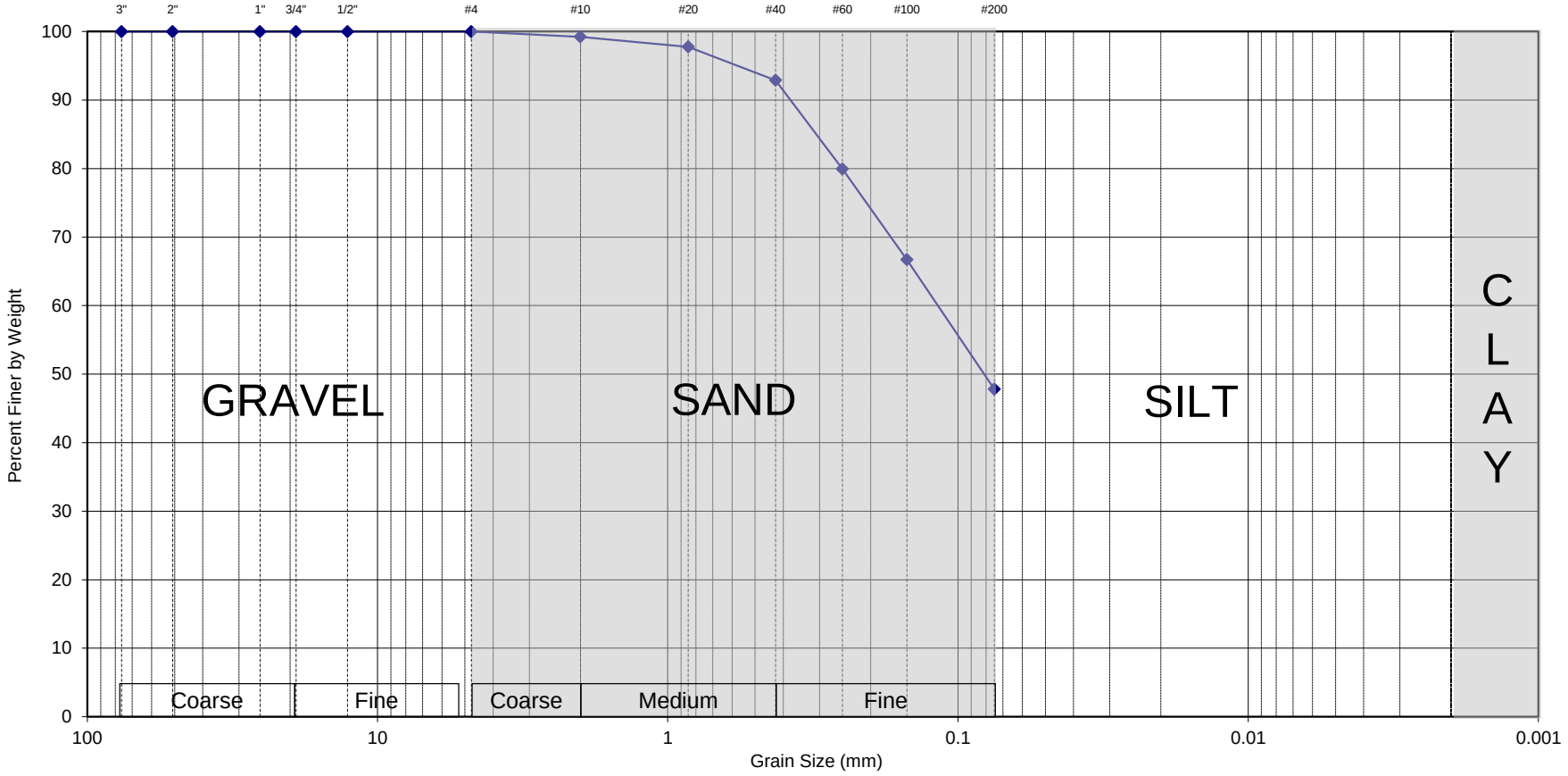
LABORATORY TESTING DATA SHEET

Project Name 1 Horizon Way
Project Location Everett, MA
Project No. 01.0171521.02
Report Date 8/13/2013
Project Engineer D. Leone
Date Reviewed 8/13/2013
Assigned By J. Chrzanowski
Reviewed By

Boring/ Test Pit No.	Depth (ft)	Sample Date	Lab No.	Identification Tests							Laboratory Log and Soil Description
				Water Content %	LL %	PL %	Sieve -200 %	Hyd -2µ %	Gs	ORG %	
GZ-101	0-4	8/2/13	24				47.8				Dark gray f-m SAND and Organic SILT
GZ-102	0-4	8/2/13	25				65.2				Dark gray Organic SILT, some fine Sand
GZ-101	4-8	8/2/13	26				86.9				Dark gray Organic SILT, little fine Sand
GZ-103	0-4	8/2/13	27				58.2				Dark brown Organic SILT and f-m SAND
GZ-103	4-7.5	8/2/13	28				77.6				Gray Organic SILT, some f-m Sand
GZ-104	0-3.5	8/2/13	29				52.3				Gray Organic SILT and f-c SAND, trace Gravel
GZ-104	4-8	8/2/13	30				78.7				Gray Organic SILT, some f-m Sand, trace Gravel
GZ-105	0-6.75	8/2/13	31				69.4				Gray Organic SILT, some f-m Sand
GZ-106	0-4	8/2/13	32				64.8				Gray Organic SILT and f-m SAND
GZ-106	5-8	8/2/13	33				75.5				Gray Organic SILT, some f-m Sand
GZ-108	0-2.5	8/2/13	34				68.9				Black Organic SILT, some f-m Sand
GZ-108	4-8	8/2/13	35				60.5				Gray Organic SILT and f-m SAND
GZ-107	0-4	8/2/13	36				51.8				Gray Organic SILT and f-m SAND
GZ-107	4-8	8/2/13	37				52.6				Gray Organic SILT and f-m SAND
GZ-111	0-4	8/2/13	38				58.1				Gray Organic SILT and f-m SAND
GZ-111	7-8	8/2/13	39				48.1				Gray f-m SAND and Organic SILT

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U.S. STANDARD SIEVE AND HYDROMETER



Gravel	Sand	Fines
0.0%	52.2%	47.8%

Lab #	Exploration	Sample Depth	Sample Date	Description	WC	LL	PL	PI
24	GZ-101	0-4'	8/1/13	Dark gray f-m SAND and Organic SILT				

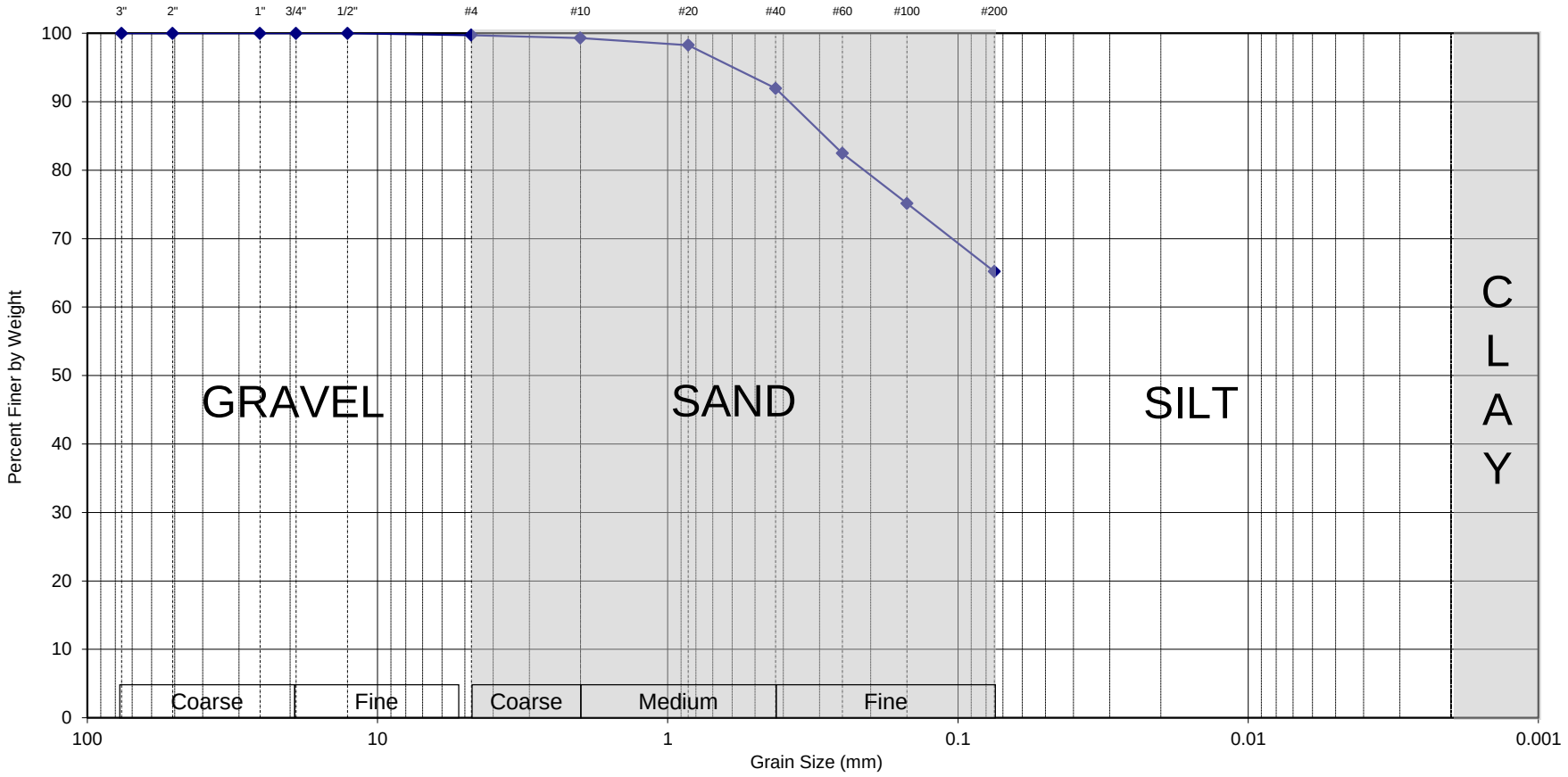
Sieve Size	% Passing
¾"	100.0
½"	100.0
#4	100.0
#10	99.2
#20	97.8
#40	92.9
#60	79.9
#100	66.7
#200	47.8

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401-467-6454

CTS-74-13-0003
1 Horizon Way
Everett, MA
GZA File # 01.0171521.02

Tested by: PH/LM Date: 8/12/13
Reviewed by: MBP Date: 8/13/13

U.S. STANDARD SIEVE AND HYDROMETER



Gravel	Sand	Fines
0.3%	34.5%	65.2%

Lab #	Exploration	Sample Depth	Sample Date	Description	WC	LL	PL	PI
25	GZ-102	0-4'	8/1/13	Dark gray Organic SILT, some fine Sand				

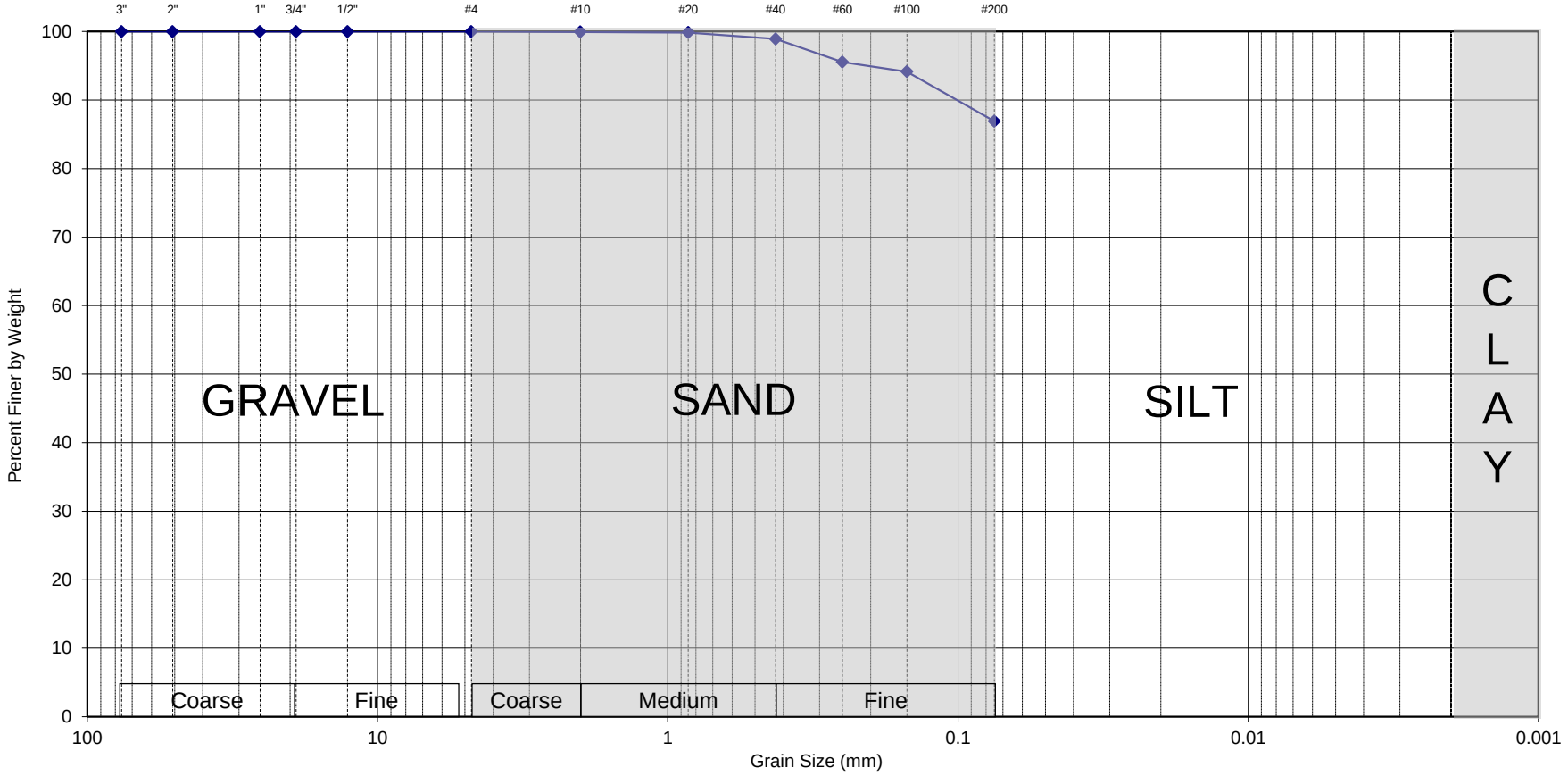
Sieve Size	% Passing
¾"	100.0
½"	100.0
#4	99.7
#10	99.3
#20	98.3
#40	91.9
#60	82.5
#100	75.1
#200	65.2

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CTS-74-13-0003
1 Horizon Way
Everett, MA
GZA File # 01.0171521.02

Tested by: PH/LM Date: 8/12/13
Reviewed by: MBP Date: 8/13/13

U.S. STANDARD SIEVE AND HYDROMETER



Gravel	Sand	Fines
0.0%	13.1%	86.9%

Lab #	Exploration	Sample Depth	Sample Date	Description	WC	LL	PL	PI
26	GZ-101	4-8'	8/1/13	Dark gray Organic SILT, little fine Sand				

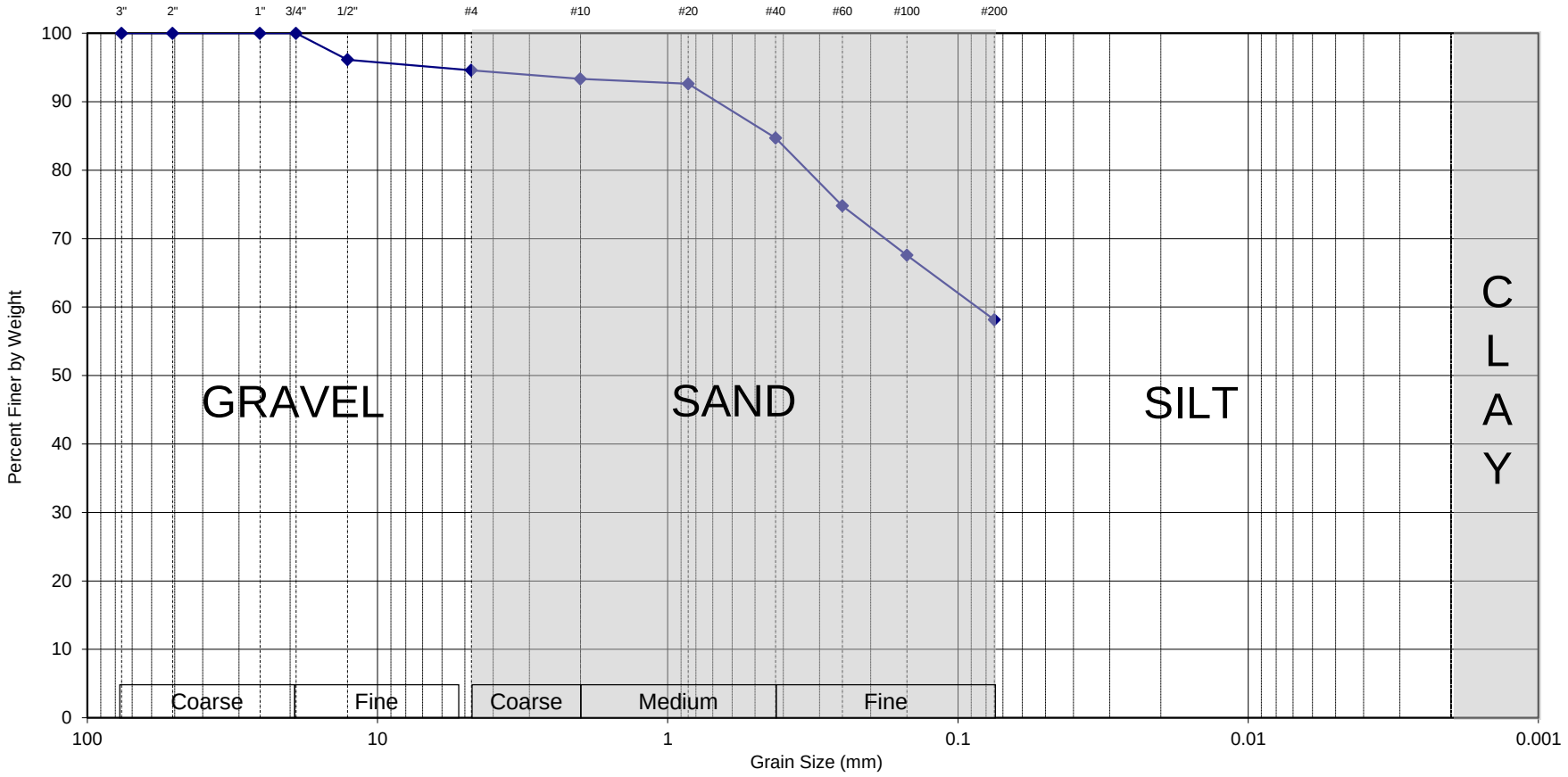
Sieve Size	% Passing
¾"	100.0
½"	100.0
#4	100.0
#10	99.9
#20	99.9
#40	98.9
#60	95.5
#100	94.1
#200	86.9

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CTS-74-13-0003
1 Horizon Way
Everett, MA
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Reviewed by: MBP Date: 8/13/13

U.S. STANDARD SIEVE AND HYDROMETER



Gravel	Sand	Fines
5.4%	36.5%	58.2%

Lab #	Exploration	Sample Depth	Sample Date	Description	WC	LL	PL	PI
27	GZ-103	0-4'	8/1/13	Dark brown Organic SILT and f-m SAND				

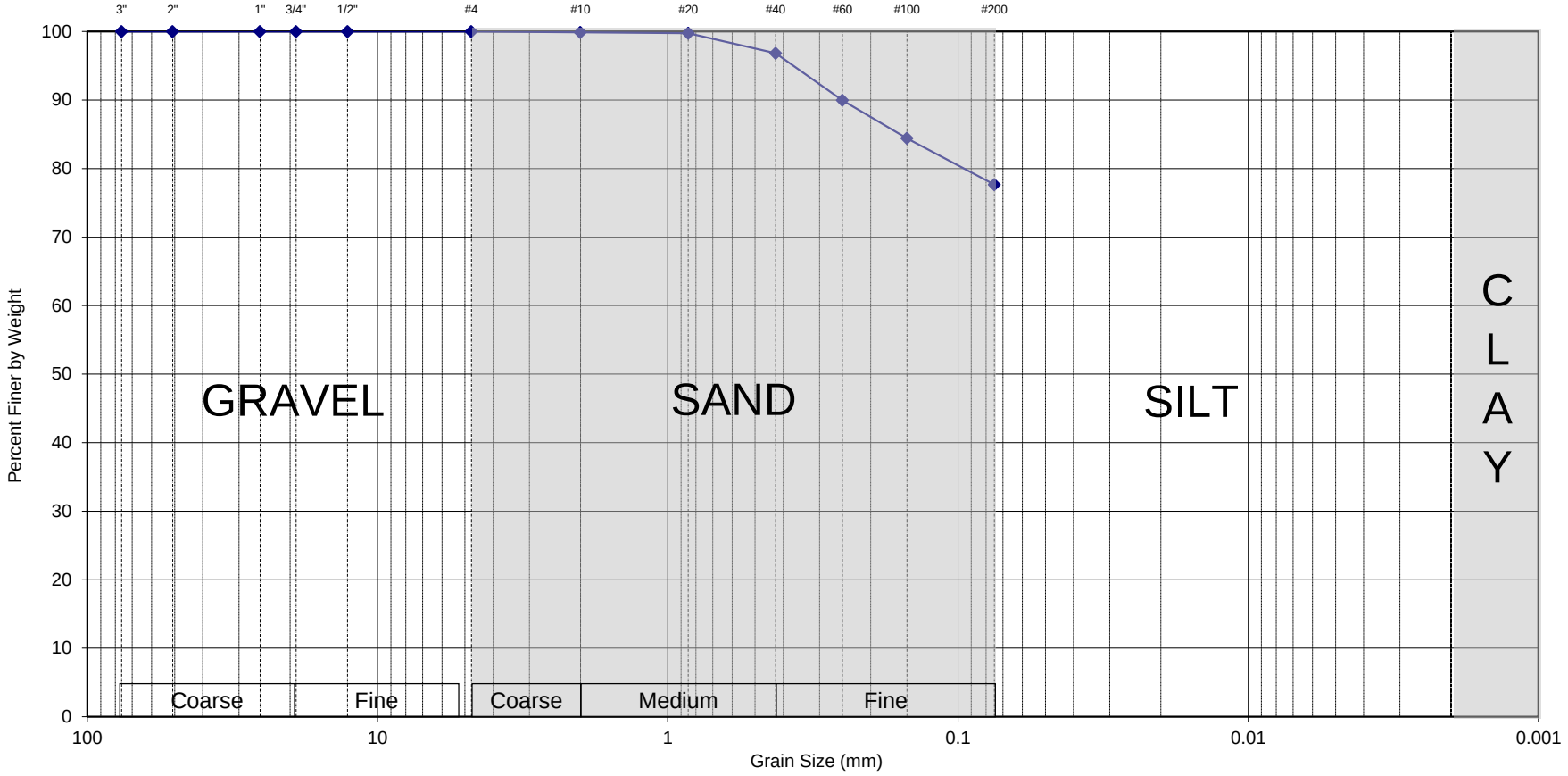
Sieve Size	% Passing
¾"	100.0
½"	96.1
#4	94.6
#10	93.3
#20	92.6
#40	84.7
#60	74.8
#100	67.6
#200	58.2

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1 Horizon Way
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Tested by: PH/LM Date: 8/12/13
Reviewed by: MBP Date: 8/13/13

U.S. STANDARD SIEVE AND HYDROMETER



Gravel	Sand	Fines
0.0%	22.4%	77.6%

Lab #	Exploration	Sample Depth	Sample Date	Description	WC	LL	PL	PI
28	GZ-103	4-7.5'	8/1/13	Gray Organic SILT, some f-m Sand				

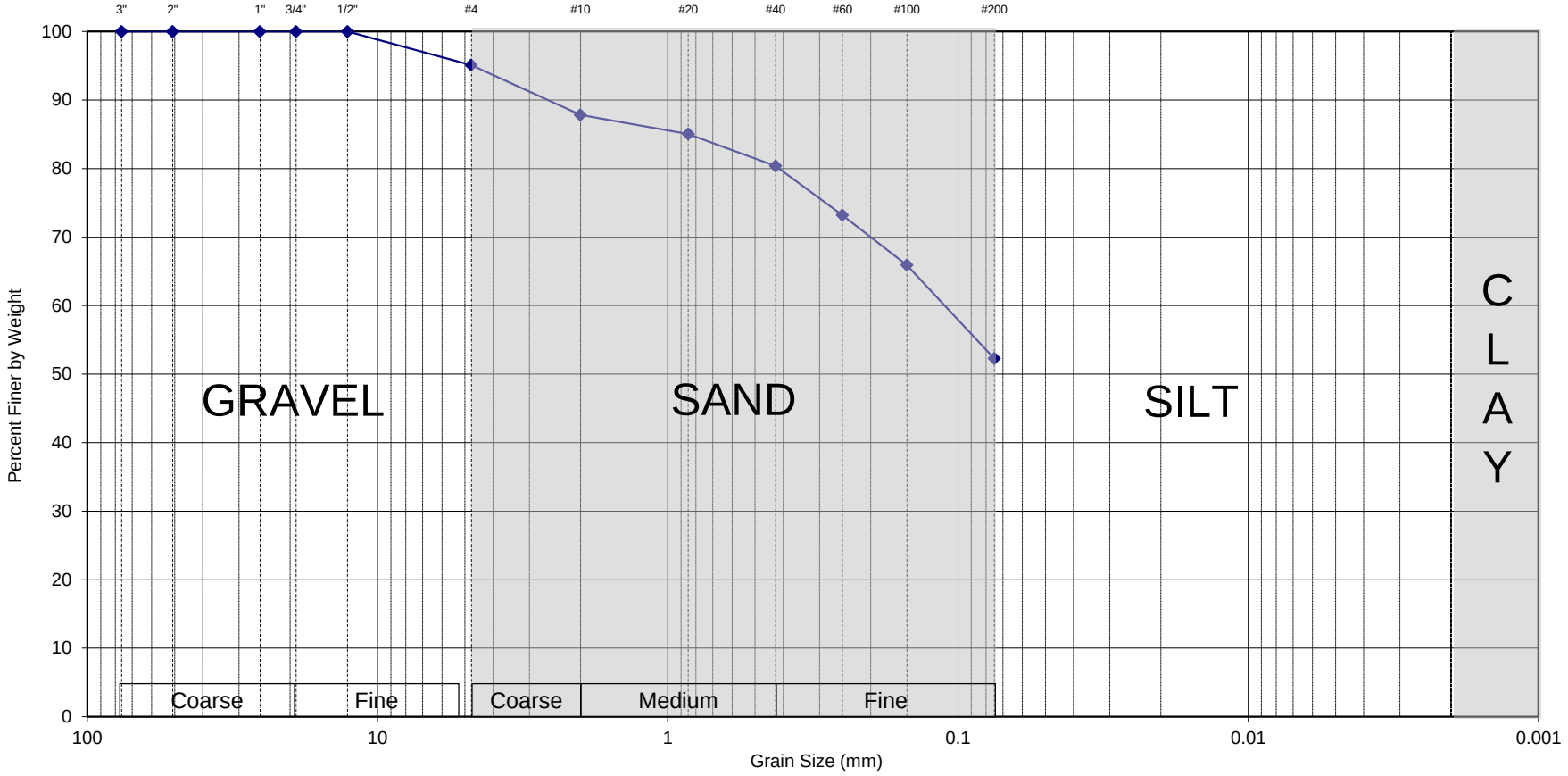
Sieve Size	% Passing
¾"	100.0
½"	100.0
#4	100.0
#10	99.9
#20	99.8
#40	96.8
#60	89.9
#100	84.4
#200	77.6

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Tested by: PH/LM Date: 8/12/13
Reviewed by: MBP Date: 8/13/13

U.S. STANDARD SIEVE AND HYDROMETER



Gravel	Sand	Fines
4.9%	42.8%	52.3%

Lab #	Exploration	Sample Depth	Sample Date	Description	WC	LL	PL	PI
29	GZ-104	0-3.5'	8/1/13	Gray Organic SILT and f-c SAND, trace Gravel				

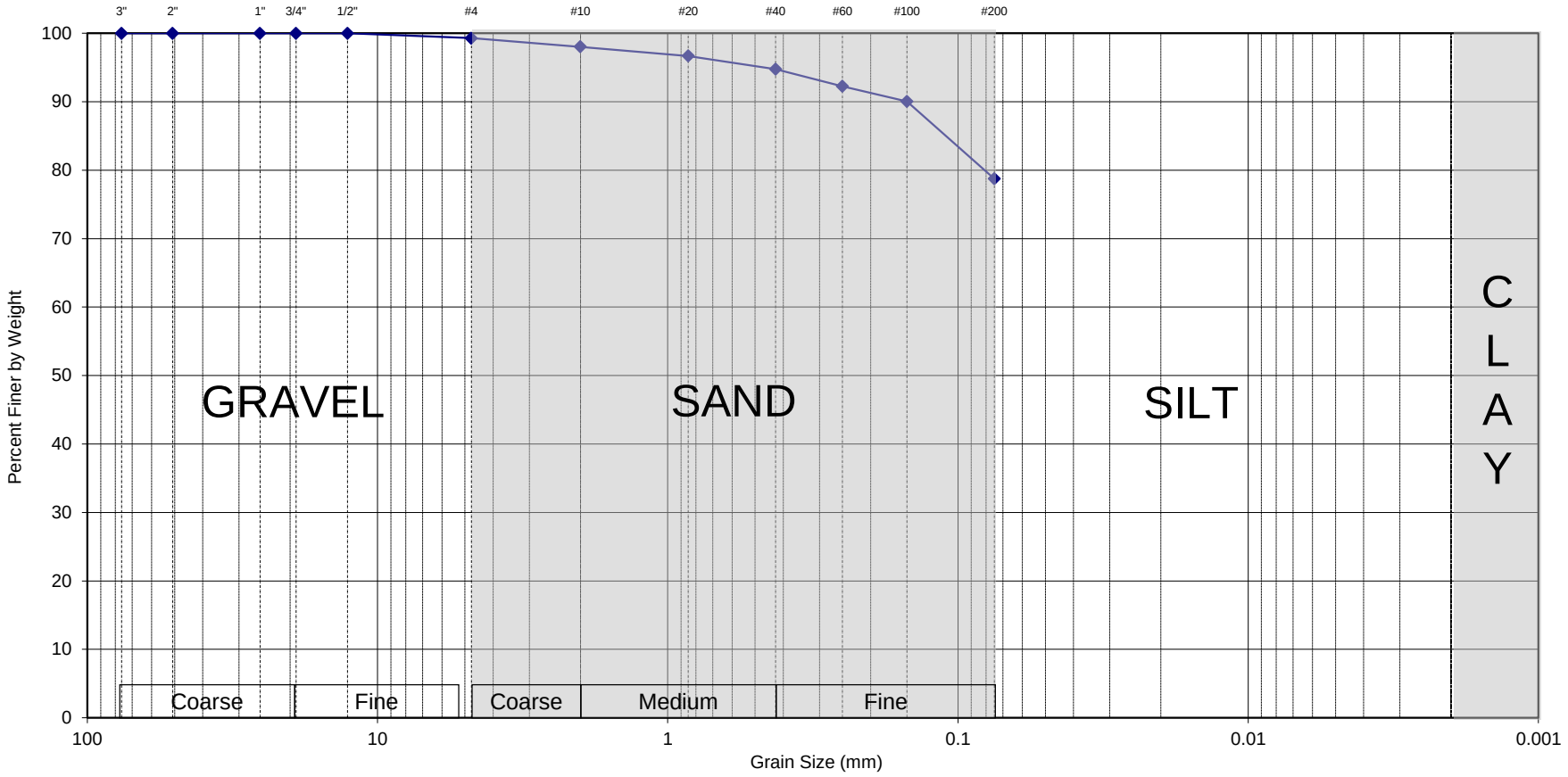
Sieve Size	% Passing
¾"	100.0
½"	100.0
#4	95.1
#10	87.8
#20	85.0
#40	80.4
#60	73.2
#100	65.9
#200	52.3

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Tested by: PH/LM Date: 8/12/13
Reviewed by: MBP Date: 8/13/13

U.S. STANDARD SIEVE AND HYDROMETER



Gravel	Sand	Fines
0.7%	20.6%	78.7%

Lab #	Exploration	Sample Depth	Sample Date	Description	WC	LL	PL	PI
30	GZ-104	4-8'	8/1/13	Gray Organic SILT, some f-m Sand, trace Gravel				

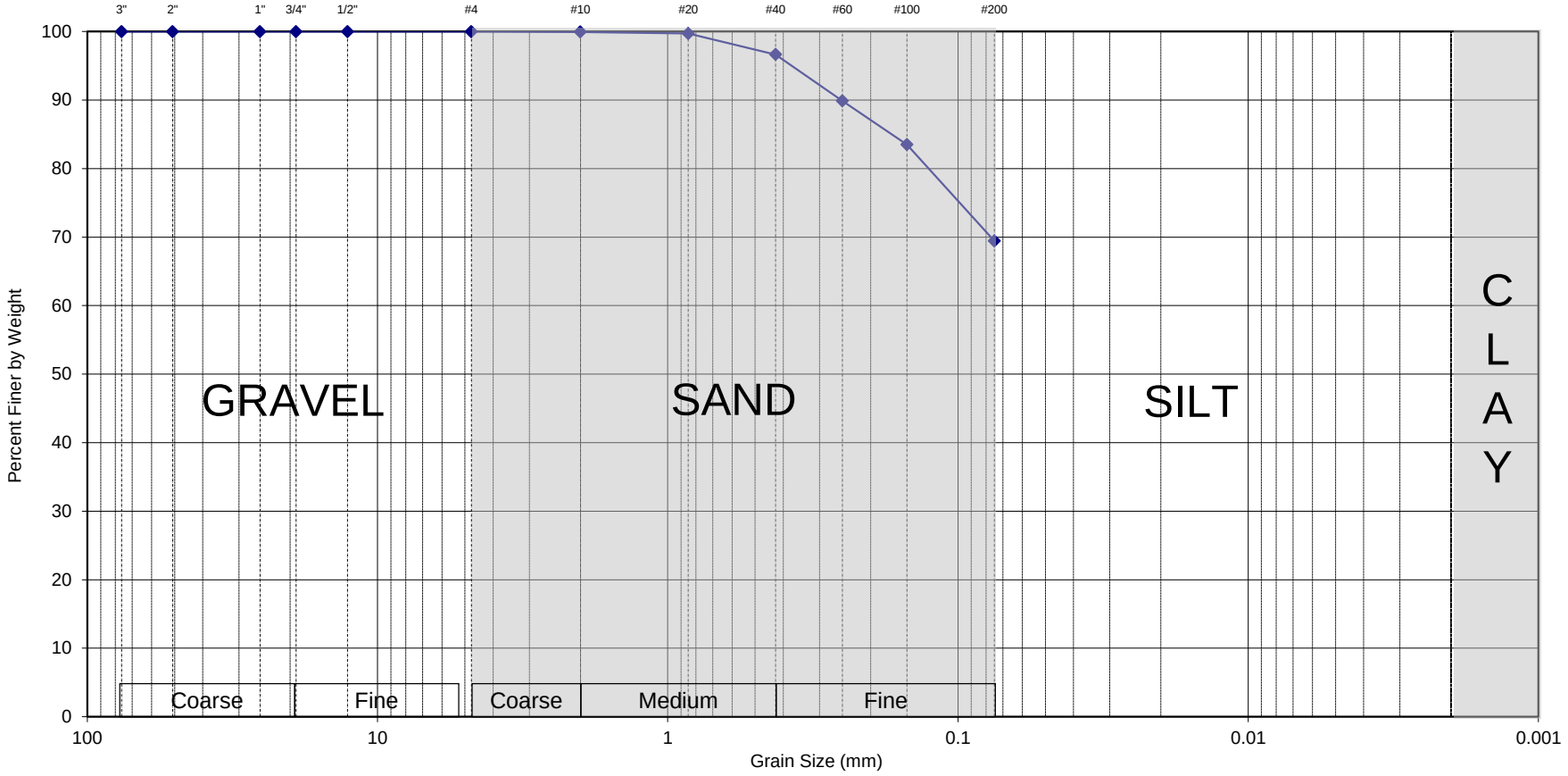
Sieve Size	% Passing
¾"	100.0
½"	100.0
#4	99.3
#10	98.0
#20	96.7
#40	94.8
#60	92.2
#100	90.0
#200	78.7

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Tested by: PH/LM Date: 8/12/13
Reviewed by: MBP Date: 8/13/13

U.S. STANDARD SIEVE AND HYDROMETER



Gravel	Sand	Fines
0.0%	30.6%	69.4%

Lab #	Exploration	Sample Depth	Sample Date	Description	WC	LL	PL	PI
31	GZ-105	0-6.75'	8/1/13	Gray Organic SILT, some f-m Sand				

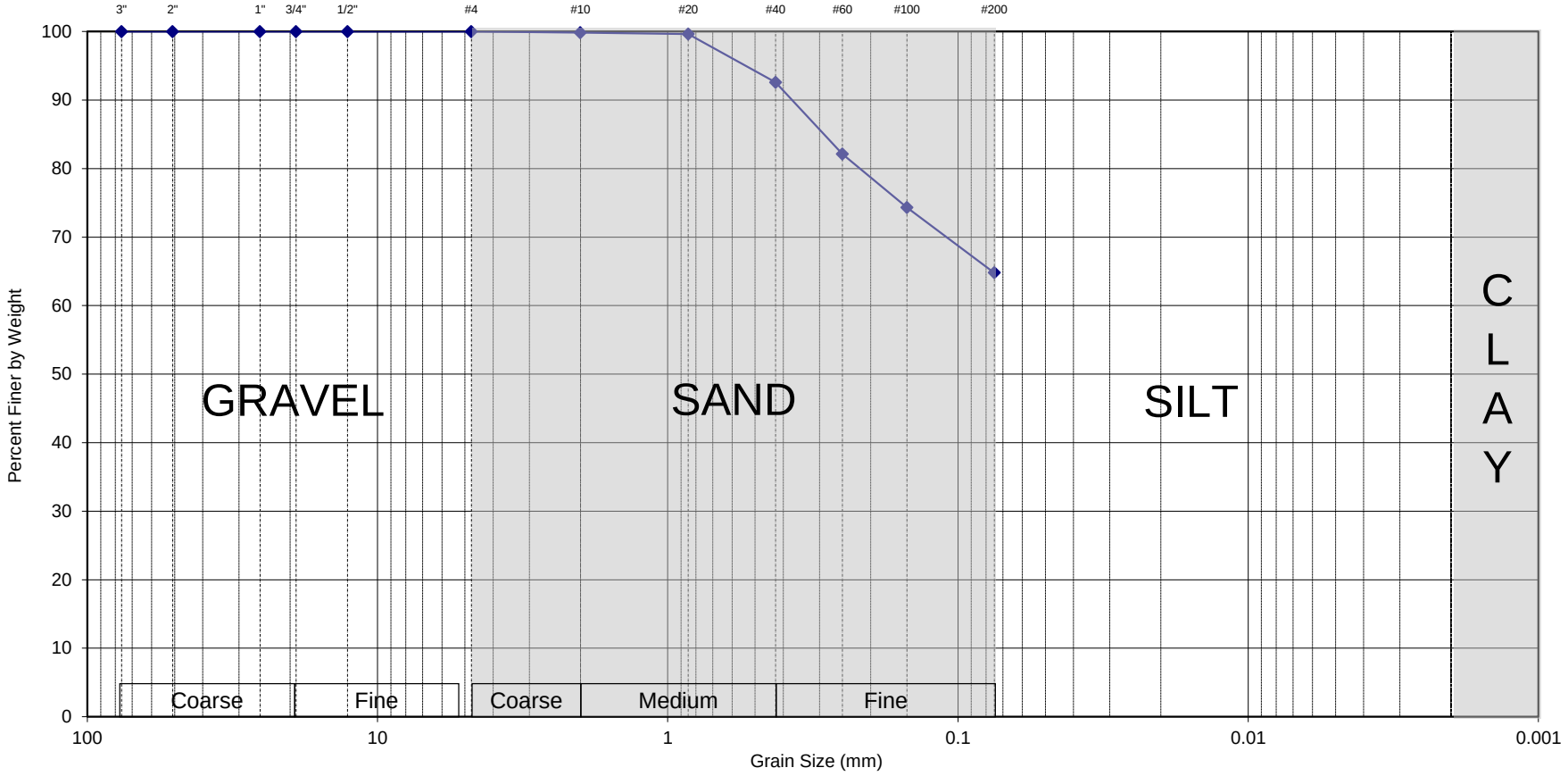
Sieve Size	% Passing
¾"	100.0
½"	100.0
#4	100.0
#10	99.9
#20	99.7
#40	96.6
#60	89.9
#100	83.5
#200	69.4

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Everett, MA
GZA File # 01.0171521.02

Tested by: PH/LM Date: 8/12/13
Reviewed by: MBP Date: 8/13/13

U.S. STANDARD SIEVE AND HYDROMETER



Gravel	Sand	Fines
0.0%	35.2%	64.8%

Lab #	Exploration	Sample Depth	Sample Date	Description	WC	LL	PL	PI
32	GZ-106	0-4'	8/1/13	Gray Organic SILT and f-m SAND				

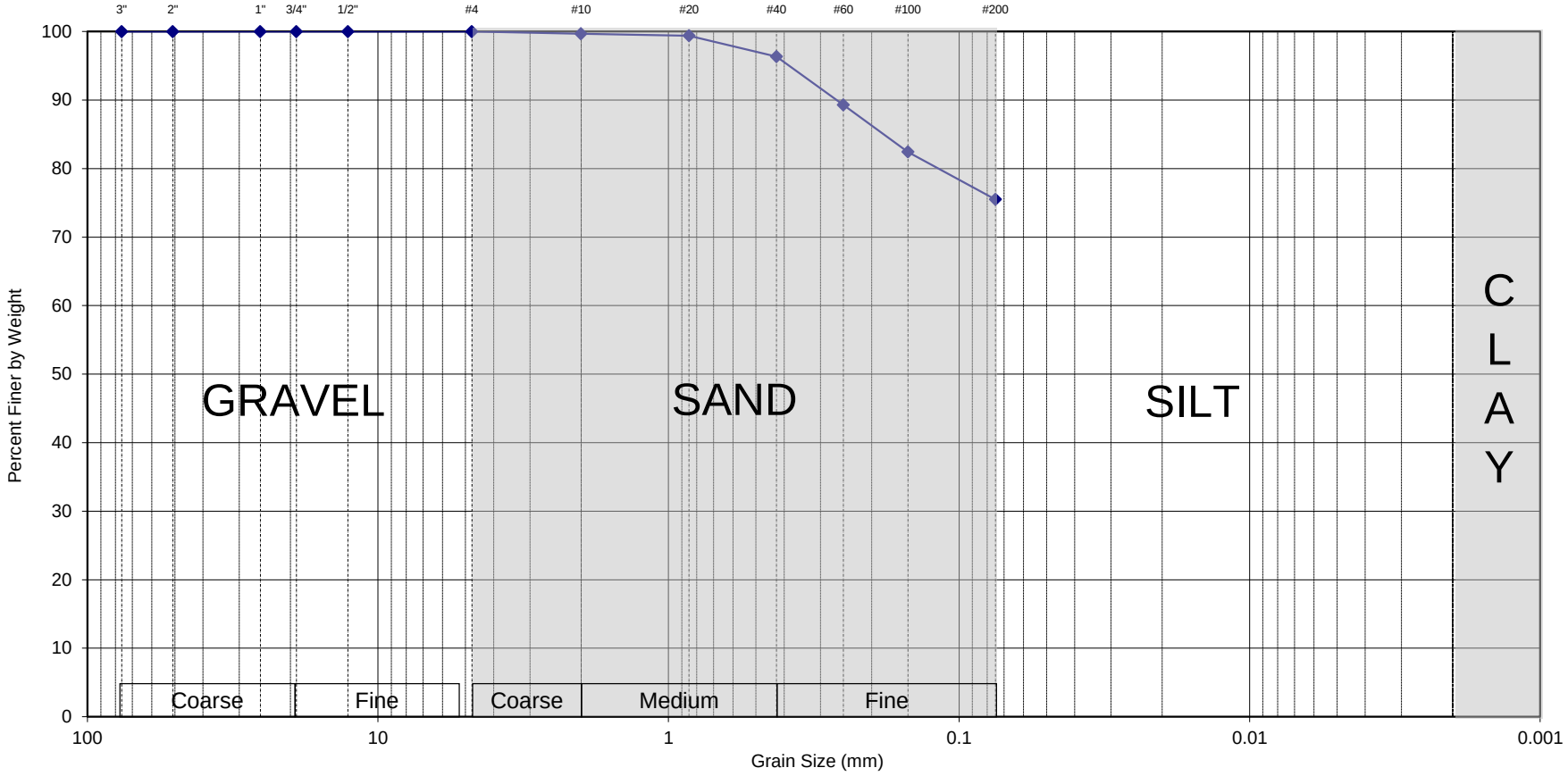
Sieve Size	% Passing
¾"	100.0
½"	100.0
#4	100.0
#10	99.8
#20	99.6
#40	92.6
#60	82.1
#100	74.3
#200	64.8

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Tested by: PH/LM Date: 8/12/13
Reviewed by: MBP Date: 8/13/13

U.S. STANDARD SIEVE AND HYDROMETER



Gravel	Sand	Fines
0.0%	24.5%	75.5%

Lab #	Exploration	Sample Depth	Sample Date	Description	WC	LL	PL	PI
33	GZ-106	5-8'	8/1/13	Gray Organic SILT, some f-m Sand				

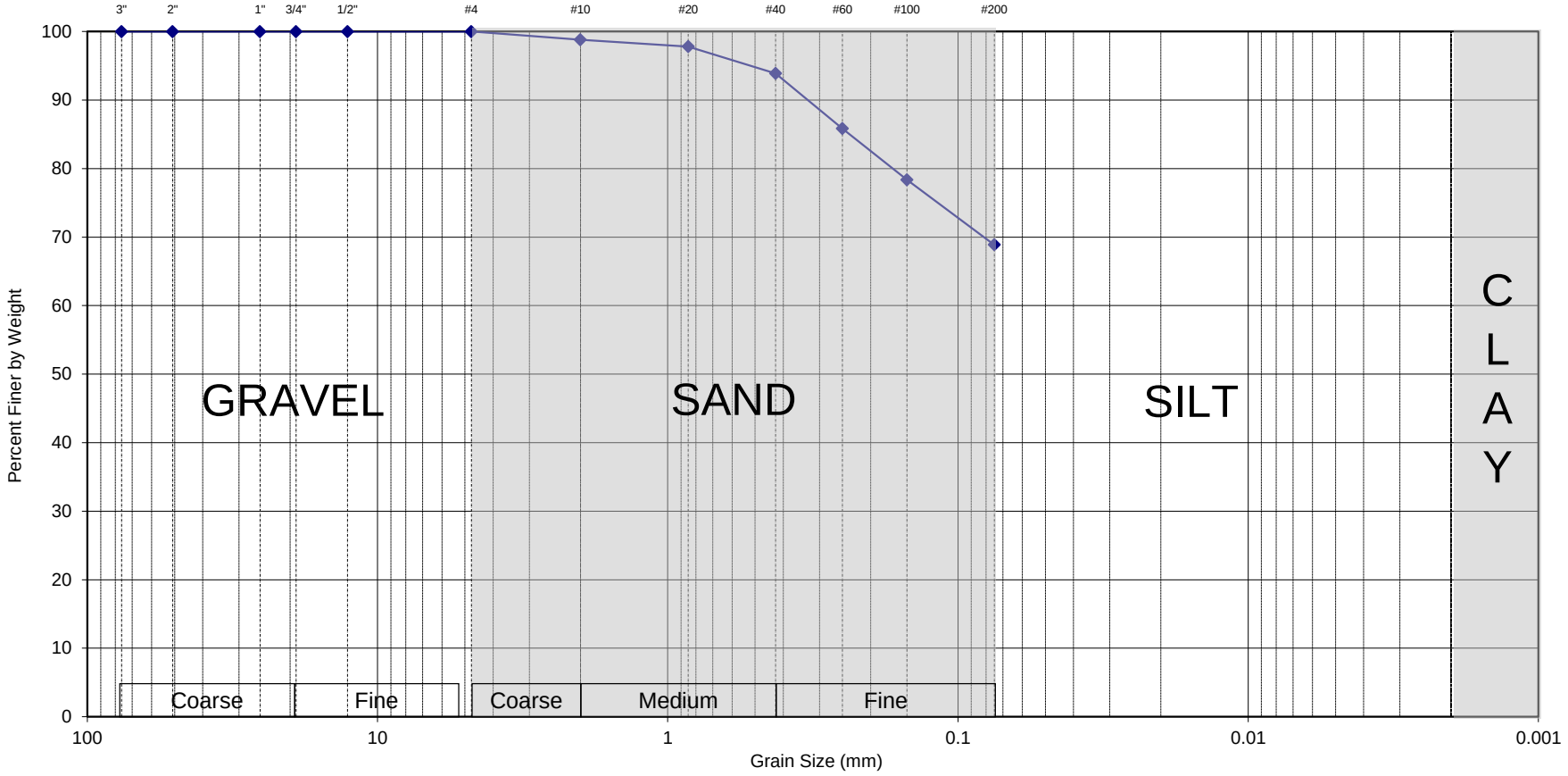
Sieve Size	% Passing
¾"	100.0
½"	100.0
#4	100.0
#10	99.7
#20	99.4
#40	96.3
#60	89.3
#100	82.4
#200	75.5

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CTS-74-13-0003
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Everett, MA
GZA File # 01.0171521.02

Tested by: PH/LM Date: 8/12/13
Reviewed by: MBP Date: 8/13/13

U.S. STANDARD SIEVE AND HYDROMETER



Gravel	Sand	Fines
0.0%	31.1%	68.9%

Lab #	Exploration	Sample Depth	Sample Date	Description	WC	LL	PL	PI
34	GZ-108	0-2.5'	8/1/13	Black Organic SILT, some f-m Sand				

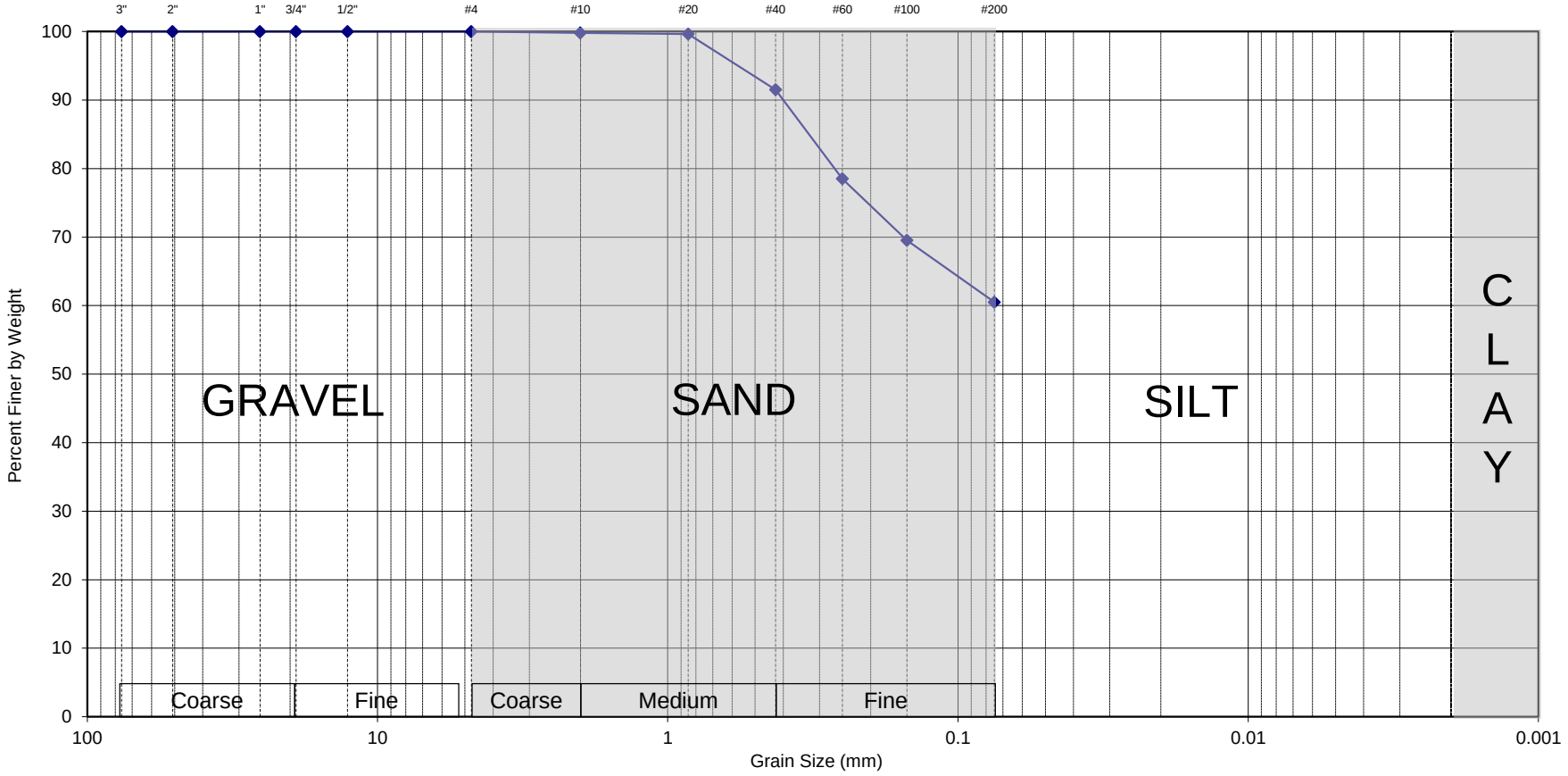
Sieve Size	% Passing
¾"	100.0
½"	100.0
#4	100.0
#10	98.8
#20	97.8
#40	93.9
#60	85.8
#100	78.4
#200	68.9

THIELSCH ENGINEERING
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401-467-6454

CTS-74-13-0003
1 Horizon Way
Everett, MA
GZA File # 01.0171521.02

Tested by: PH/LM Date: 8/12/13
Reviewed by: MBP Date: 8/13/13

U.S. STANDARD SIEVE AND HYDROMETER



Gravel	Sand	Fines
0.0%	39.5%	60.5%

Lab #	Exploration	Sample Depth	Sample Date	Description	WC	LL	PL	PI
35	GZ-108	4-8'	8/1/13	Gray Organic SILT and f-m SAND				

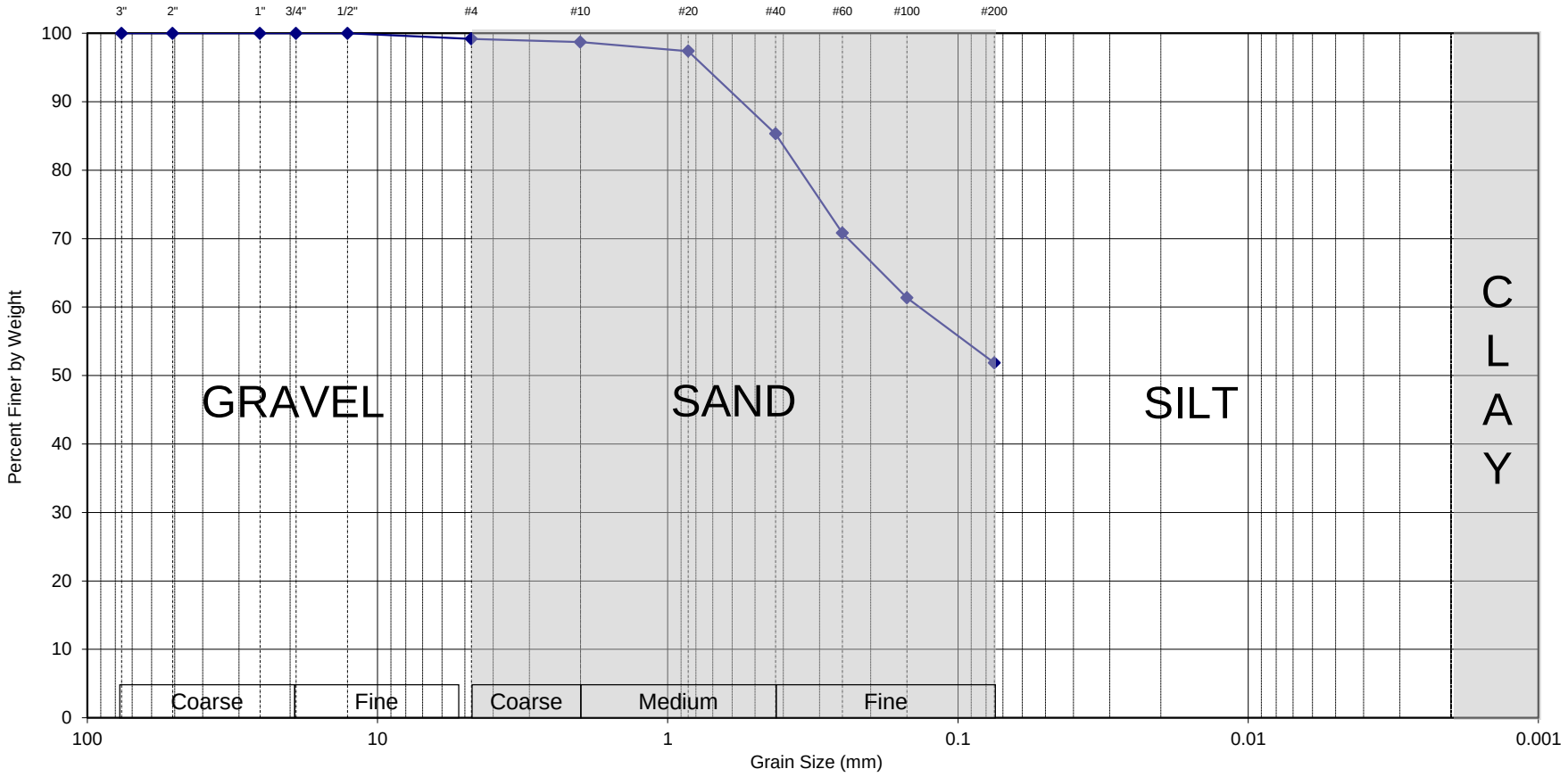
Sieve Size	% Passing
¾"	100.0
½"	100.0
#4	100.0
#10	99.8
#20	99.6
#40	91.5
#60	78.5
#100	69.5
#200	60.5

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U.S. STANDARD SIEVE AND HYDROMETER



Gravel	Sand	Fines
0.8%	47.4%	51.8%

Lab #	Exploration	Sample Depth	Sample Date	Description	WC	LL	PL	PI
36	GZ-107	0-4'	8/1/13	Gray Organic SILT and f-m SAND				

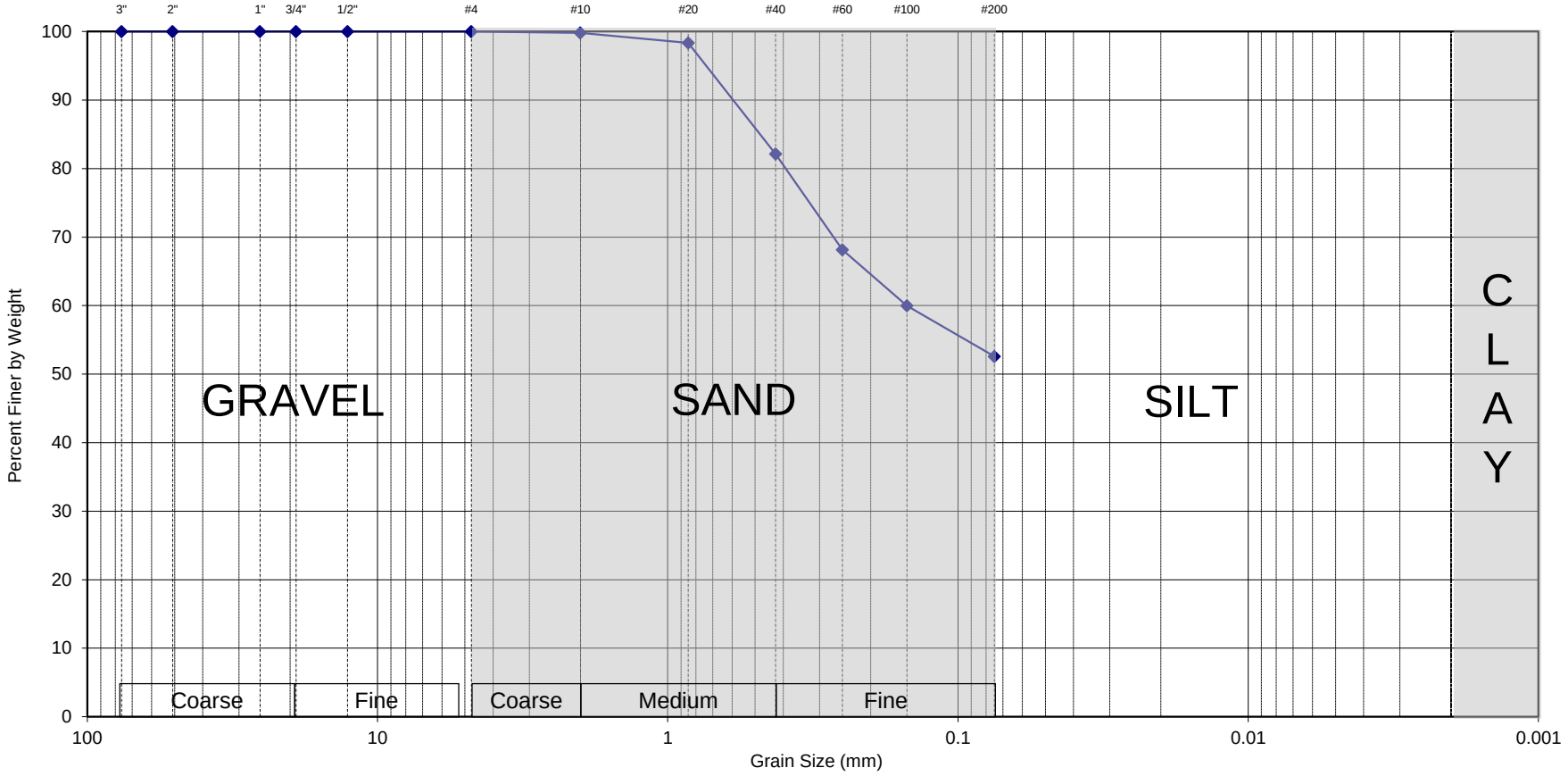
Sieve Size	% Passing
¾"	100.0
½"	100.0
#4	99.2
#10	98.7
#20	97.4
#40	85.3
#60	70.8
#100	61.3
#200	51.8

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U.S. STANDARD SIEVE AND HYDROMETER



Gravel	Sand	Fines
0.0%	47.4%	52.6%

Lab #	Exploration	Sample Depth	Sample Date	Description	WC	LL	PL	PI
37	GZ-107	4-8'	8/1/13	Gray Organic SILT and f-m SAND				

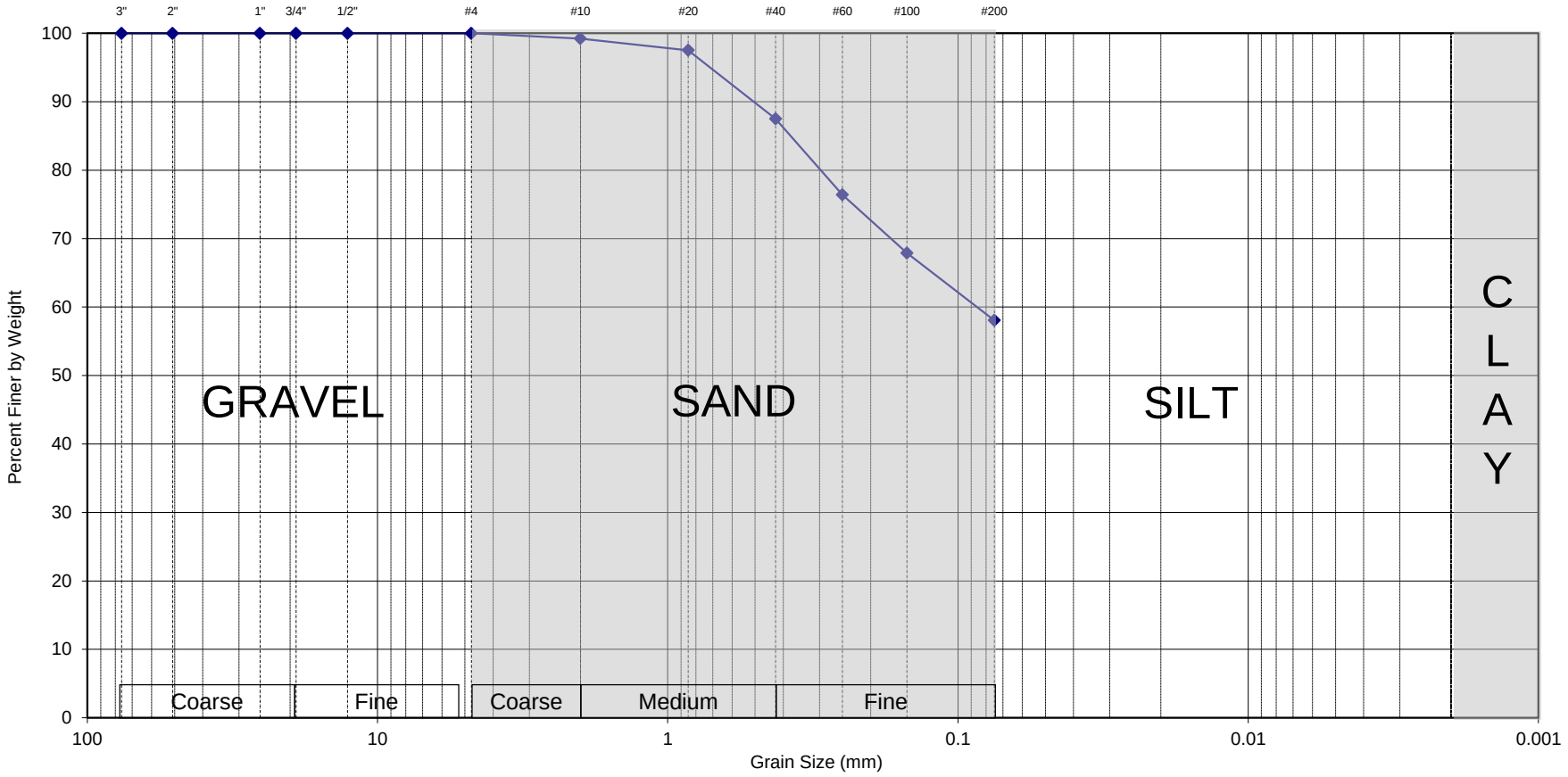
Sieve Size	% Passing
¾"	100.0
½"	100.0
#4	100.0
#10	99.8
#20	98.3
#40	82.1
#60	68.1
#100	60.0
#200	52.6

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U.S. STANDARD SIEVE AND HYDROMETER



Gravel	Sand	Fines
0.0%	41.9%	58.1%

Lab #	Exploration	Sample Depth	Sample Date	Description	WC	LL	PL	PI
38	GZ-111	0-4'	8/1/13	Gray Organic SILT and f-m SAND				

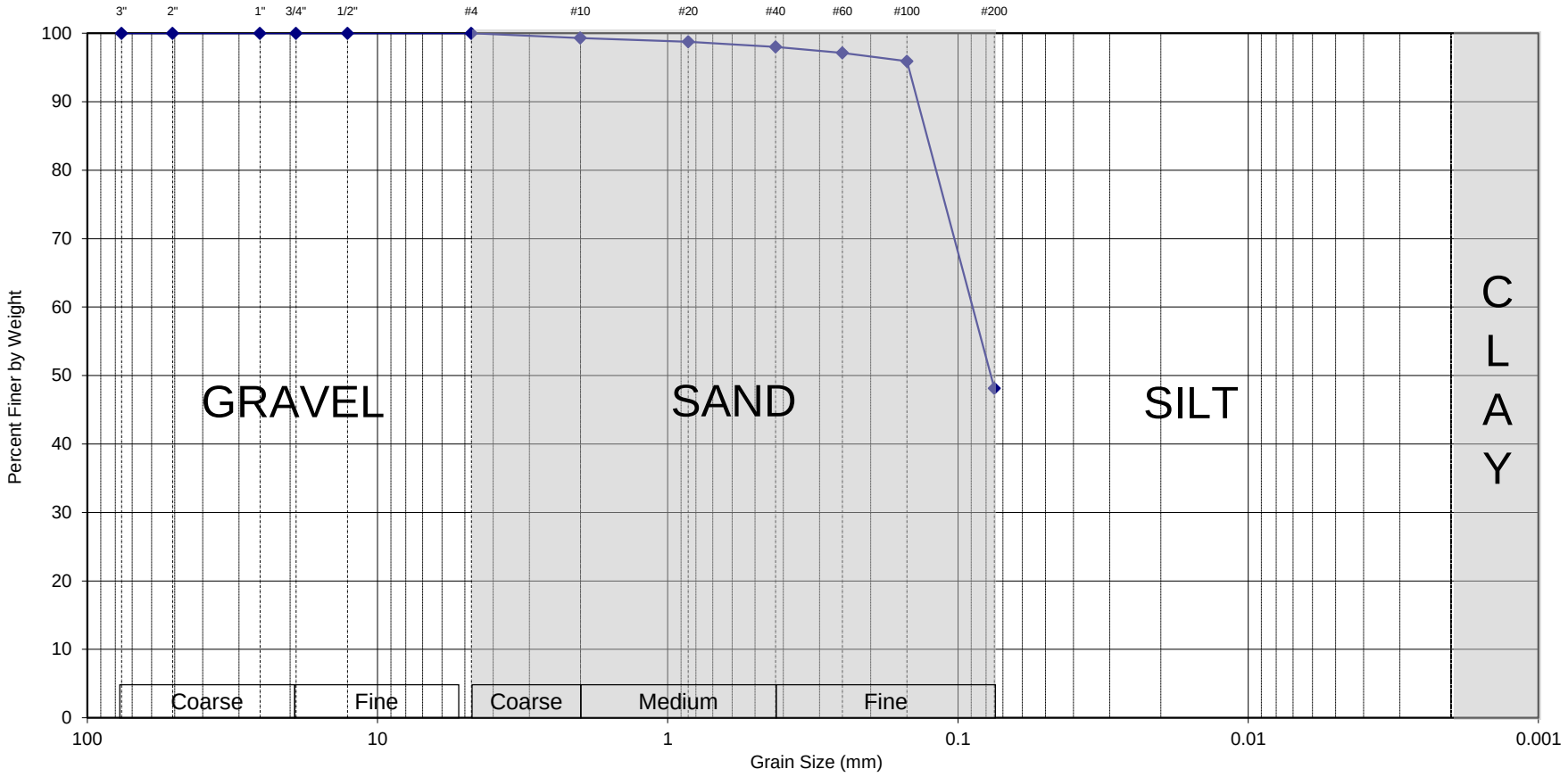
Sieve Size	% Passing
¾"	100.0
½"	100.0
#4	100.0
#10	99.2
#20	97.5
#40	87.5
#60	76.4
#100	67.9
#200	58.1

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U.S. STANDARD SIEVE AND HYDROMETER



Gravel	Sand	Fines
0.0%	51.9%	48.1%

Lab #	Exploration	Sample Depth	Sample Date	Description	WC	LL	PL	PI
39	GZ-111	7-8'	8/1/13	Gray f-m SAND and Organic SILT				

Sieve Size	% Passing
¾"	100.0
½"	100.0
#4	100.0
#10	99.3
#20	98.8
#40	98.0
#60	97.1
#100	95.9
#200	48.1

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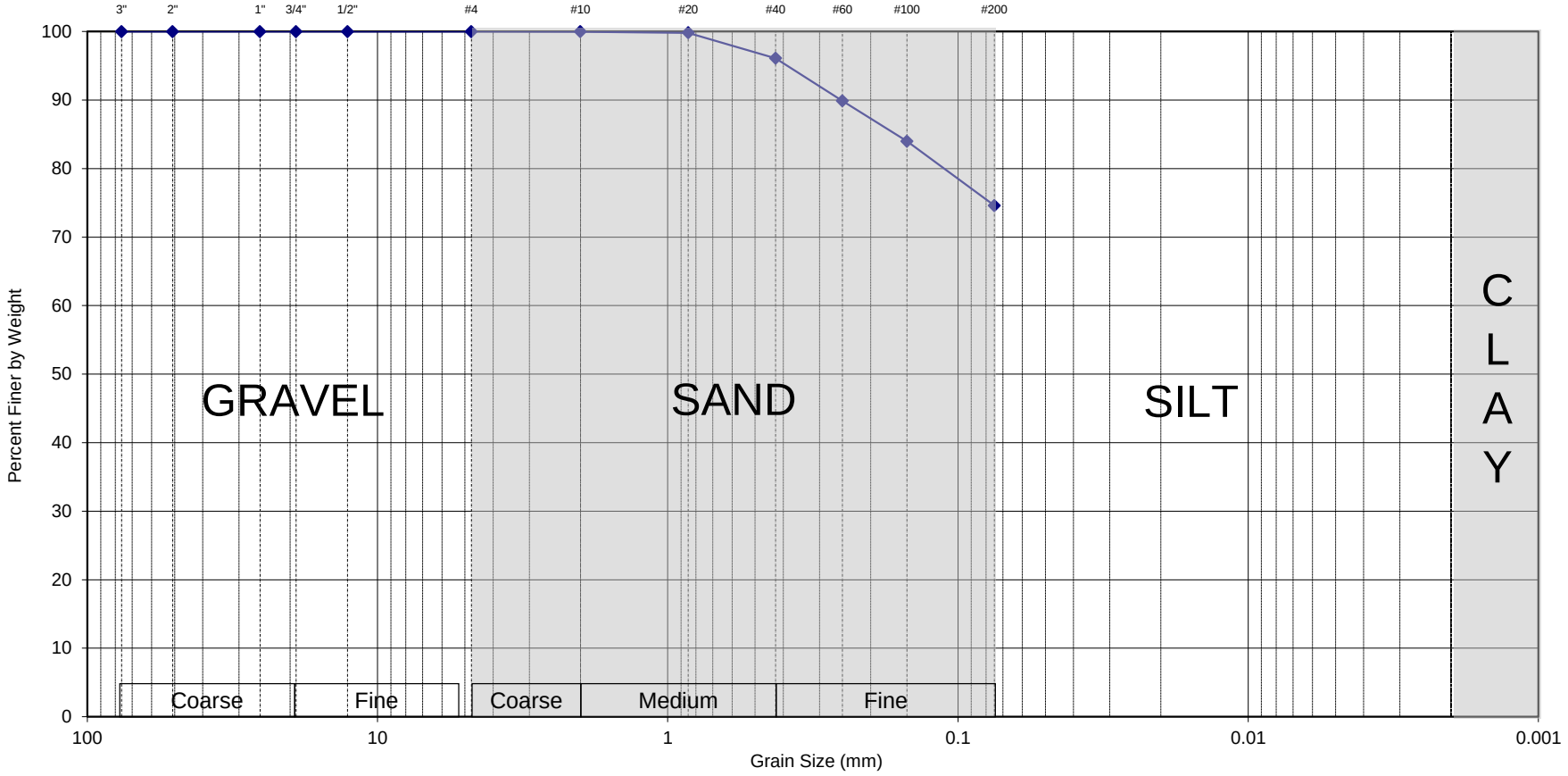
LABORATORY TESTING DATA SHEET

Project Name 1 Horizon Way
Project Location Everett, MA
Project No. 01.0171521.02
Report Date 8/13/2013
Project Engineer D. Leone
Date Reviewed 8/13/2013
Assigned By J. Chrzanowski
Reviewed By

Boring/ Test Pit No.	Depth (ft)	Sample Time	Lab No.	Identification Tests							Laboratory Log and Soil Description
				Water Content %	LL %	PL %	Sieve -200 %	Hyd -2µ %	Gs	ORG %	
GZ-112	0-3	8/1/13	40				74.6				Gray Organic SILT, some f-m Sand
GZ-112	6-9	8/1/13	41				49.1				Black f-m SAND and Organic SILT
GZ-113	0-4	8/1/13	42				65.9				Dark gray Organic SILT, some f-m Sand
GZ-113	5-9	8/1/13	43				33.0				Gray fine SAND, some Organic Silt
GZ-114	0-5	8/1/13	44				70.5				Black Organic SILT, some f-m Sand
GZ-115	0-4	8/1/13	45				55.0				Black Organic SILT and f-m SAND, trace Gravel
GZ-117	4-8	8/1/13	46				55.6				Dark brown Organic SILT and f-m SAND, trace Gravel
GZ-119	0-4	8/1/13	47				62.3				Dark brown Organic SILT and f-m SAND
GZ-121	0-3	8/1/13	48				59.2				Gray Organic SILT and f-m SAND
GZ-123	5-8	8/1/13	49				60.7				Brown Organic SILT and f-m SAND
GZ-128	0-3	8/1/13	50				67.3				Brown Organic SILT, some f-m Sand

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U.S. STANDARD SIEVE AND HYDROMETER



Gravel	Sand	Fines
0.0%	25.4%	74.6%

Lab #	Exploration	Sample Depth	Sample Date	Description	WC	LL	PL	PI
40	GZ-112	0-3'	8/1/13	Gray Organic SILT, some f-m Sand				

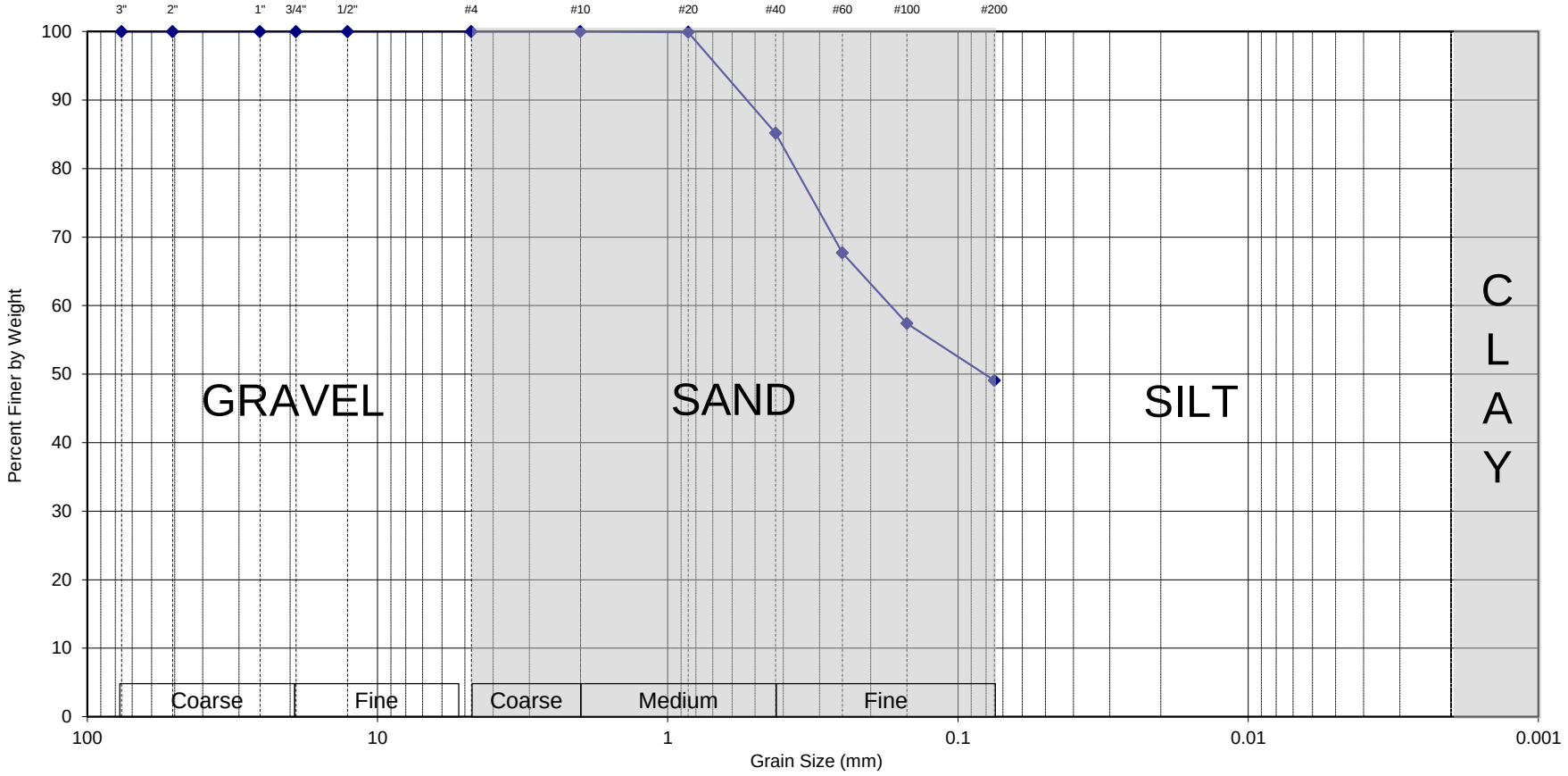
Sieve Size	% Passing
¾"	100.0
½"	100.0
#4	100.0
#10	100.0
#20	99.8
#40	96.1
#60	89.9
#100	84.0
#200	74.6

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Tested by: PH/LM Date: 8/12/13
Reviewed by: MBP Date: 8/13/13

U.S. STANDARD SIEVE AND HYDROMETER



Gravel	Sand	Fines
0.0%	50.9%	49.1%

Lab #	Exploration	Sample Depth	Sample Date	Description	WC	LL	PL	PI
41	GZ-112	6-9'	8/1/13	Black f-m SAND and Organic SILT				

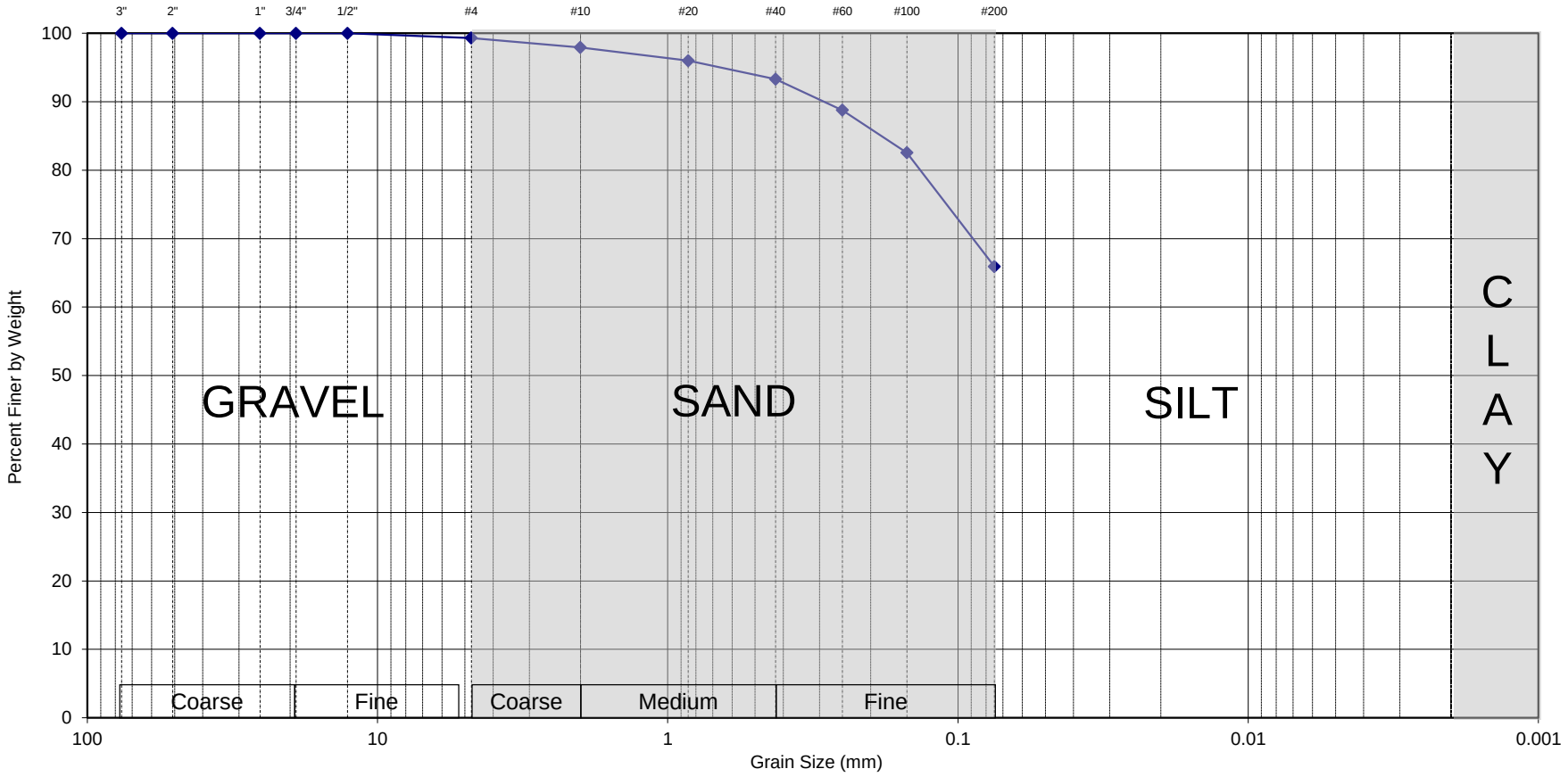
Sieve Size	% Passing
¾"	100.0
½"	100.0
#4	100.0
#10	100.0
#20	99.9
#40	85.2
#60	67.7
#100	57.4
#200	49.1

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U.S. STANDARD SIEVE AND HYDROMETER



Gravel	Sand	Fines
0.7%	33.4%	65.9%

Lab #	Exploration	Sample Depth	Sample Date	Description	WC	LL	PL	PI
42	GZ-113	0-4'	8/1/13	Dark gray Organic SILT, some f-m Sand				

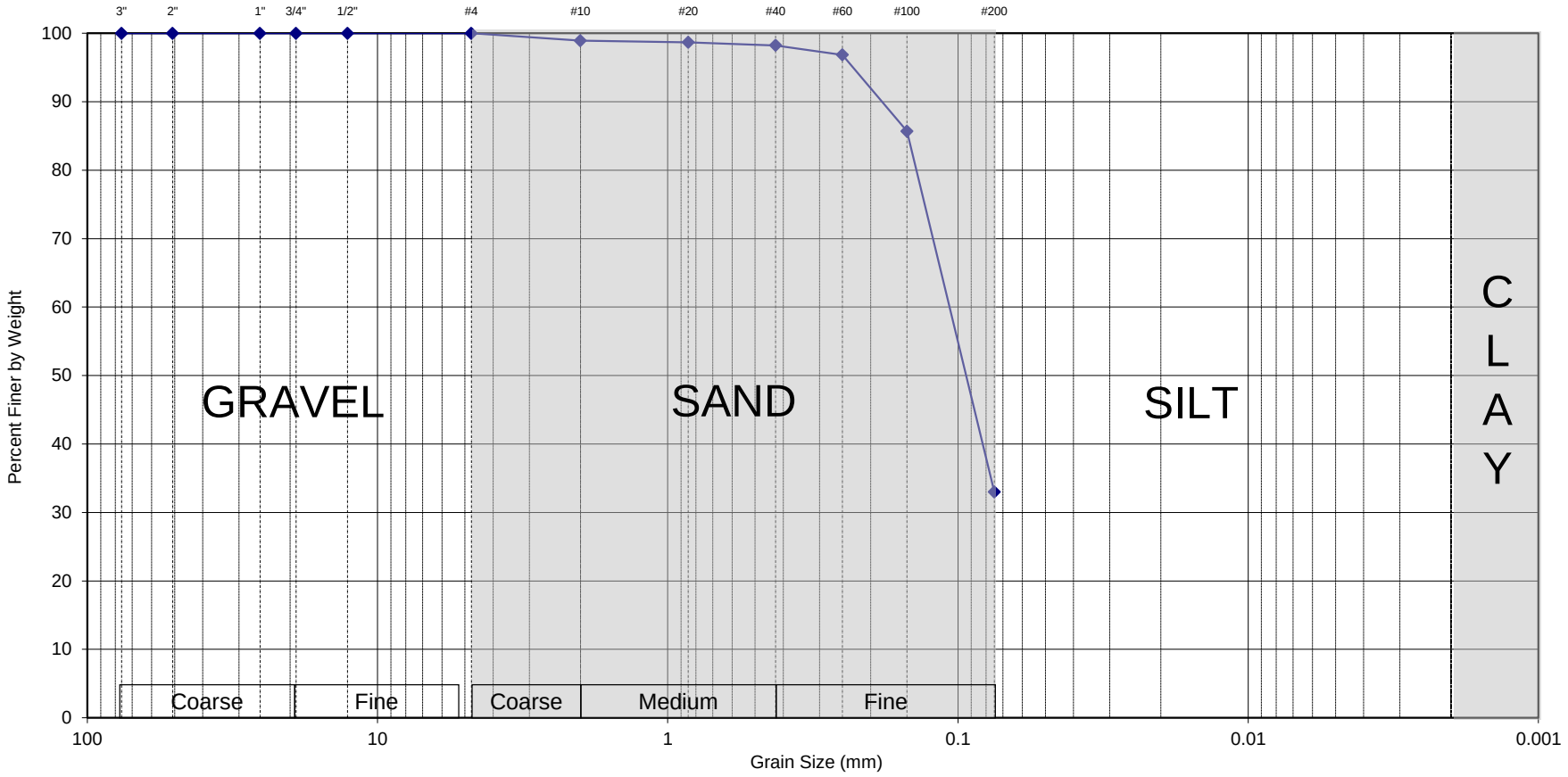
Sieve Size	% Passing
¾"	100.0
½"	100.0
#4	99.3
#10	97.9
#20	96.0
#40	93.3
#60	88.8
#100	82.5
#200	65.9

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U.S. STANDARD SIEVE AND HYDROMETER



Gravel	Sand	Fines
0.0%	67.0%	33.0%

Lab #	Exploration	Sample Depth	Sample Date	Description	WC	LL	PL	PI
43	GZ-113	5-9'	8/1/13	Gray fine SAND, some Organic Silt				

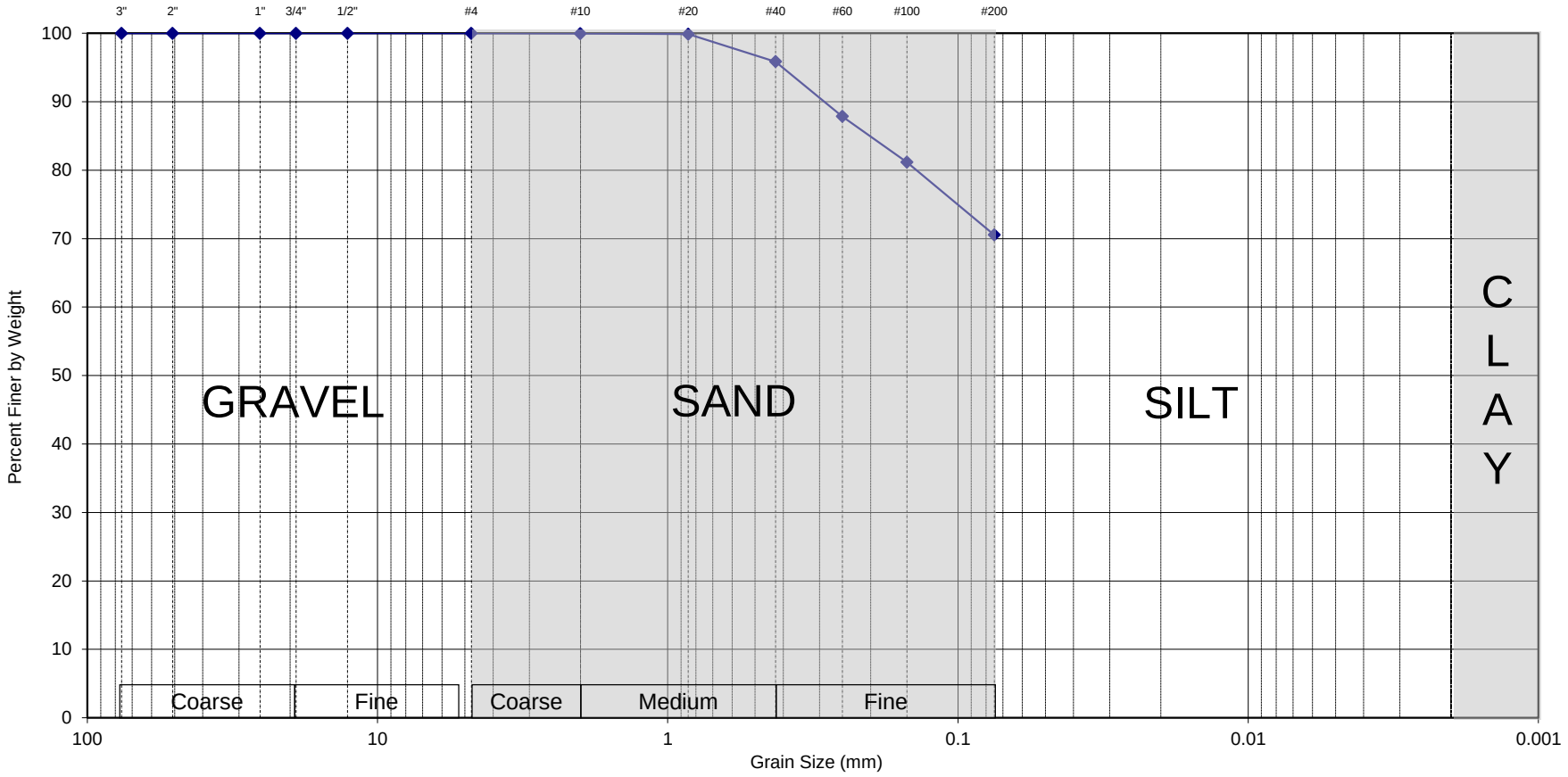
Sieve Size	% Passing
¾"	100.0
½"	100.0
#4	100.0
#10	98.9
#20	98.7
#40	98.2
#60	96.8
#100	85.7
#200	33.0

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U.S. STANDARD SIEVE AND HYDROMETER



Gravel	Sand	Fines
0.0%	29.5%	70.5%

Lab #	Exploration	Sample Depth	Sample Date	Description	WC	LL	PL	PI
44	GZ-114	0-5'	8/1/13	Black Organic SILT, some f-m Sand				

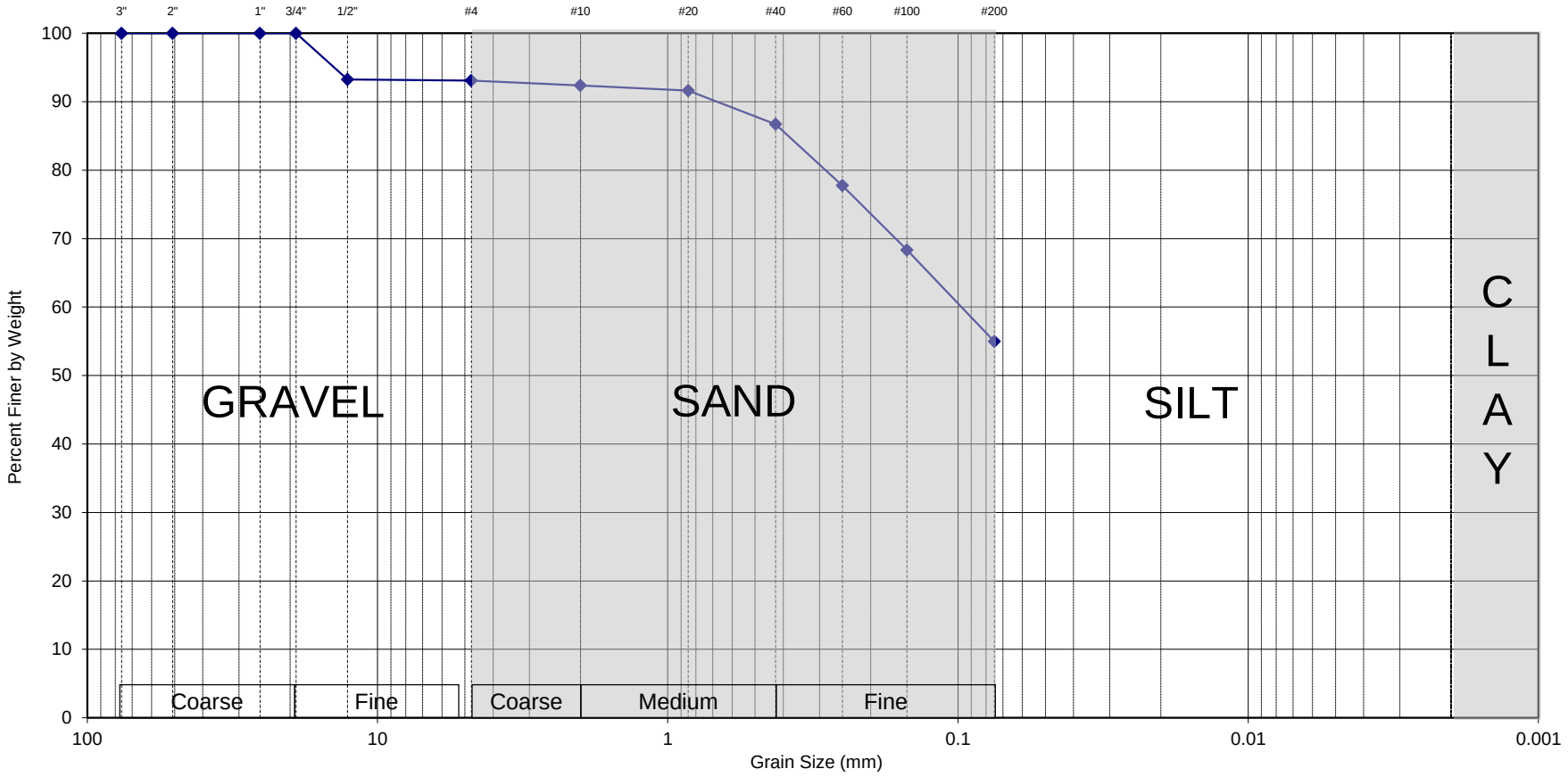
Sieve Size	% Passing
¾"	100.0
½"	100.0
#4	100.0
#10	100.0
#20	99.9
#40	95.9
#60	87.9
#100	81.2
#200	70.5

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U.S. STANDARD SIEVE AND HYDROMETER



Gravel	Sand	Fines
6.9%	38.1%	55.0%

Lab #	Exploration	Sample Depth	Sample Date	Description	WC	LL	PL	PI
45	GZ-115	0-4'	8/1/13	Black Organic SILT and f-m SAND, trace Gravel				

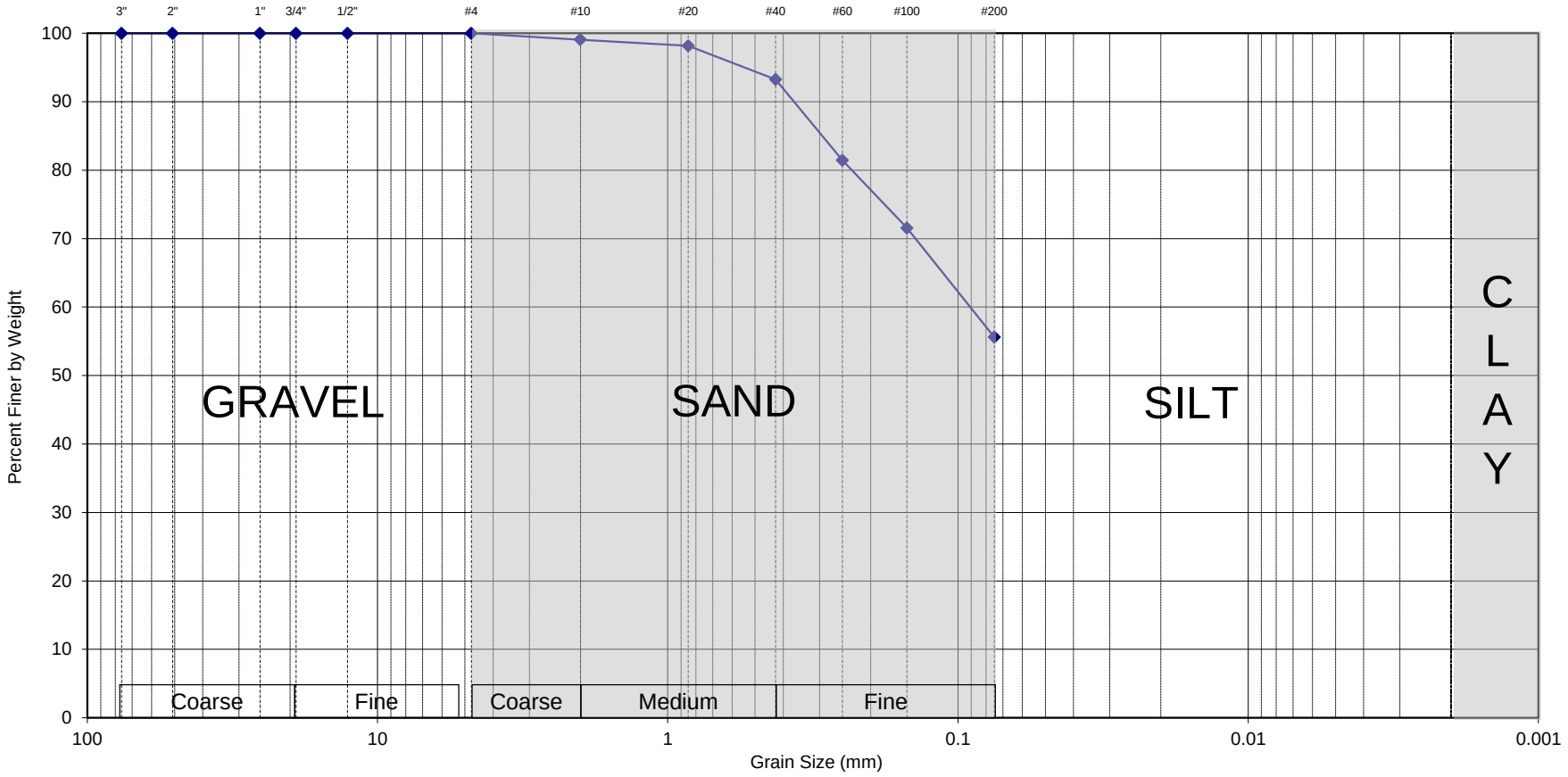
Sieve Size	% Passing
¾"	100.0
½"	93.2
#4	93.1
#10	92.4
#20	91.6
#40	86.7
#60	77.8
#100	68.3
#200	55.0

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U.S. STANDARD SIEVE AND HYDROMETER



Gravel	Sand	Fines
0.0%	44.4%	55.6%

Lab #	Exploration	Sample Depth	Sample Date	Description	WC	LL	PL	PI
46	GZ-117	4-8'	8/1/13	Dark brown Organic SILT and f-m SAND, trace Gravel				

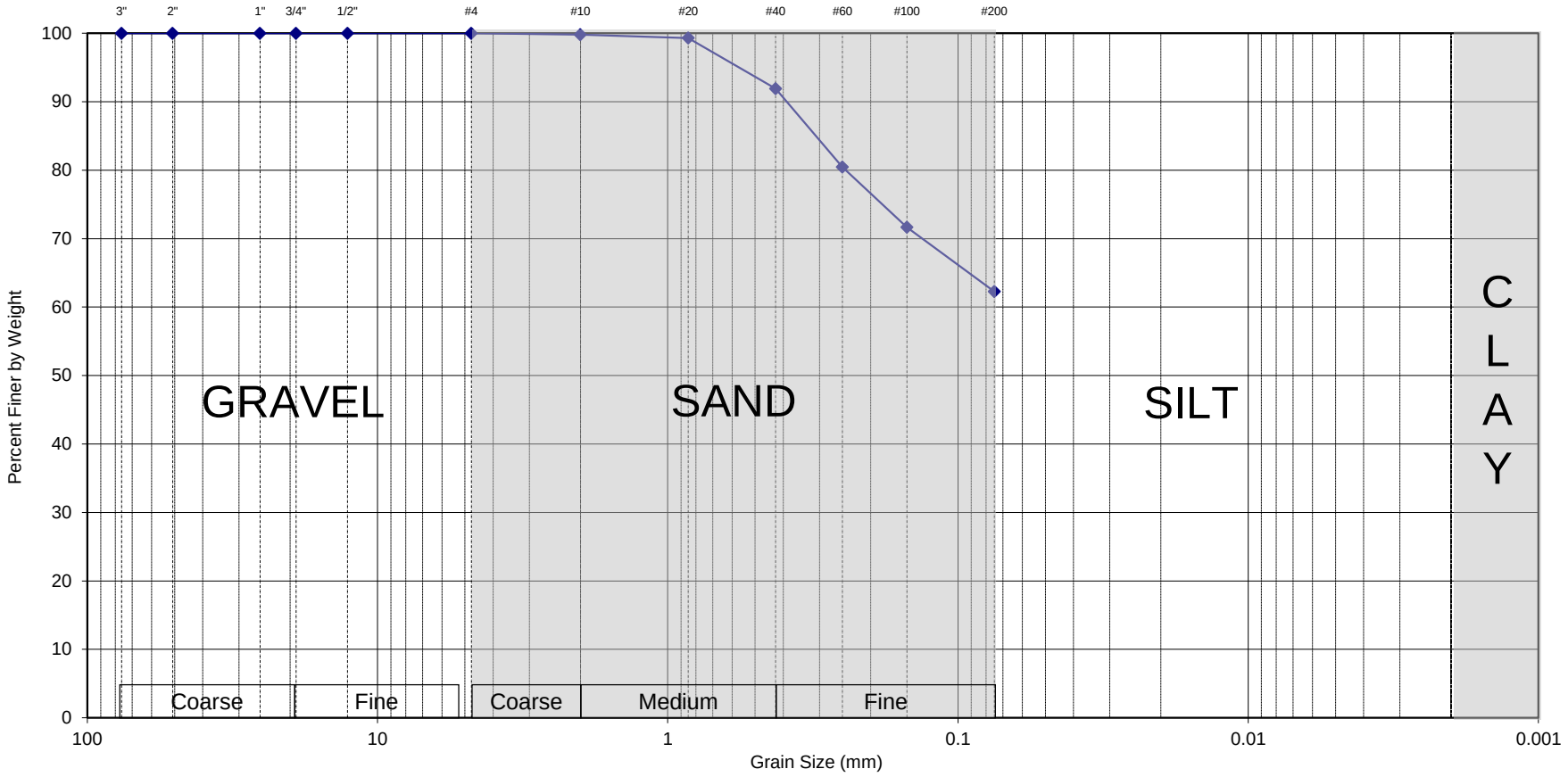
Sieve Size	% Passing
¾"	100.0
½"	100.0
#4	100.0
#10	99.1
#20	98.2
#40	93.3
#60	81.4
#100	71.6
#200	55.6

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U.S. STANDARD SIEVE AND HYDROMETER



Gravel	Sand	Fines
0.0%	37.7%	62.3%

Lab #	Exploration	Sample Depth	Sample Date	Description	WC	LL	PL	PI
47	GZ-119	0-4'	8/1/13	Dark brown Organic SILT and f-m SAND				

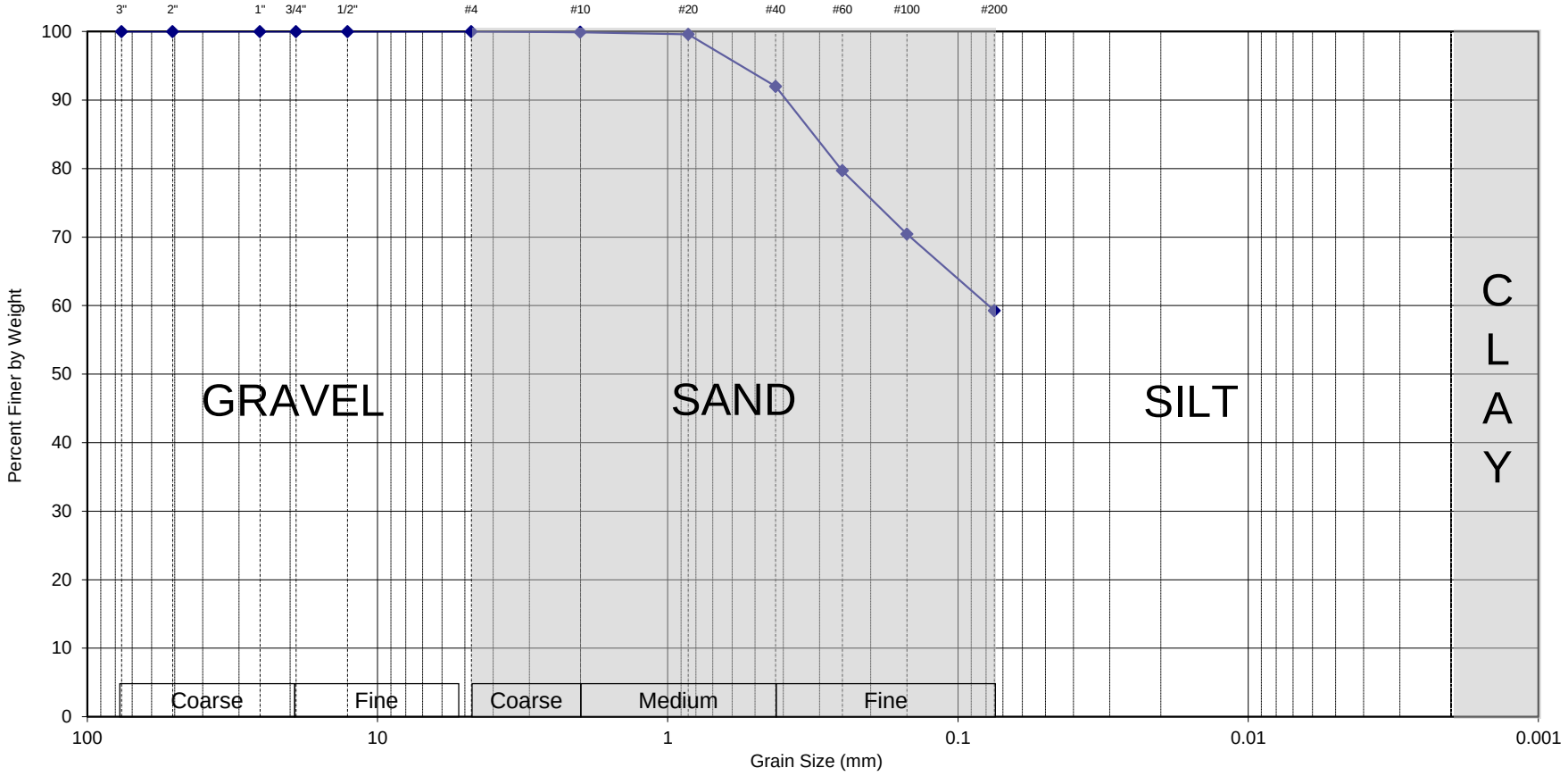
Sieve Size	% Passing
¾"	100.0
½"	100.0
#4	100.0
#10	99.8
#20	99.3
#40	91.9
#60	80.5
#100	71.6
#200	62.3

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U.S. STANDARD SIEVE AND HYDROMETER



Gravel	Sand	Fines
0.0%	40.8%	59.2%

Lab #	Exploration	Sample Depth	Sample Date	Description	WC	LL	PL	PI
48	GZ-121	0-3'	8/1/13	Gray Organic SILT and f-m SAND				

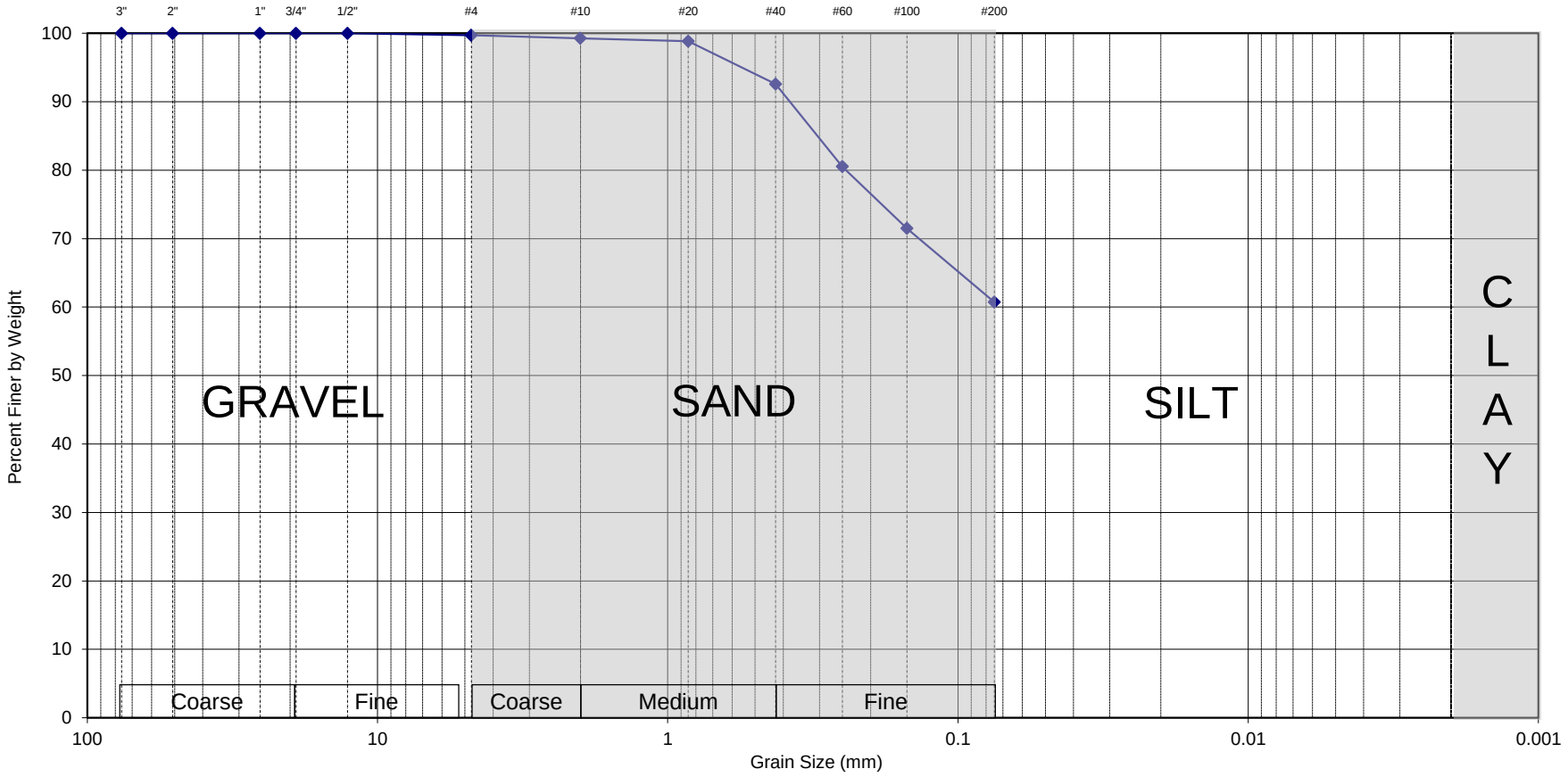
Sieve Size	% Passing
¾"	100.0
½"	100.0
#4	100.0
#10	99.9
#20	99.6
#40	92.0
#60	79.7
#100	70.4
#200	59.2

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U.S. STANDARD SIEVE AND HYDROMETER



Gravel	Sand	Fines
0.3%	39.0%	60.7%

Lab #	Exploration	Sample Depth	Sample Date	Description	WC	LL	PL	PI
49	GZ-123	5-8'	8/1/13	Brown Organic SILT and f-m SAND				

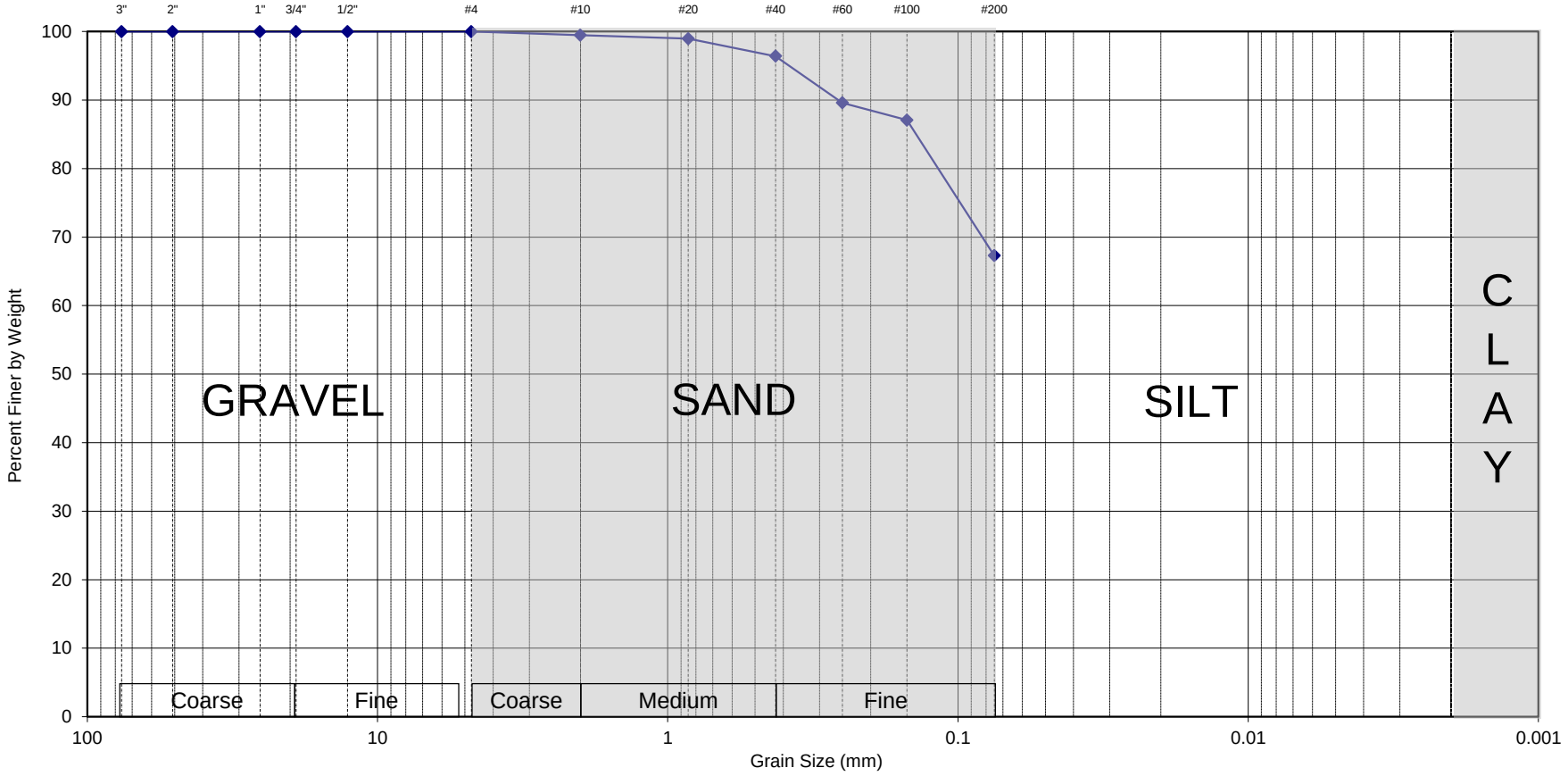
Sieve Size	% Passing
¾"	100.0
½"	100.0
#4	99.7
#10	99.3
#20	98.8
#40	92.6
#60	80.5
#100	71.5
#200	60.7

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U.S. STANDARD SIEVE AND HYDROMETER



Gravel	Sand	Fines
0.0%	32.7%	67.3%

Lab #	Exploration	Sample Depth	Sample Date	Description	WC	LL	PL	PI
50	GZ-128	0-3'	8/1/13	Brown Organic SILT, some f-m Sand				

Sieve Size	% Passing
¾"	100.0
½"	100.0
#4	100.0
#10	99.5
#20	99.0
#40	96.4
#60	89.6
#100	87.1
#200	67.3

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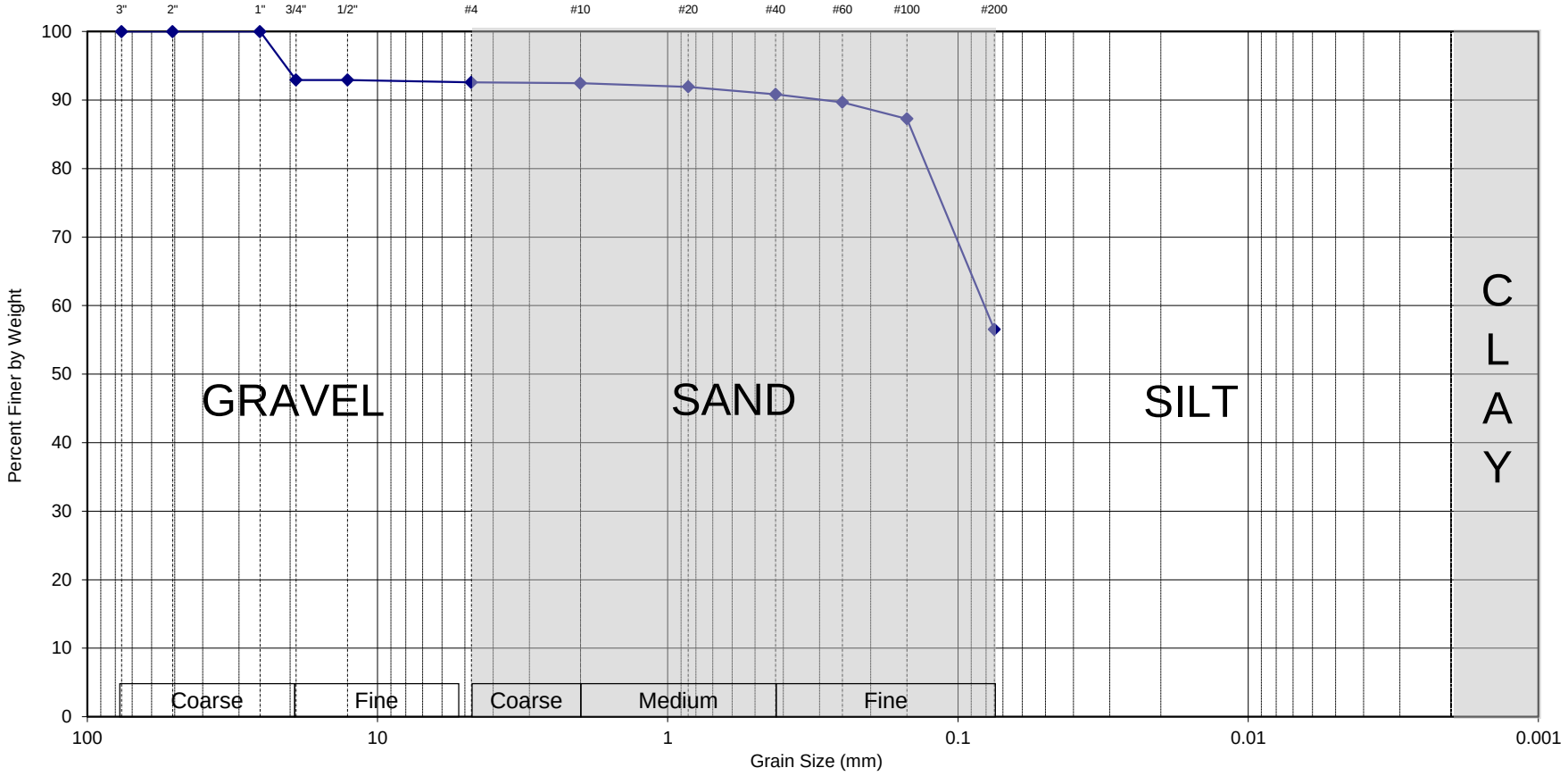
LABORATORY TESTING DATA SHEET

Project Name 1 Horizon Way
Project Location Everett, MA
Project No. 01.0171521.02
Report Date 8/13/2013
Project Engineer D. Leone
Date Reviewed 8/19/2013
Assigned By J. Chrzanowski
Reviewed By

Boring/ Test Pit No.	Depth (ft)	Sample Time	Lab No.	Identification Tests							Laboratory Log and Soil Description
				Water Content %	LL %	PL %	Sieve -200 %	Hyd -2µ %	Gs	ORG %	
GZ-139	1-2	8/5/13	51				56.5				Gray Organic SILT and f-m SAND, trace Gravel
GZ-139	7-9	8/5/13	52				48.0				Gray fine SAND and Organic SILT
GZ-140A	1-2	8/5/13	53				71.5				Gray Organic SILT, some fine Sand
GZ-140A	2-3	8/5/13	54				11.1				Gray f-c SAND, little f-c Gravel, little Silt
GZ-136	1-3	8/5/13	55				56.0				Gray Organic SILT, and fine SAND
GZ-136	7-9	8/5/13	56				28.0				Gray f-m SAND, some Silt, trace Gravel
GZ-137	0-2	8/5/13	57				66.1				Gray Organic SILT, some fine Sand
GZ-137	3-5	8/5/13	58				31.5				Gray f-m SAND, some Silt, trace Gravel
GZ-133	0-2	8/5/13	59				42.3				Dark brown f-m SAND and SILT, trace Gravel
GZ-133	2-4	8/5/13	60				22.6				Gray f-c SAND, some Silt, some f-c Gravel
GZ-110B	2-6	8/5/13	61				86.6				Gray Organic SILT, little f-m Sand
GZ-127	0-2	8/5/13	62				48.7				Black & Gray Organic SILT, some f-m Sand, little f-c Gravel
GZ-127	3-5	8/5/13	63				49.9				Brown-gray f-m SAND and SILT
GZ-126	0-2	8/5/13	64				35.5				Gray f-c SAND and SILT, little f-c Gravel
GZ-126	2-4	8/5/13	65				53.8				Gray SILT and f-m Sand, trace Gravel
GZ-125A	2-4	8/5/13	66				49.8				Gray fine SAND and SILT

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U.S. STANDARD SIEVE AND HYDROMETER



Gravel	Sand	Fines
7.4%	36.1%	56.5%

Lab #	Exploration	Sample Depth	Sample Date	Description	WC	LL	PL	PI
51	GZ-139	1-2'	8/5/13	Gray Organic SILT and f-m SAND, trace Gravel				

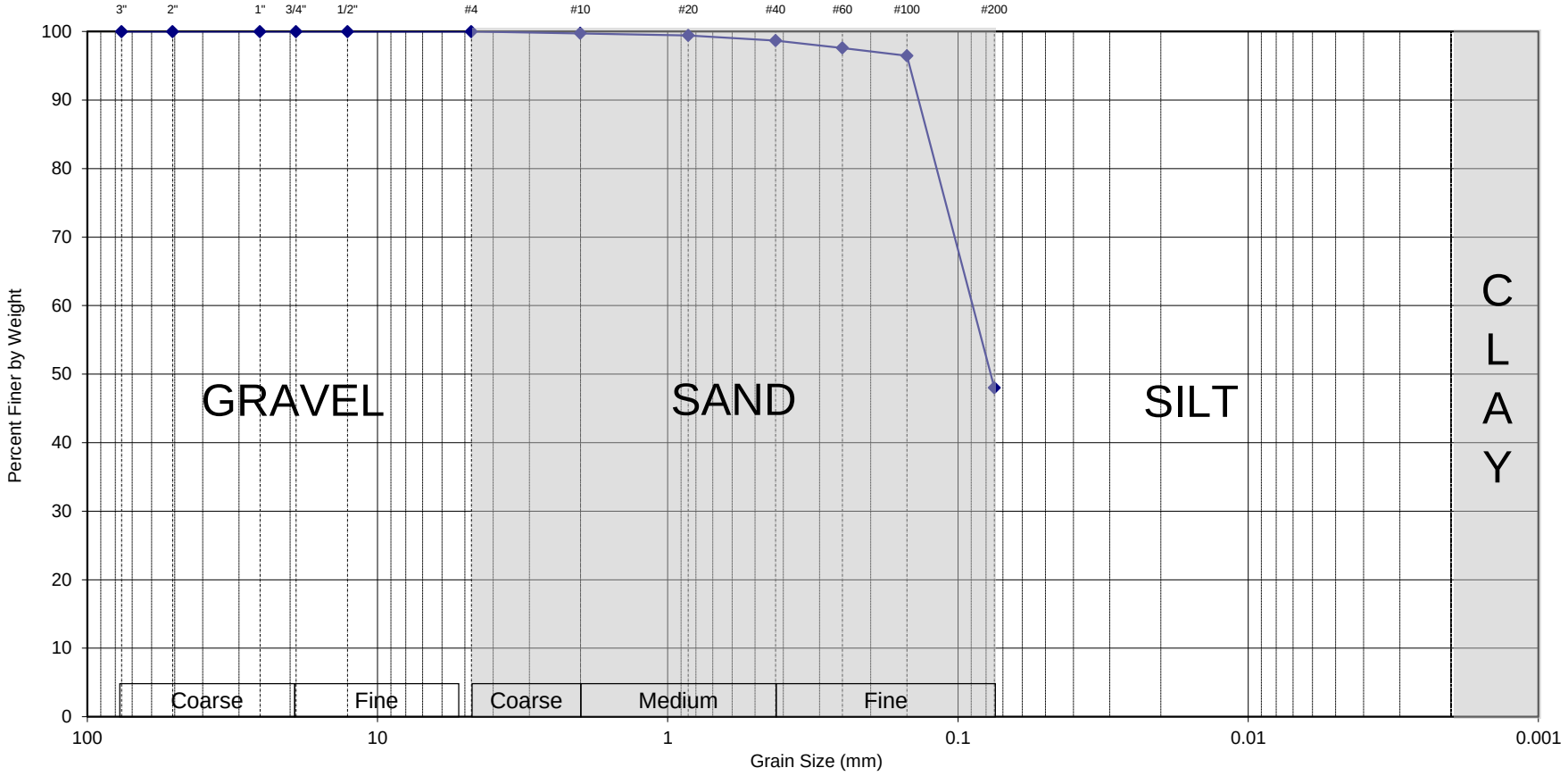
Sieve Size	% Passing
¾"	92.9
½"	92.9
#4	92.6
#10	92.4
#20	91.9
#40	90.8
#60	89.7
#100	87.3
#200	56.5

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CTS-74-13-0003
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GZA File # 01.0171521.02

Tested by: LM Date: 8/19/13
Reviewed by: MBP Date: 8/19/13

U.S. STANDARD SIEVE AND HYDROMETER



Gravel	Sand	Fines
0.0%	52.0%	48.0%

Lab #	Exploration	Sample Depth	Sample Date	Description	WC	LL	PL	PI
52	GZ-139	7-9'	8/5/13	Gray fine SAND and Organic SILT				

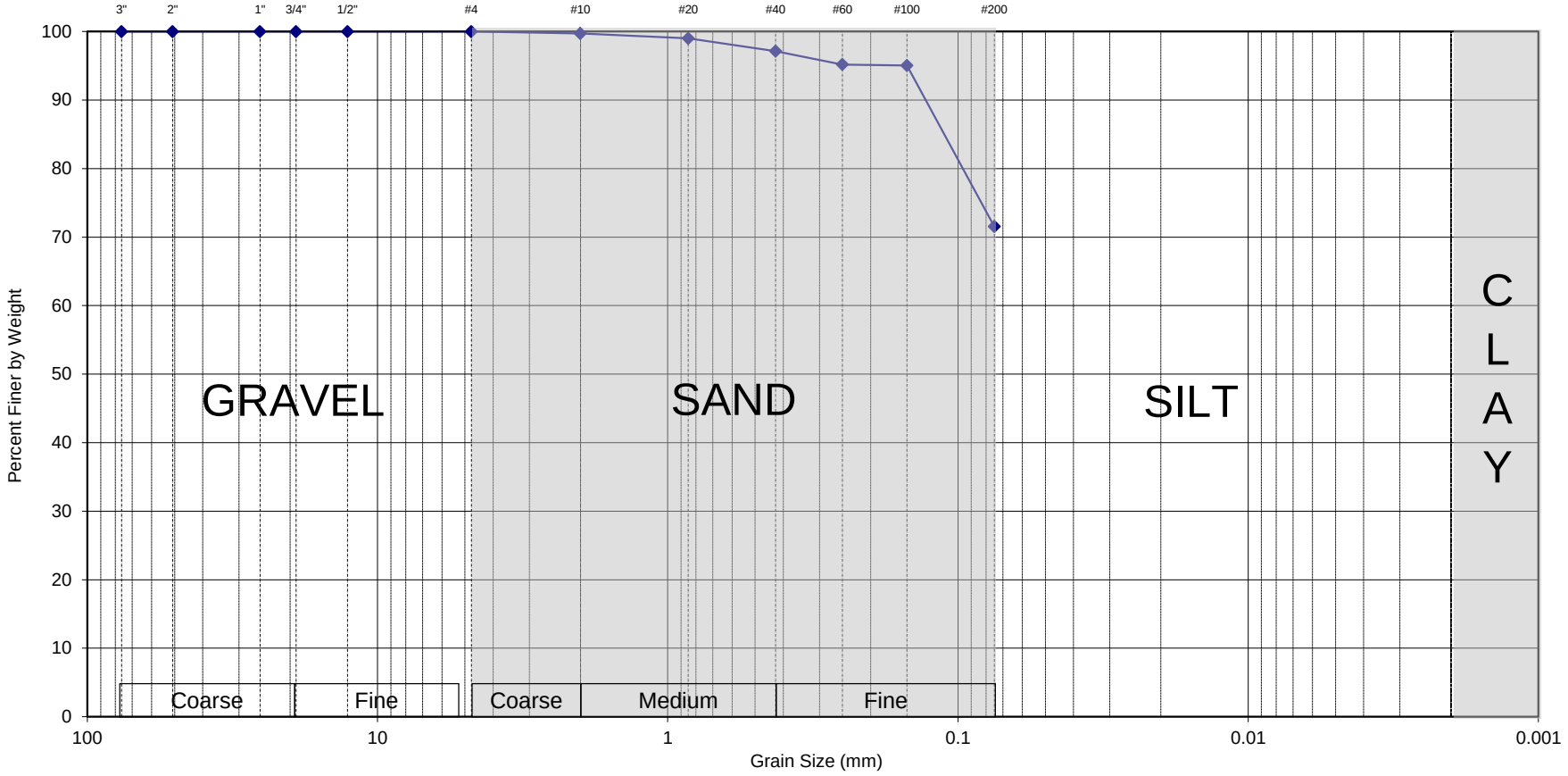
Sieve Size	% Passing
¾"	100.0
½"	100.0
#4	100.0
#10	99.7
#20	99.4
#40	98.7
#60	97.6
#100	96.5
#200	48.0

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Tested by: LM Date: 8/19/13
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U.S. STANDARD SIEVE AND HYDROMETER



Gravel	Sand	Fines
0.0%	28.5%	71.5%

Lab #	Exploration	Sample Depth	Sample Date	Description	WC	LL	PL	PI
53	GZ-140A	1-2'	8/5/13	Gray Organic SILT, some fine Sand				

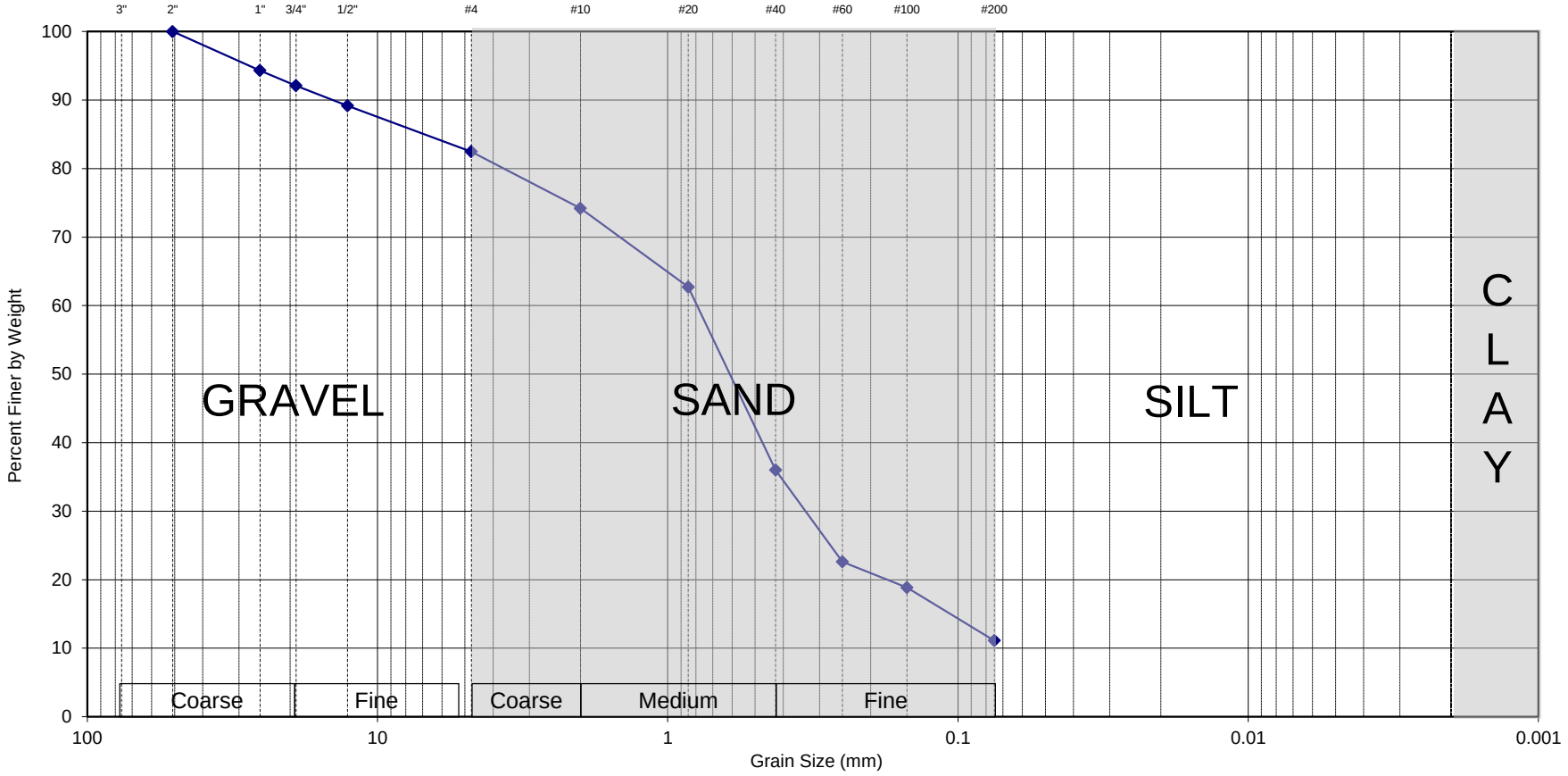
Sieve Size	% Passing
¾"	100.0
½"	100.0
#4	100.0
#10	99.7
#20	99.0
#40	97.1
#60	95.2
#100	95.0
#200	71.5

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U.S. STANDARD SIEVE AND HYDROMETER



Gravel	Sand	Fines
17.5%	71.3%	11.1%

Lab #	Exploration	Sample	Sample Date	Description	WC	LL	PL	PI
54	GZ-140A	2-3'	8/5/13	Gray f-c SAND, little f-c Gravel, little Silt				

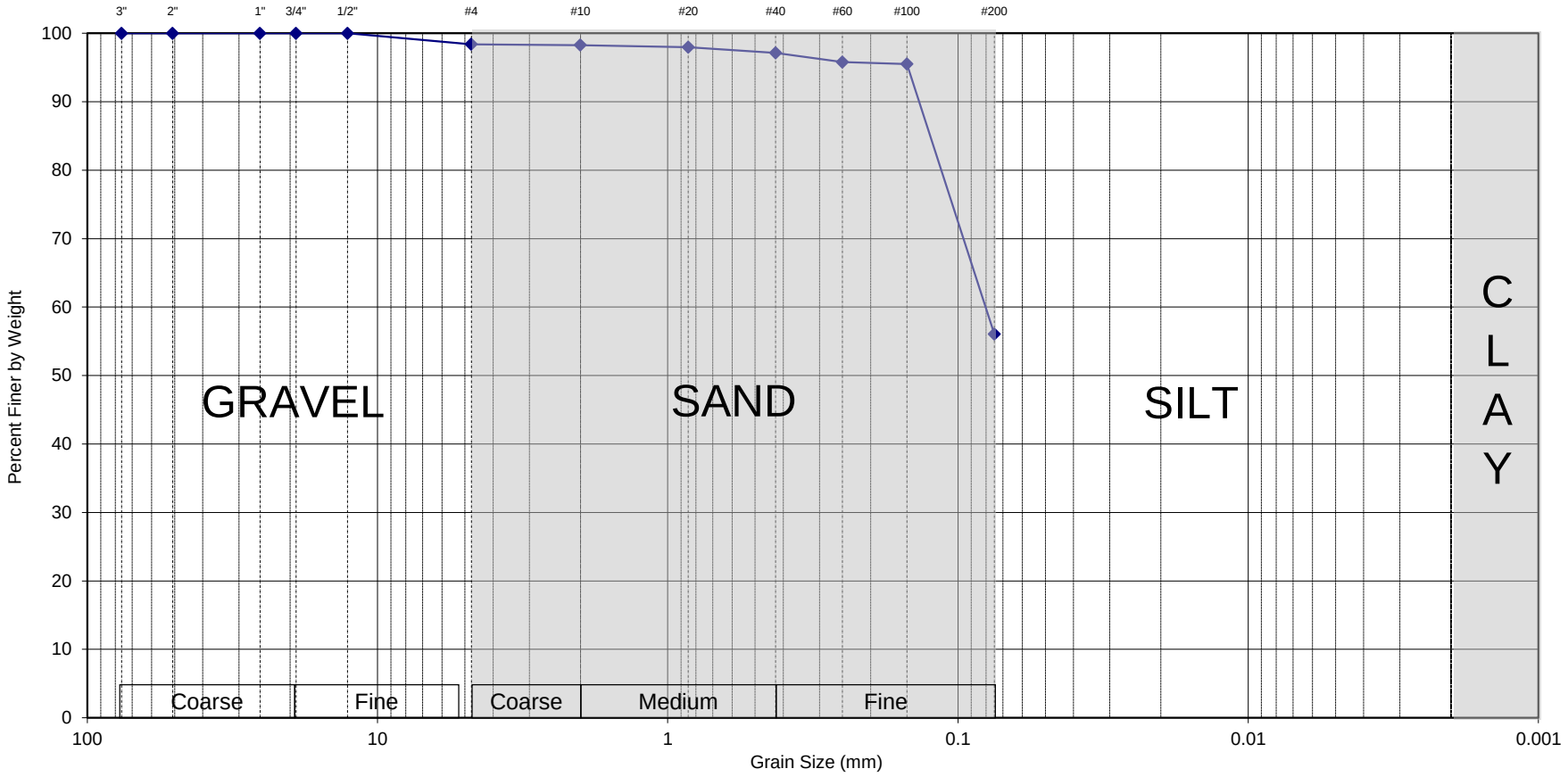
Sieve Size	% Passing
¾"	92.1
½"	89.2
#4	82.5
#10	74.2
#20	62.7
#40	36.0
#60	22.6
#100	18.9
#200	11.1

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Tested by: LM/GG Date: 8/16/13
Reviewed by: MBP Date: 8/19/13

U.S. STANDARD SIEVE AND HYDROMETER



Gravel	Sand	Fines
1.6%	42.4%	56.0%

Lab #	Exploration	Sample Depth	Sample Date	Description	WC	LL	PL	PI
55	GZ-136	1-3'	8/5/13	Gray Organic SILT, and fine SAND				

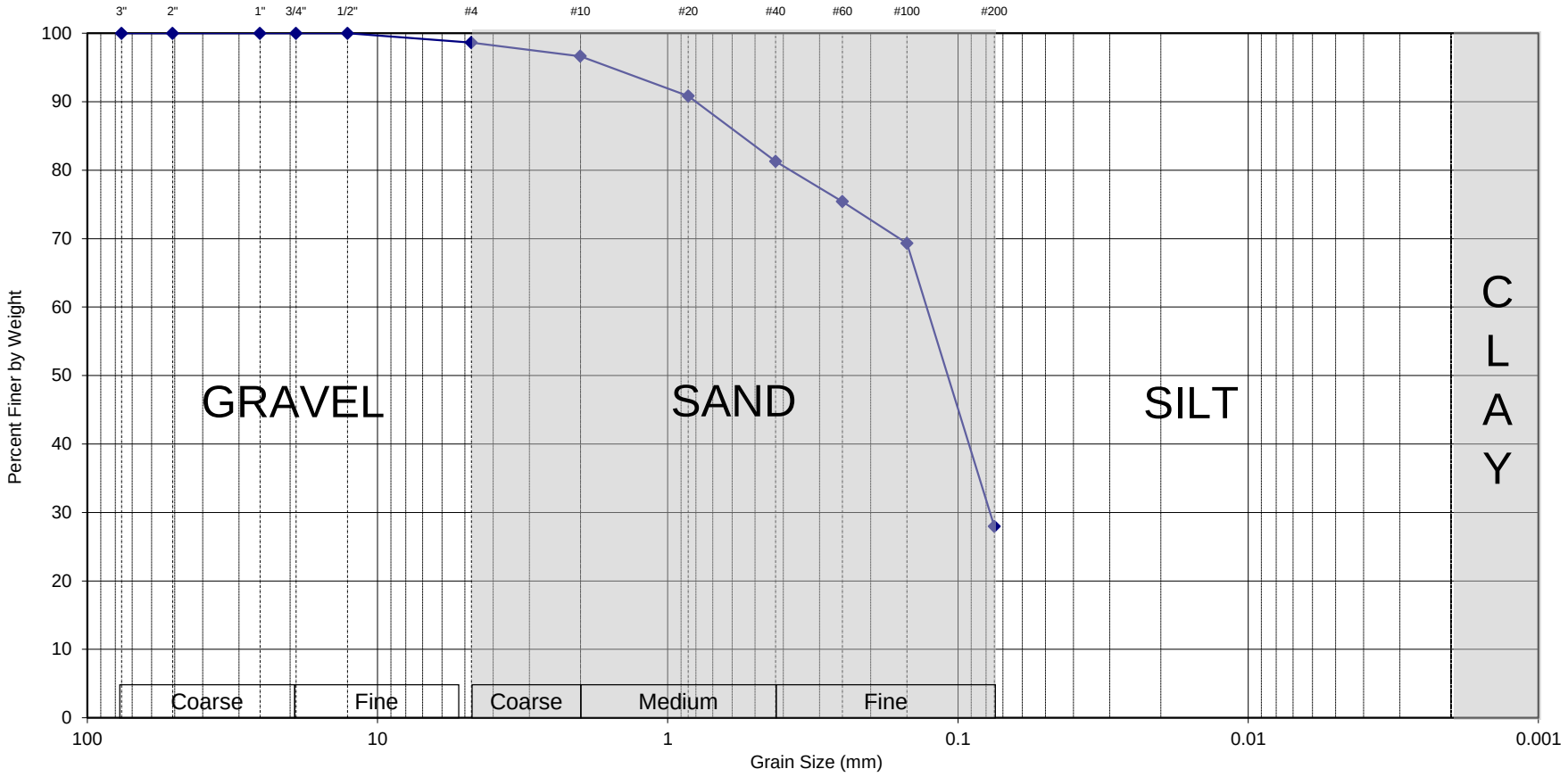
Sieve Size	% Passing
¾"	100.0
½"	100.0
#4	98.4
#10	98.3
#20	98.0
#40	97.1
#60	95.8
#100	95.5
#200	56.0

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Tested by: LM Date: 8/19/13
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U.S. STANDARD SIEVE AND HYDROMETER



Gravel	Sand	Fines
1.4%	70.7%	28.0%

Lab #	Exploration	Sample Depth	Sample Date	Description	WC	LL	PL	PI
56	GZ-136	7-9'	8/5/13	Gray f-m SAND, some Silt, trace Gravel				

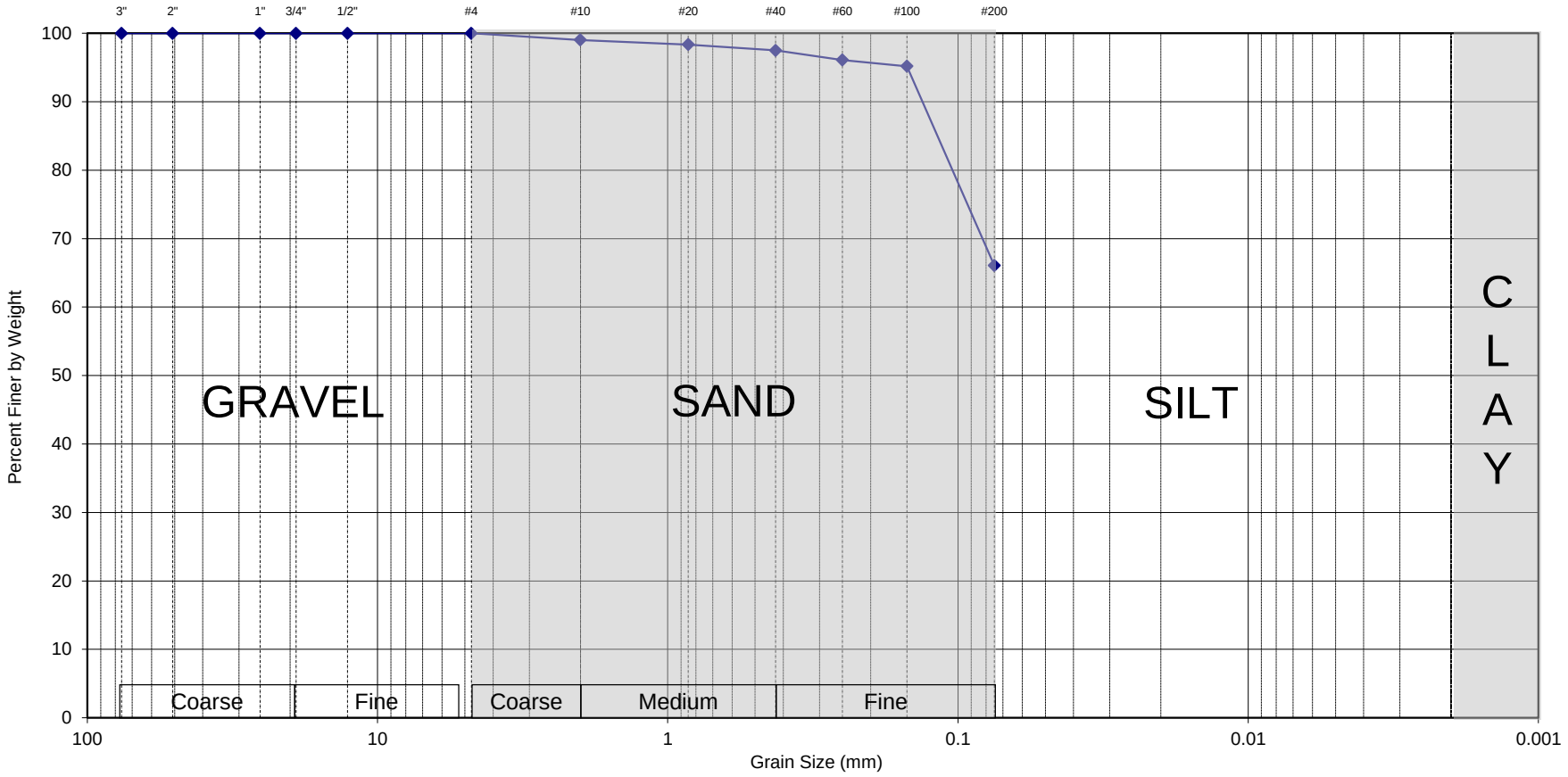
Sieve Size	% Passing
¾"	100.0
½"	100.0
#4	98.6
#10	96.6
#20	90.8
#40	81.3
#60	75.4
#100	69.3
#200	28.0

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U.S. STANDARD SIEVE AND HYDROMETER



Gravel	Sand	Fines
0.0%	33.9%	66.1%

Lab #	Exploration	Sample Depth	Sample Date	Description	WC	LL	PL	PI
57	GZ-137	0-2'	8/5/13	Gray Organic SILT, some fine Sand				

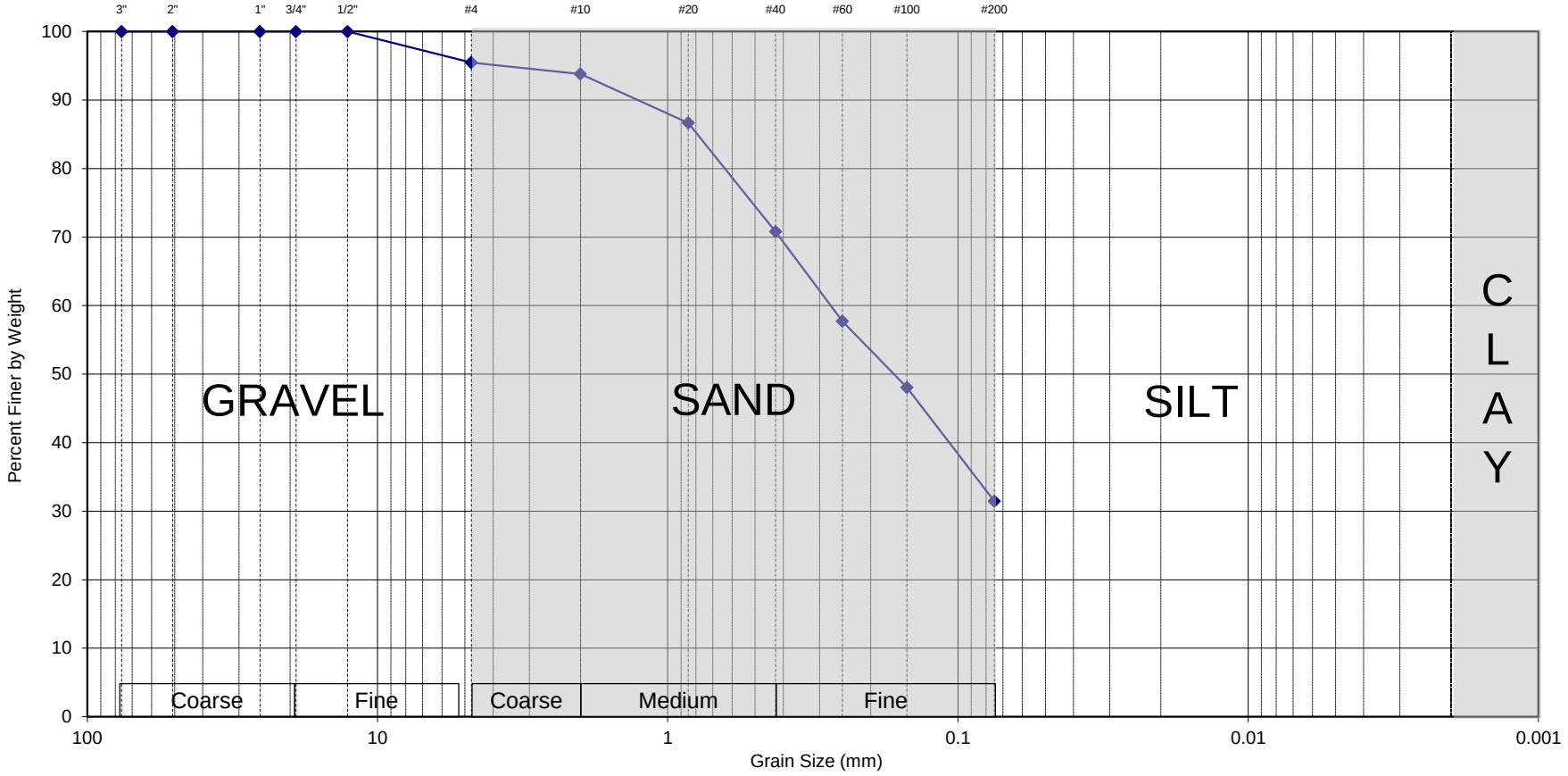
Sieve Size	% Passing
¾"	100.0
½"	100.0
#4	100.0
#10	99.0
#20	98.4
#40	97.5
#60	96.1
#100	95.2
#200	66.1

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U.S. STANDARD SIEVE AND HYDROMETER



Gravel	Sand	Fines
4.5%	64.0%	31.5%

Lab #	Exploration	Sample Depth	Sample Date	Description	WC	LL	PL	PI
58	GZ-137	3-5'	8/5/13	Gray f-m SAND, some Silt, trace Gravel				

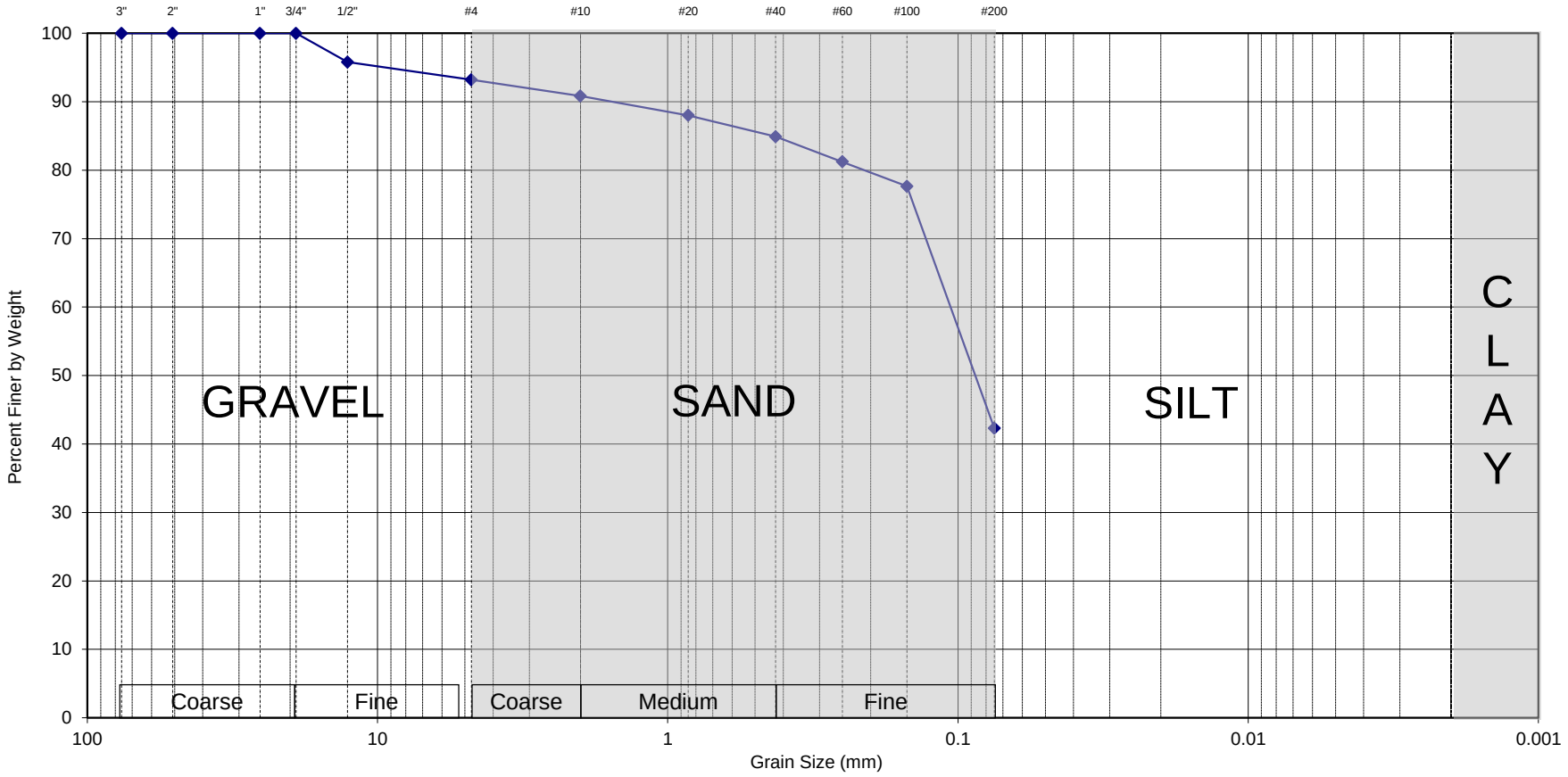
Sieve Size	% Passing
¾"	100.0
½"	100.0
#4	95.5
#10	93.8
#20	86.7
#40	70.8
#60	57.7
#100	48.0
#200	31.5

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U.S. STANDARD SIEVE AND HYDROMETER



Gravel	Sand	Fines
6.8%	50.9%	42.3%

Lab #	Exploration	Sample Depth	Sample Date	Description	WC	LL	PL	PI
59	GZ-133	0-2'	8/5/13	Dark brown f-m SAND and SILT, trace Gravel				

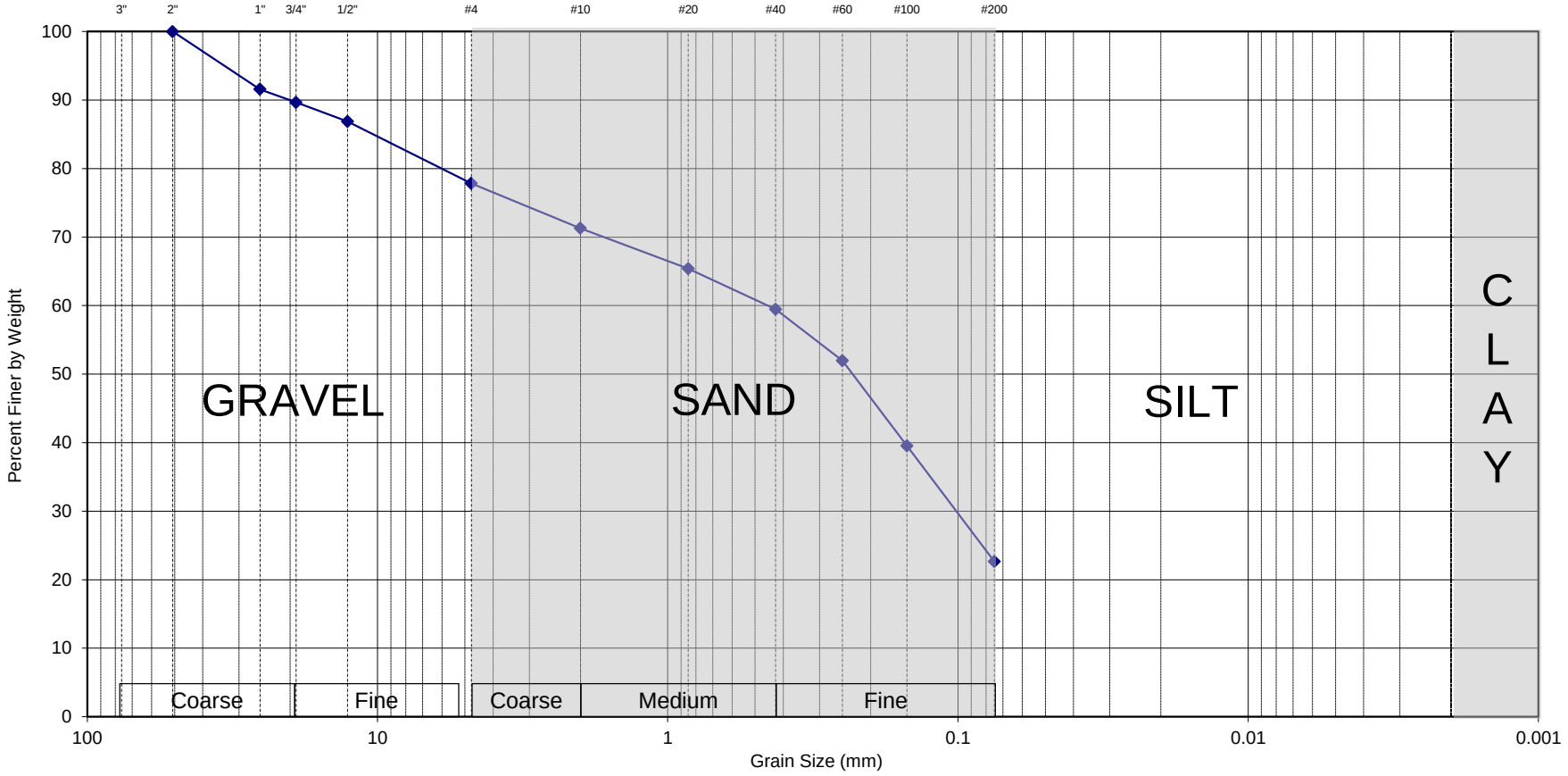
Sieve Size	% Passing
¾"	100.0
½"	95.8
#4	93.2
#10	90.8
#20	88.0
#40	84.9
#60	81.2
#100	77.6
#200	42.3

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U.S. STANDARD SIEVE AND HYDROMETER



Gravel	Sand	Fines
22.2%	55.2%	22.6%

Lab #	Exploration	Sample	Sample Date	Description	WC	LL	PL	PI
60	GZ-133	2-4'	8/5/13	Gray f-c SAND, some Silt, some f-c Gravel				

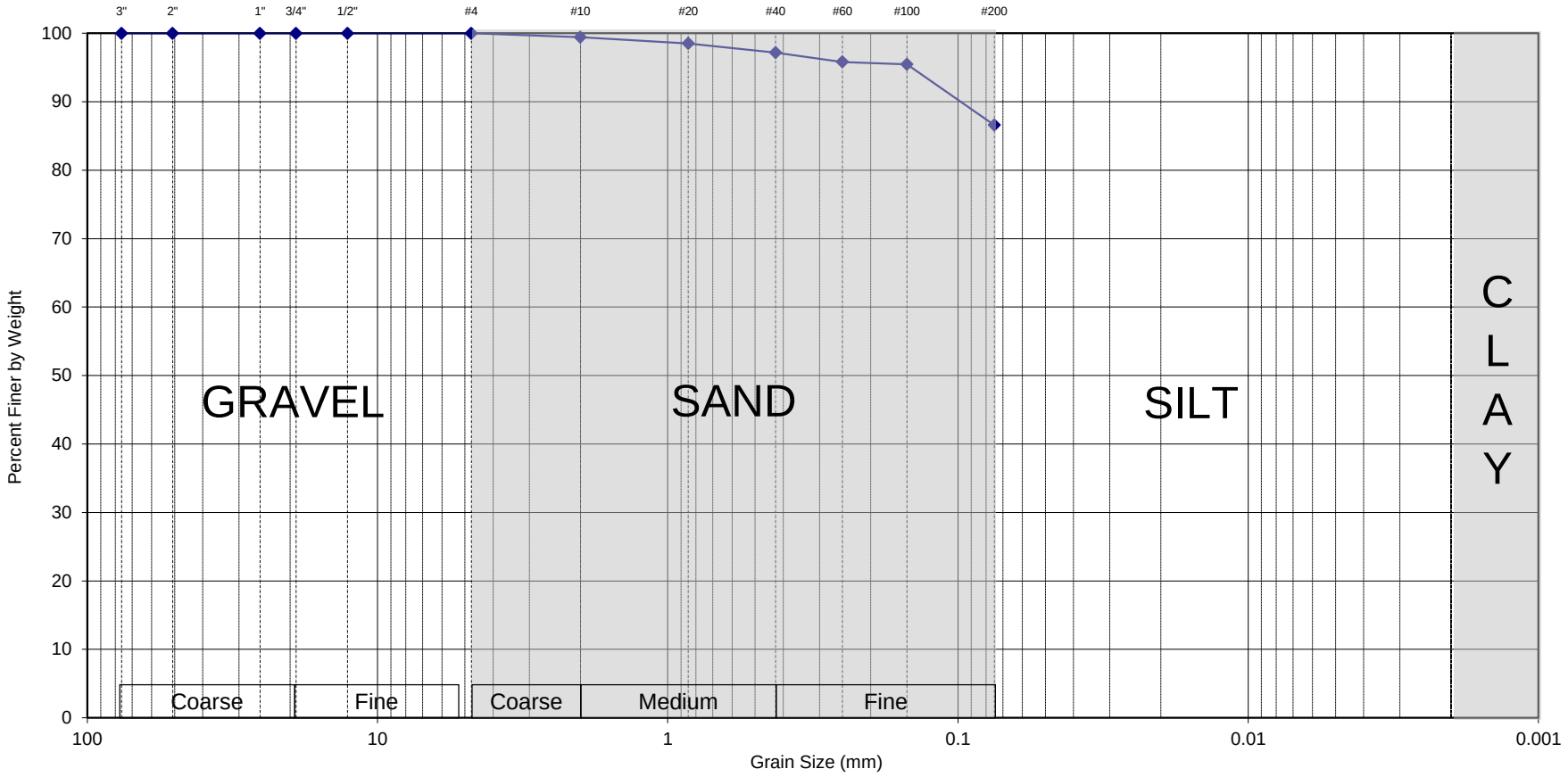
Sieve Size	% Passing
¾"	89.7
½"	86.9
#4	77.8
#10	71.3
#20	65.4
#40	59.5
#60	52.0
#100	39.5
#200	22.6

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Tested by: LM/GG Date: 8/16/13
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U.S. STANDARD SIEVE AND HYDROMETER



Gravel	Sand	Fines
0.0%	13.4%	86.6%

Lab #	Exploration	Sample Depth	Sample Date	Description	WC	LL	PL	PI
61	GZ-110B	2-6'	8/5/13	Gray Organic SILT, little f-m Sand				

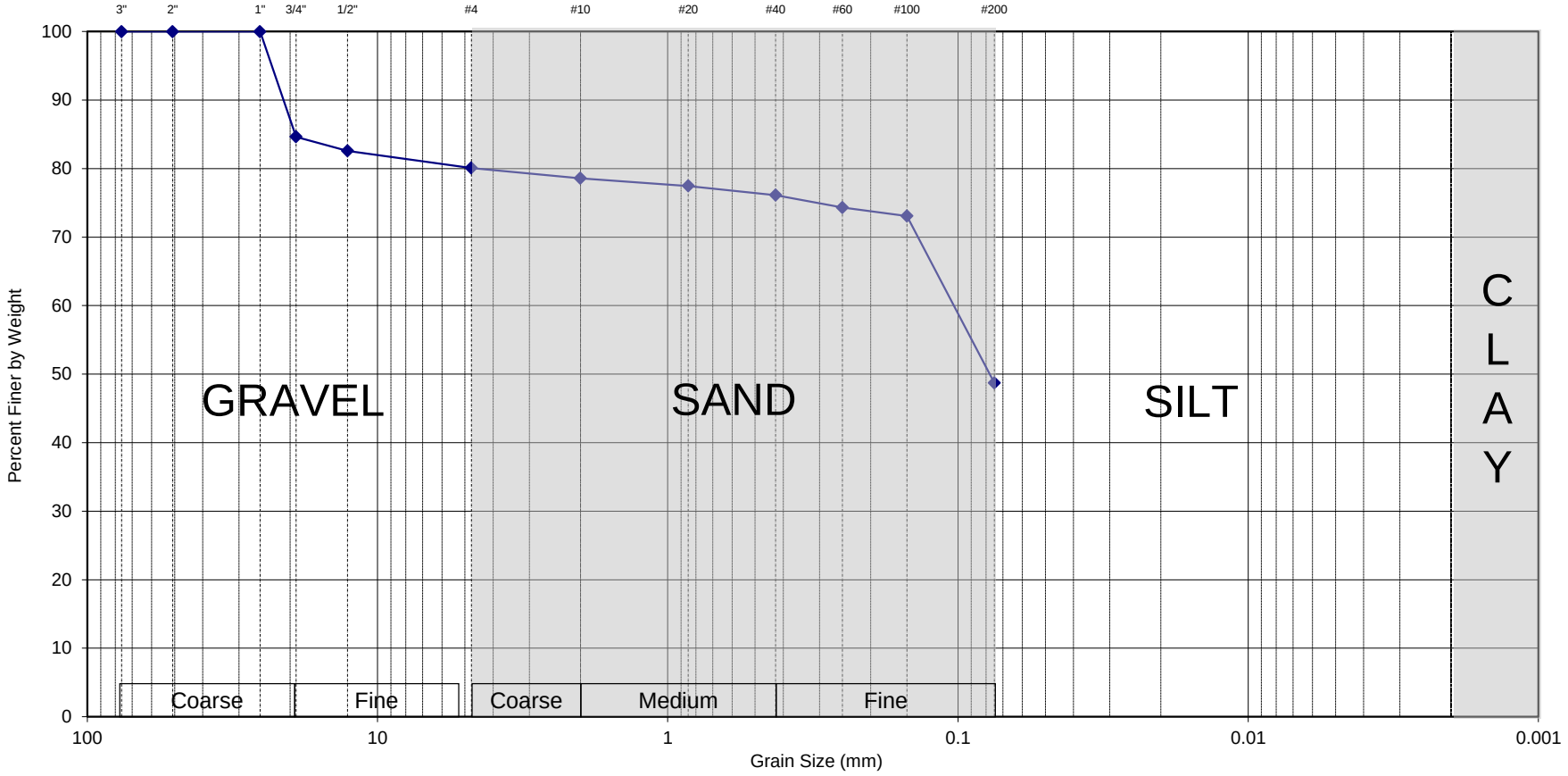
Sieve Size	% Passing
¾"	100.0
½"	100.0
#4	100.0
#10	99.4
#20	98.5
#40	97.2
#60	95.8
#100	95.5
#200	86.6

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U.S. STANDARD SIEVE AND HYDROMETER



Gravel	Sand	Fines
19.9%	31.4%	48.7%

Lab #	Exploration	Sample Depth	Sample Date	Description	WC	LL	PL	PI
62	GZ-127	0-2'	8/5/13	Black & Gray Organic SILT, some f-m Sand, little f-c Gravel				

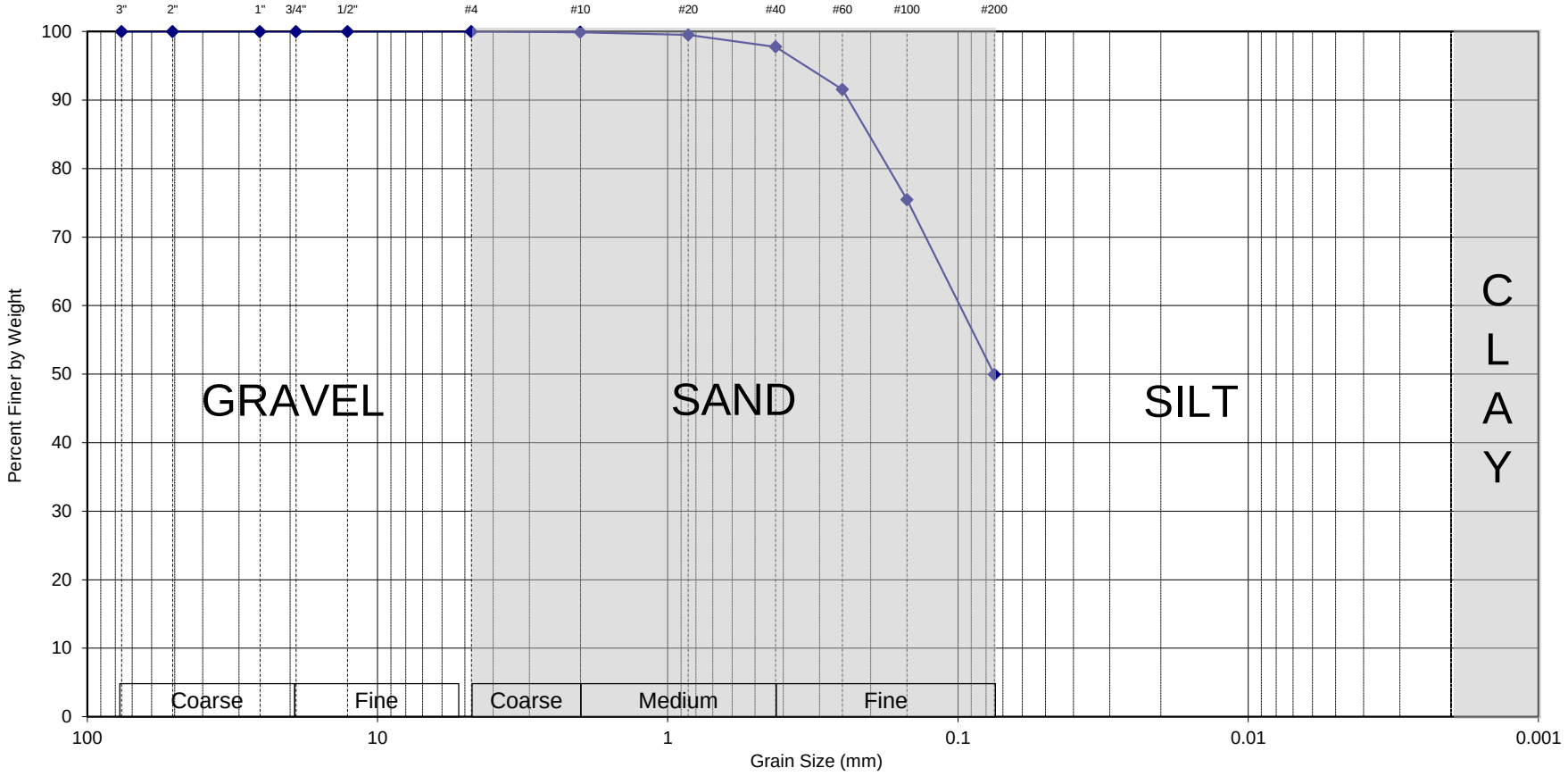
Sieve Size	% Passing
¾"	84.6
½"	82.6
#4	80.1
#10	78.6
#20	77.5
#40	76.1
#60	74.3
#100	73.1
#200	48.7

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U.S. STANDARD SIEVE AND HYDROMETER



Gravel	Sand	Fines
0.0%	50.1%	49.9%

Lab #	Exploration	Sample Depth	Sample Date	Description	WC	LL	PL	PI
63	GZ-127	3-5'	8/5/13	Brown-gray f-m SAND and SILT				

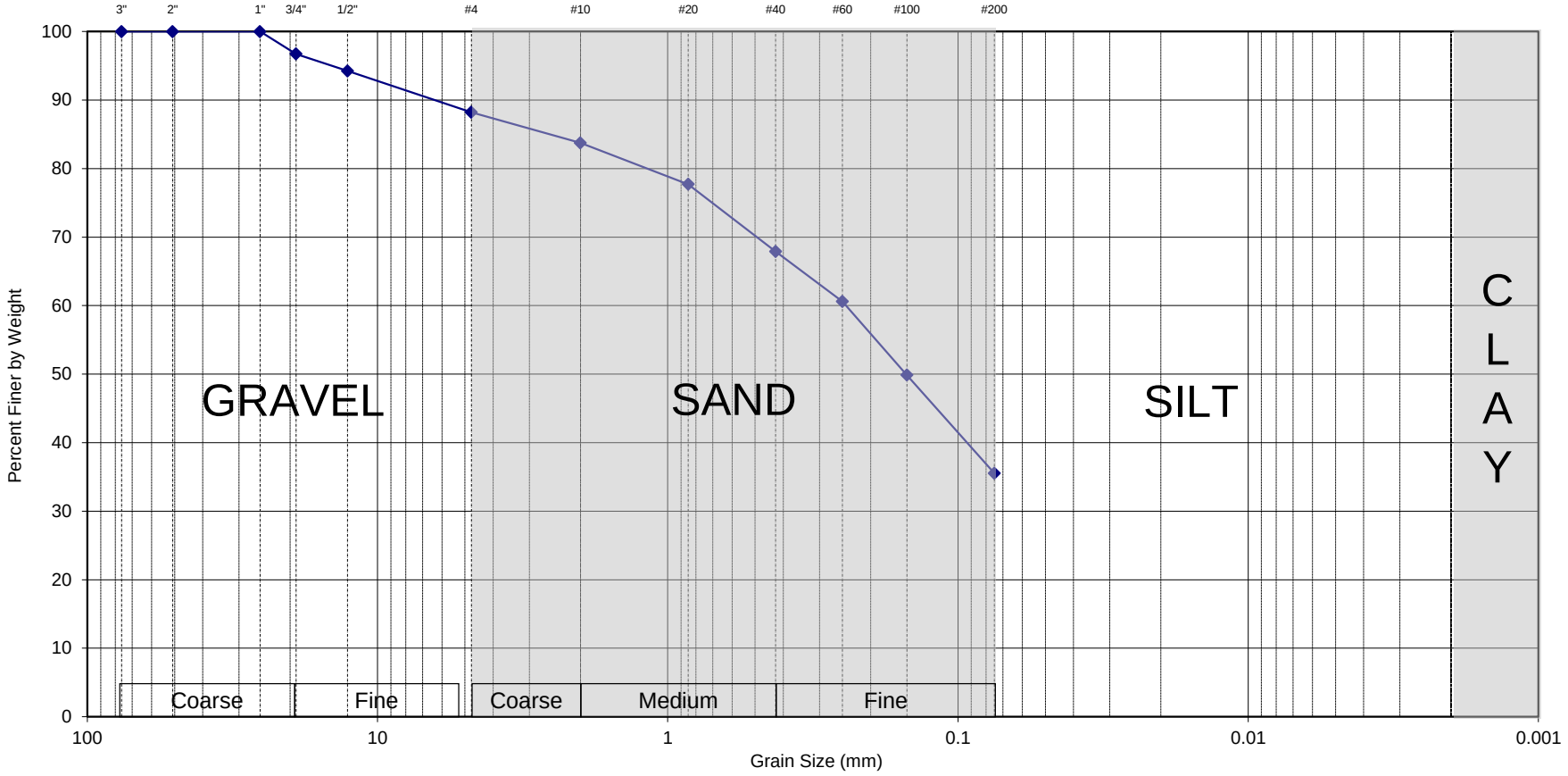
Sieve Size	% Passing
¾"	100.0
½"	100.0
#4	100.0
#10	99.9
#20	99.5
#40	97.8
#60	91.5
#100	75.5
#200	49.9

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U.S. STANDARD SIEVE AND HYDROMETER



Gravel	Sand	Fines
11.8%	52.7%	35.5%

Lab #	Exploration	Sample Depth	Sample Date	Description	WC	LL	PL	PI
64	GZ-126	0-2'	8/5/13	Gray f-c SAND and SILT, little f-c Gravel				

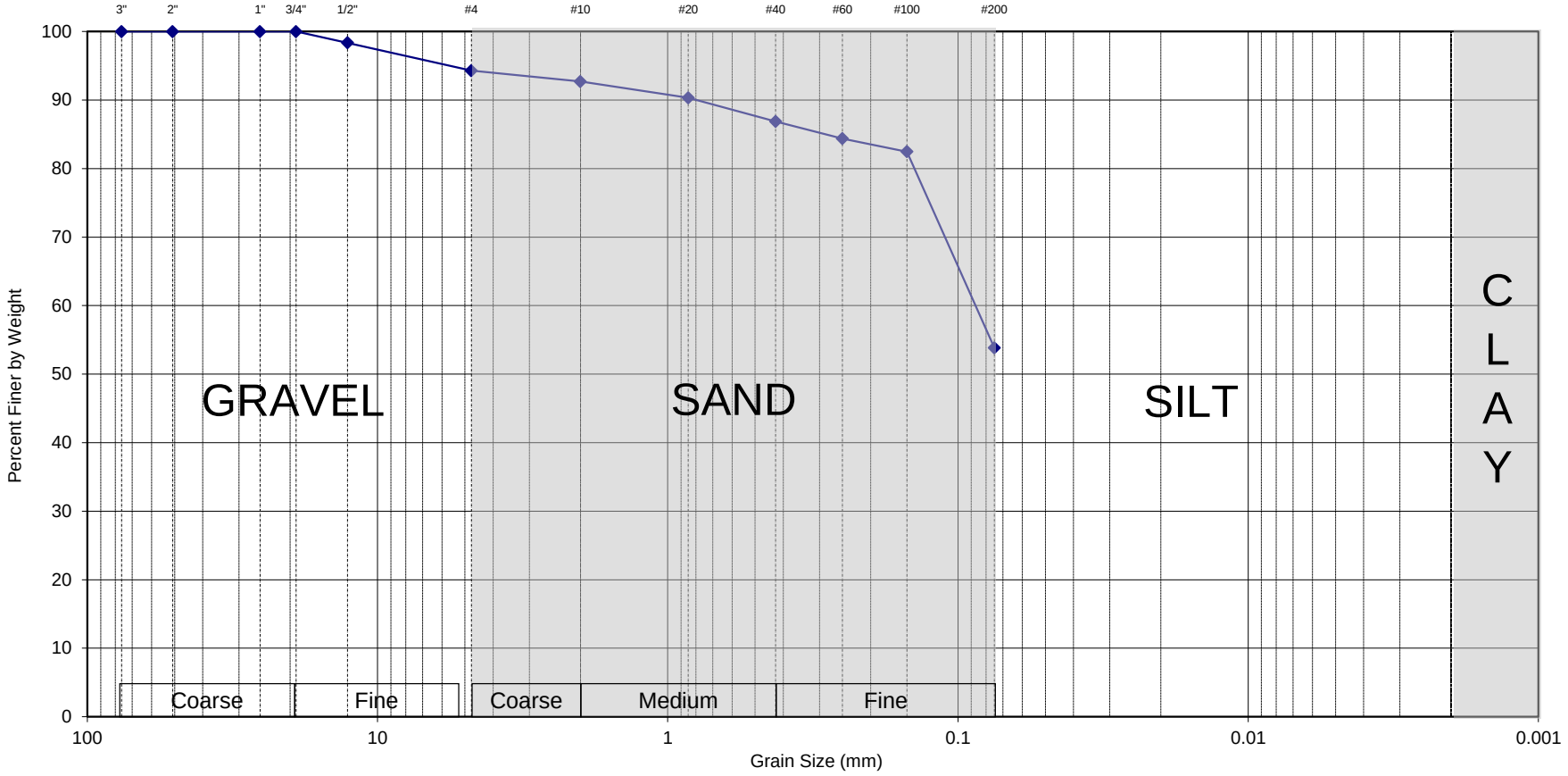
Sieve Size	% Passing
¾"	96.7
½"	94.2
#4	88.2
#10	83.7
#20	77.7
#40	67.9
#60	60.6
#100	49.9
#200	35.5

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U.S. STANDARD SIEVE AND HYDROMETER



Gravel	Sand	Fines
5.7%	40.5%	53.8%

Lab #	Exploration	Sample Depth	Sample Date	Description	WC	LL	PL	PI
65	GZ-126	2-4'	8/5/13	Gray SILT and f-m Sand, trace Gravel				

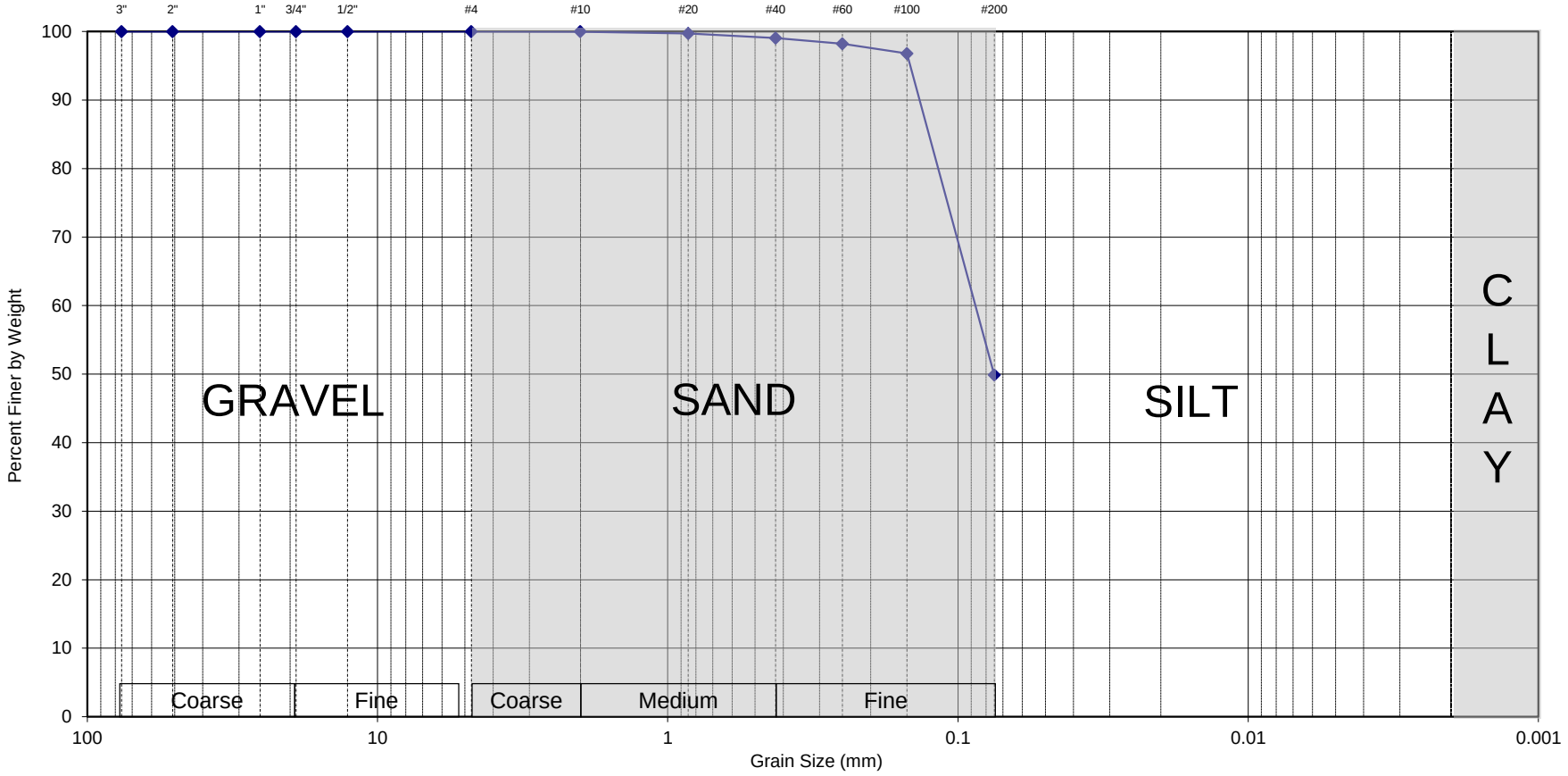
Sieve Size	% Passing
¾"	100.0
½"	98.4
#4	94.3
#10	92.7
#20	90.3
#40	86.9
#60	84.4
#100	82.5
#200	53.8

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U.S. STANDARD SIEVE AND HYDROMETER



Gravel	Sand	Fines
0.0%	50.2%	49.8%

Lab #	Exploration	Sample Depth	Sample Date	Description	WC	LL	PL	PI
66	GZ-125A	2-4'	8/5/13	Gray fine SAND and SILT				

Sieve Size	% Passing
¾"	100.0
½"	100.0
#4	100.0
#10	100.0
#20	99.7
#40	99.0
#60	98.2
#100	96.8
#200	49.8

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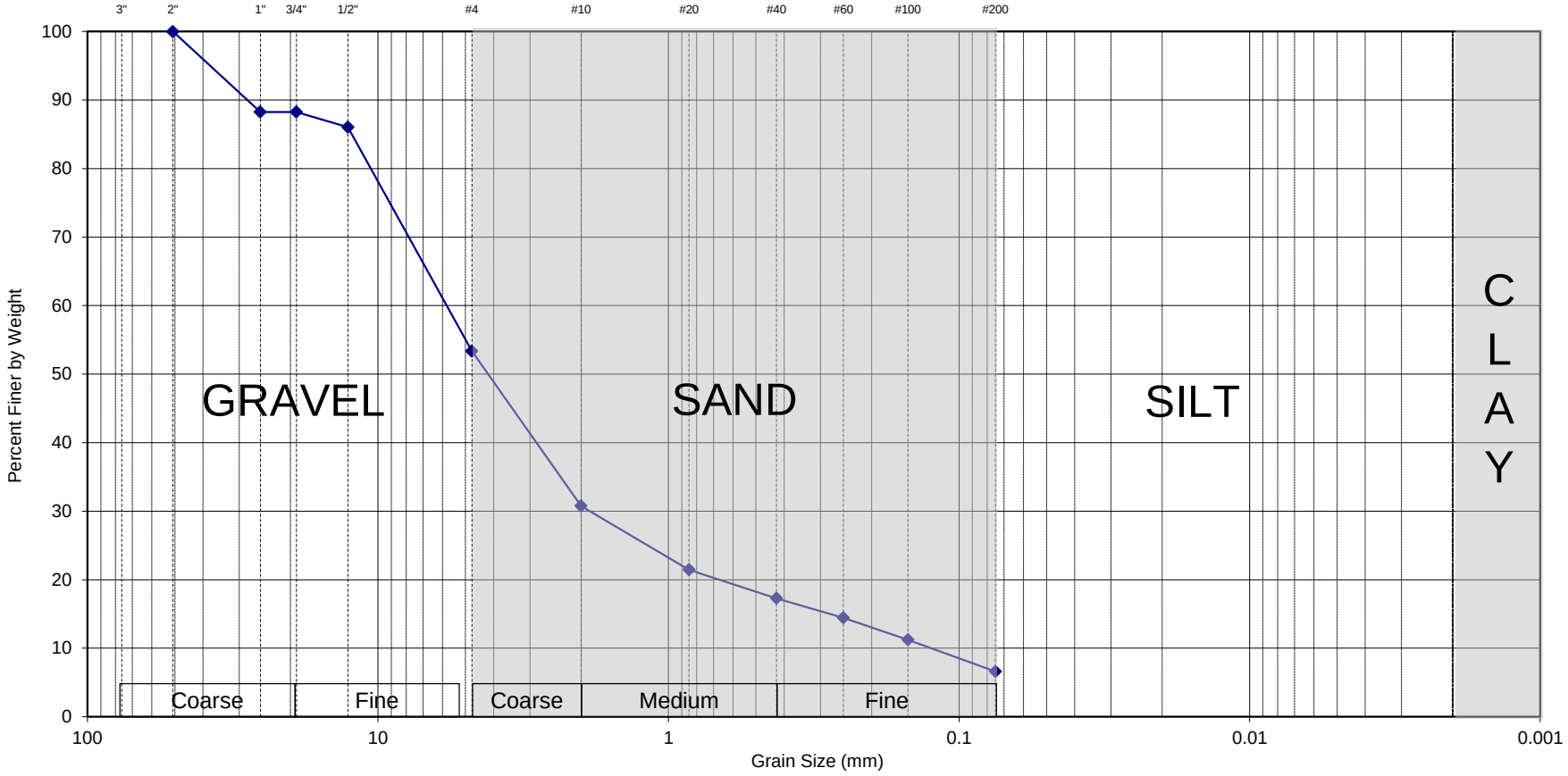
LABORATORY TESTING DATA SHEET

Project Name 1 Horizon Way
Project Location Everett, MA
Project No. 01.0171521.02
Report Date 8/20/2013
Project Engineer D. Leone
Date Reviewed 8/20/2013
Assigned By J. Chrzanowski
Reviewed By

Boring/ Test Pit No.	Depth (ft)	Sample Time	Lab No.	Identification Tests							Laboratory Log and Soil Description
				Water Content %	LL %	PL %	Sieve -200 %	Hyd -2µ %	Gs	ORG %	
GZ-118A	0-1	8/5/13	67				6.6				Brown f-c SAND and f-c GRAVEL, trace Silt
GZ-132	0-2	8/5/13	68				44.0				Black f-c SAND and SILT, little fine Gravel
GZ-LC1	2-4	8/5/13	69				85.4				Gray Organic SILT, little fine Sand
GZ-LC2	1-3	8/5/13	70				97.7				Black Organic SILT, trace Sand
GZ-LC3	0-3	8/5/13	71				56.3				Black Organic SILT and f-m SAND, trace Gravel
GZ-LC3	3-5	8/5/13	72				52.6				Black Organic SILT and f-m SAND, trace Gravel
GZ-LC4	0-2	8/5/13	73				82.5				Black Organic SILT, little f-m Sand
GZ-LC4	3-5	8/5/13	74				89.0				Black Organic SILT, little fine Sand
GZ-LC5	2-4	8/5/13	75				56.7				Black Organic SILT and f-m SAND, trace Gravel
GZ-LC6	1-3	8/5/13	76				99.4				Dark Gray Organic SILT
GZ-LC7	0-3	8/5/13	77				98.7				Black Organic SILT, trace Sand
GZ-LC8	2-4	8/5/13	78				99.0				Black Organic SILT, trace Sand
GZ-LC9	1-3	8/5/13	79				94.0				Gray Organic SILT, trace Sand
GZ-LC10	2-3	8/5/13	80				74.0				Gray Organic SILT, some fine Sand

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U.S. STANDARD SIEVE AND HYDROMETER



Gravel	Sand	Fines
46.7%	46.7%	6.6%

Lab #	Exploration	Sample	Sample Date	Description	WC	LL	PL	PI
67	GZ-118A	0-1'	8/5/13	Brown f-c SAND and f-c GRAVEL, trace Silt				

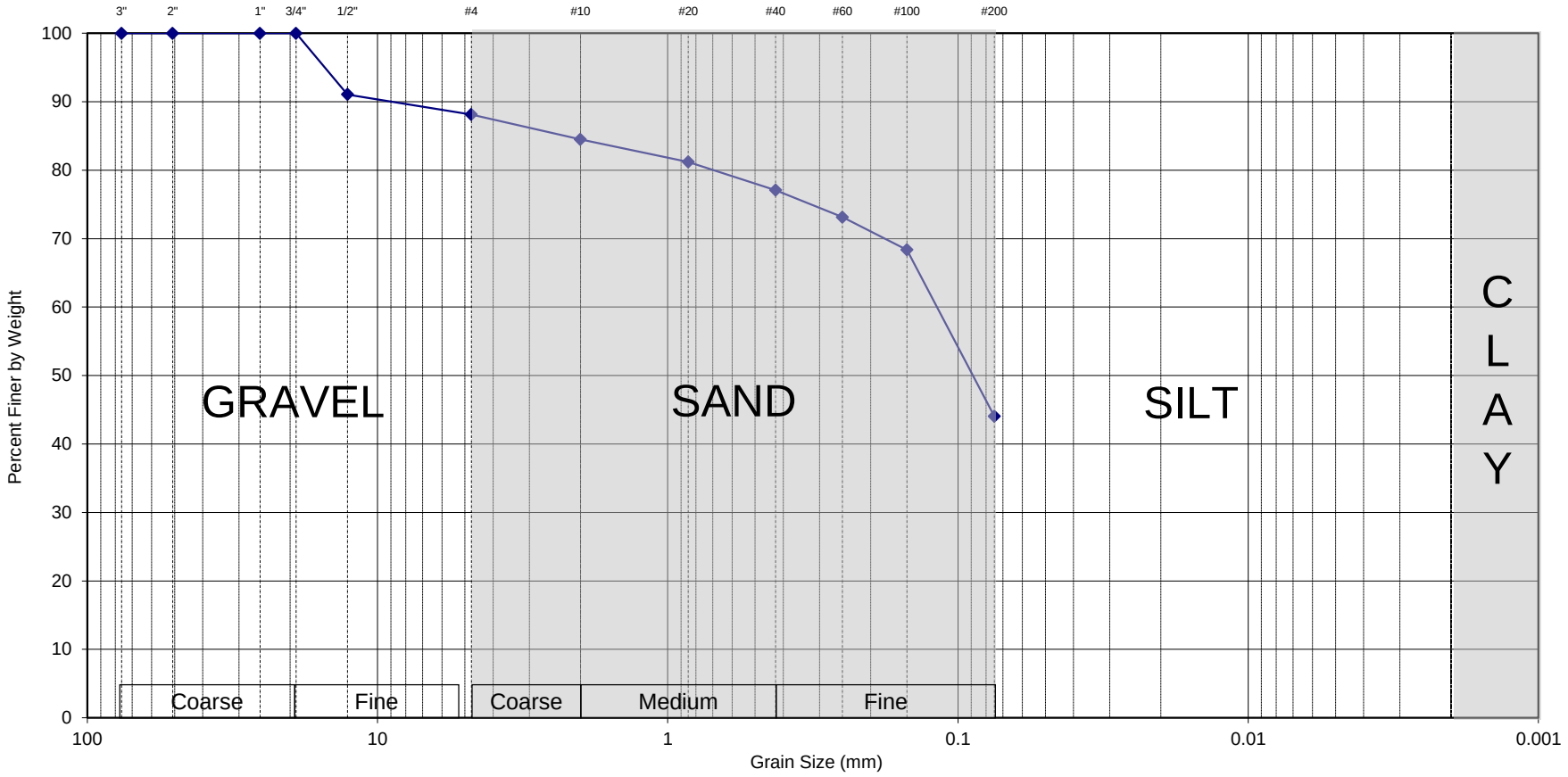
Sieve Size	% Passing
¾"	88.2
½"	86.1
#4	53.3
#10	30.8
#20	21.5
#40	17.3
#60	14.4
#100	11.2
#200	6.6

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U.S. STANDARD SIEVE AND HYDROMETER



Gravel	Sand	Fines
11.9%	44.1%	44.0%

Lab #	Exploration	Sample Depth	Sample Date	Description	WC	LL	PL	PI
68	GZ-132	0-2'	8/5/13	Black f-c SAND and SILT, little fine Gravel				

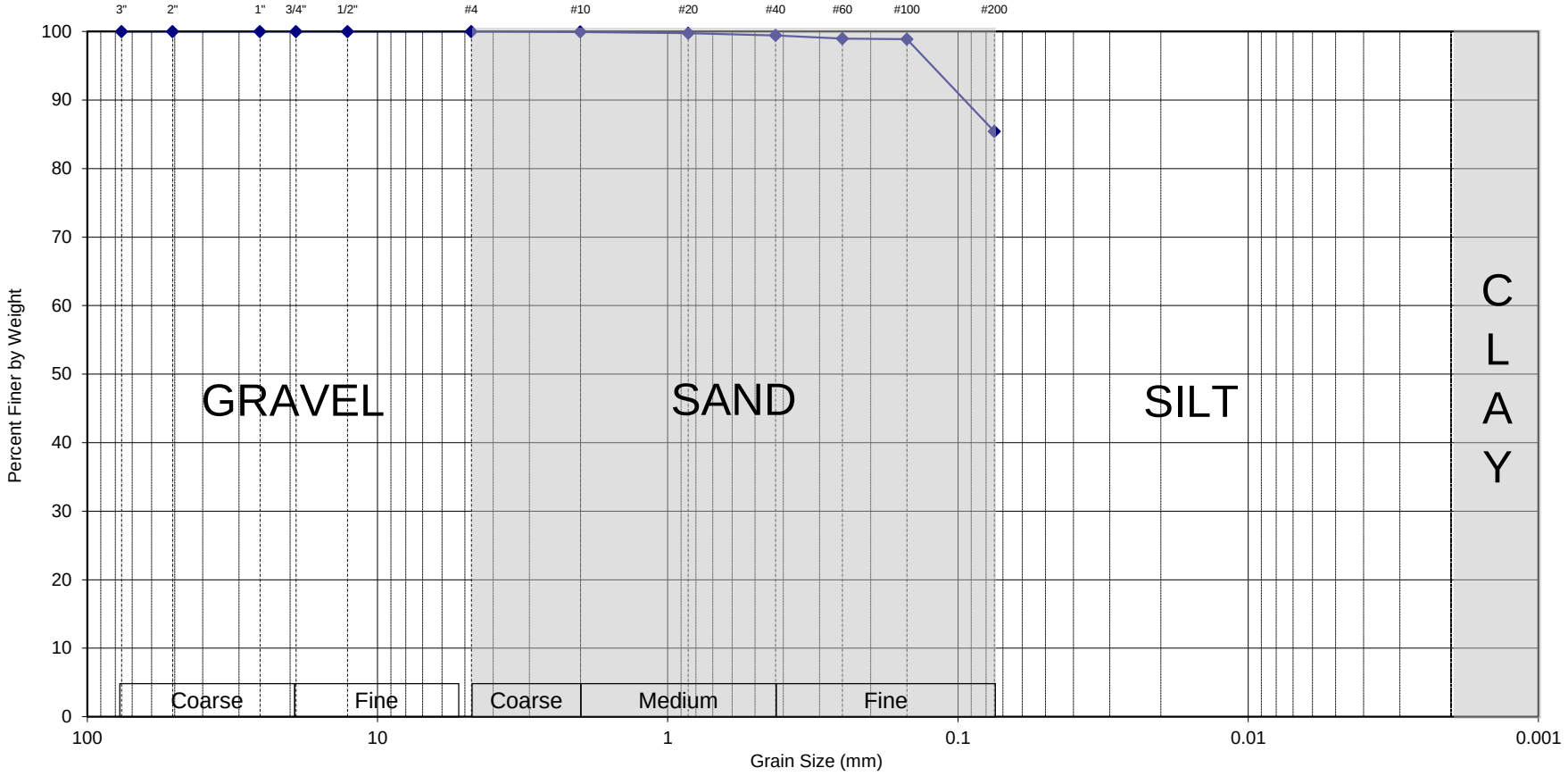
Sieve Size	% Passing
¾"	100.0
½"	91.1
#4	88.1
#10	84.5
#20	81.2
#40	77.1
#60	73.1
#100	68.4
#200	44.0

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CTS-74-13-0003
1 Horizon Way
Everett, MA
GZA File # 01.0171521.02

Tested by: LM Date: 8/19/13
Reviewed by: MBP Date: 8/19/13

U.S. STANDARD SIEVE AND HYDROMETER



Gravel	Sand	Fines
0.0%	14.6%	85.4%

Lab #	Exploration	Sample Depth	Sample Date	Description	WC	LL	PL	PI
69	GZ-LC1	2-4'	8/5/13	Gray Organic SILT, little fine Sand				

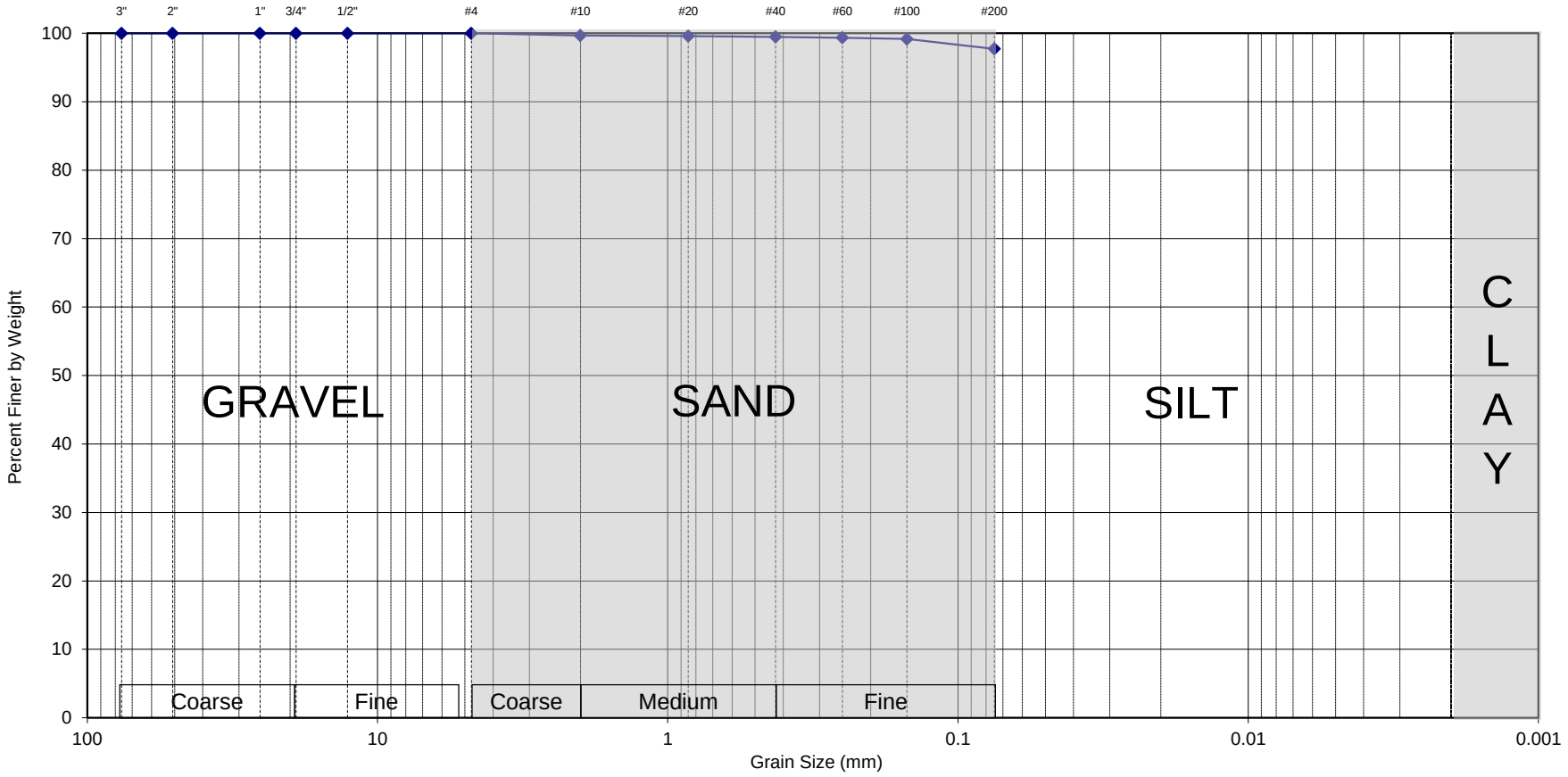
Sieve Size	% Passing
¾"	100.0
½"	100.0
#4	100.0
#10	99.9
#20	99.8
#40	99.4
#60	98.9
#100	98.9
#200	85.4

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U.S. STANDARD SIEVE AND HYDROMETER



Gravel	Sand	Fines
0.0%	2.3%	97.7%

Lab #	Exploration	Sample Depth	Sample Date	Description	WC	LL	PL	PI
70	GZ-LC2	1-3'	8/5/13	Black Organic SILT, trace Sand				

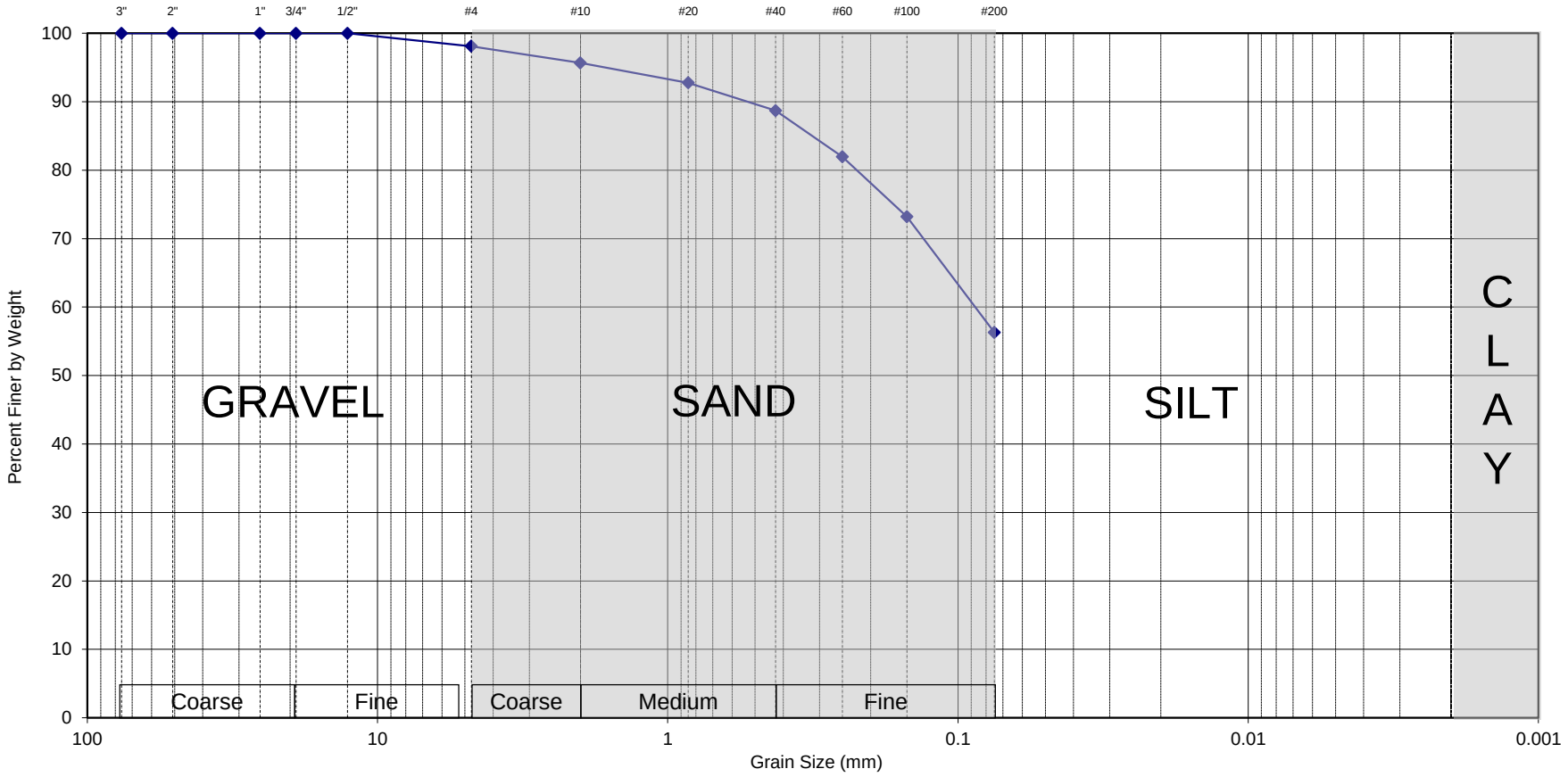
Sieve Size	% Passing
¾"	100.0
½"	100.0
#4	100.0
#10	99.7
#20	99.6
#40	99.5
#60	99.4
#100	99.2
#200	97.7

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U.S. STANDARD SIEVE AND HYDROMETER



Gravel	Sand	Fines
1.9%	41.8%	56.3%

Lab #	Exploration	Sample Depth	Sample Date	Description	WC	LL	PL	PI
71	GZ-LC3	0-3'	8/5/13	Black Organic SILT and f-m SAND, trace Gravel				

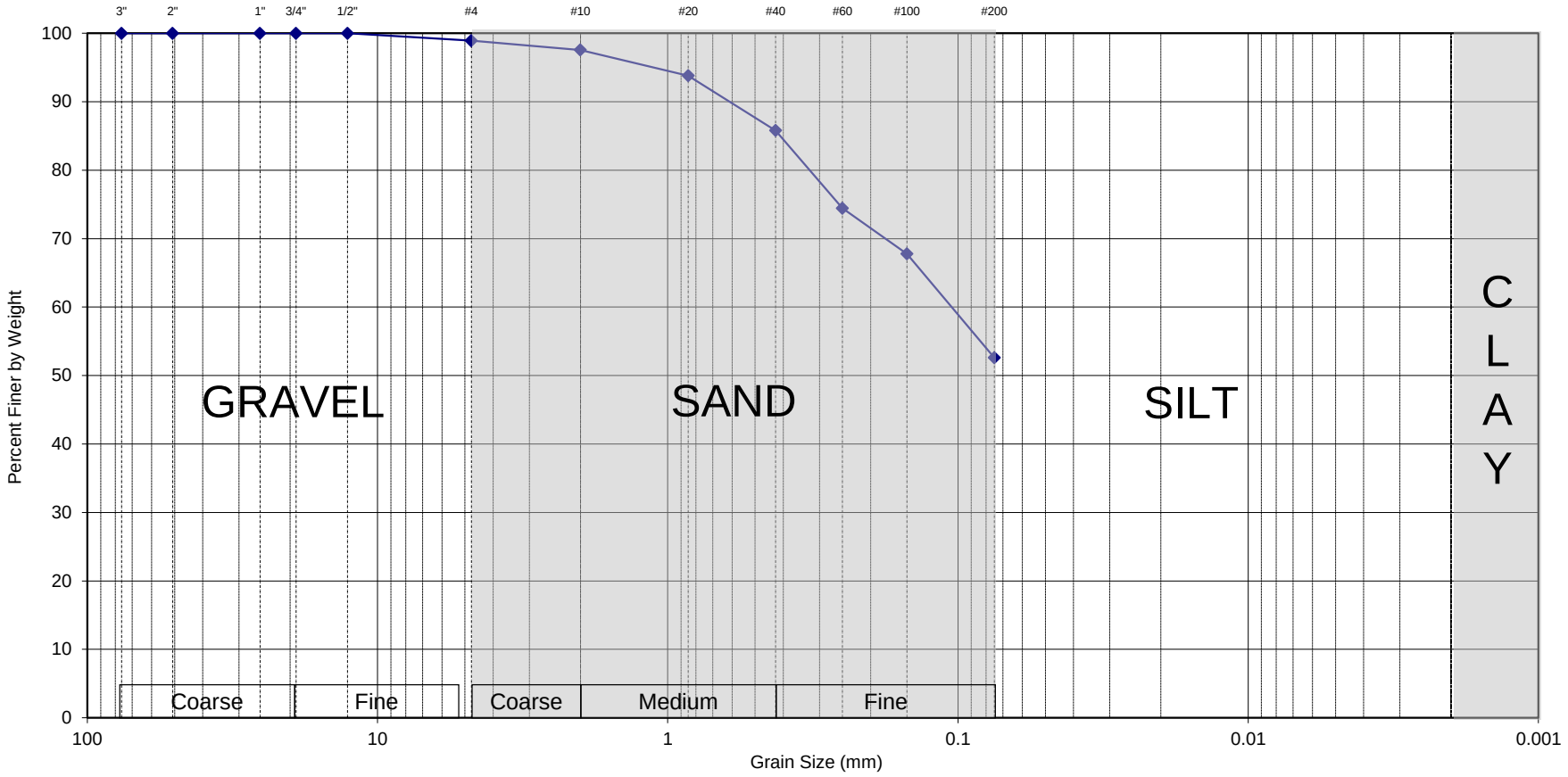
Sieve Size	% Passing
¾"	100.0
½"	100.0
#4	98.1
#10	95.7
#20	92.8
#40	88.7
#60	81.9
#100	73.2
#200	56.3

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U.S. STANDARD SIEVE AND HYDROMETER



Gravel	Sand	Fines
1.1%	46.3%	52.6%

Lab #	Exploration	Sample Depth	Sample Date	Description	WC	LL	PL	PI
72	GZ-LC4	3-5'	8/5/13	Black Organic SILT and f-m SAND, trace Gravel				

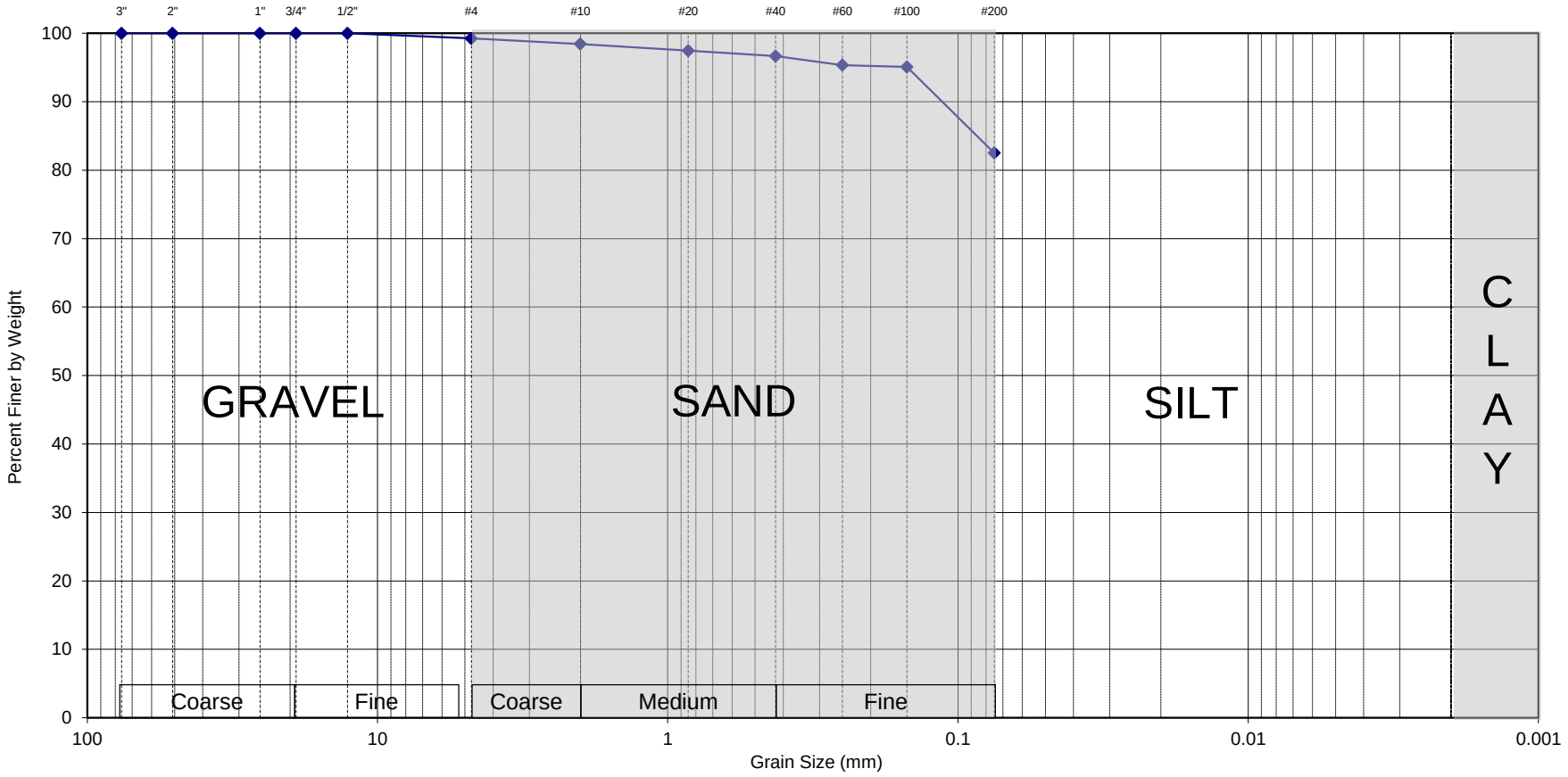
Sieve Size	% Passing
¾"	100.0
½"	100.0
#4	98.9
#10	97.6
#20	93.8
#40	85.8
#60	74.4
#100	67.8
#200	52.6

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U.S. STANDARD SIEVE AND HYDROMETER



Gravel	Sand	Fines
0.8%	16.8%	82.5%

Lab #	Exploration	Sample Depth	Sample Date	Description	WC	LL	PL	PI
73	GZ-LC4	0-2'	8/5/13	Black Organic SILT, little f-m Sand				

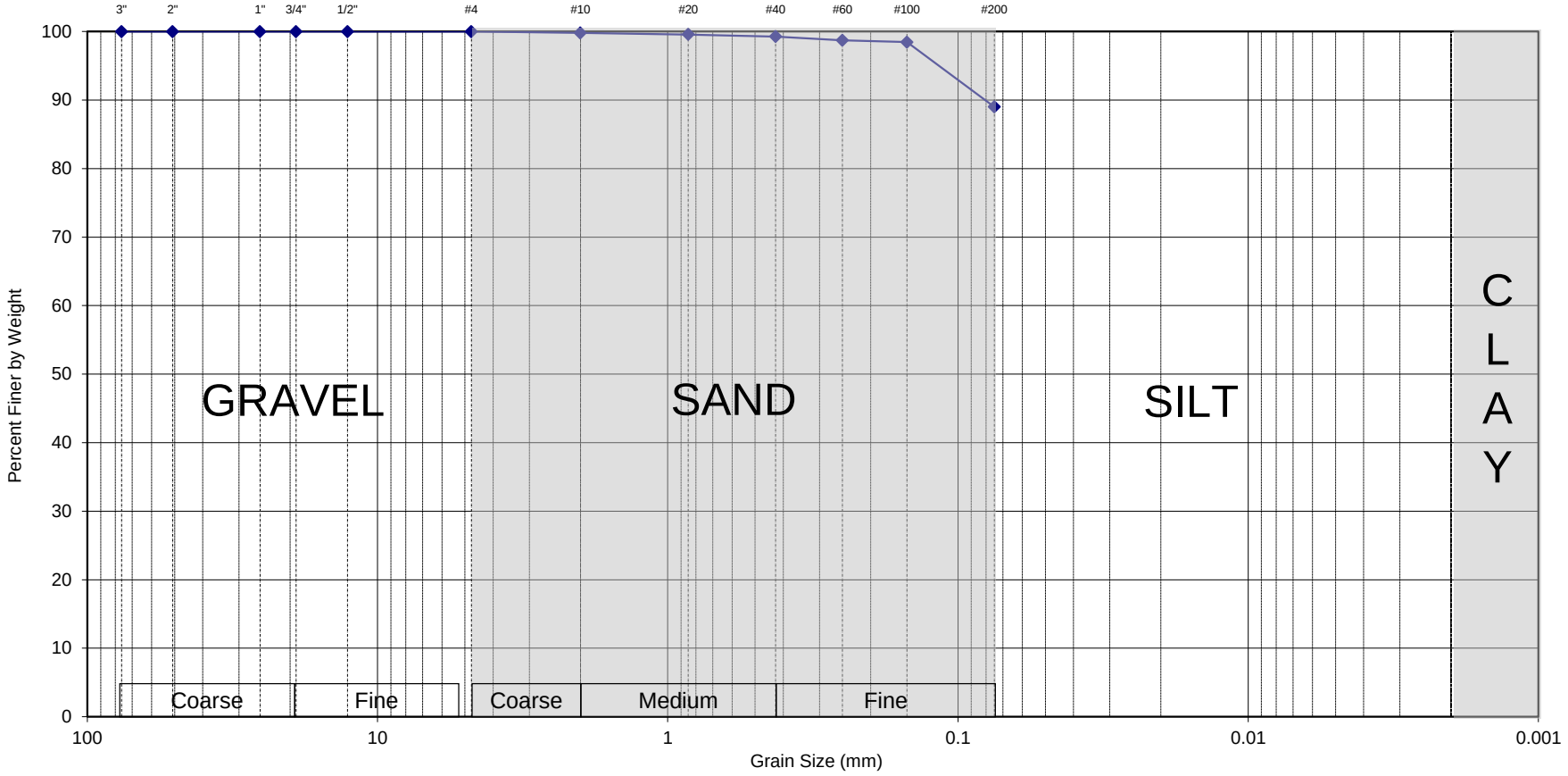
Sieve Size	% Passing
¾"	100.0
½"	100.0
#4	99.2
#10	98.4
#20	97.5
#40	96.7
#60	95.3
#100	95.1
#200	82.5

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U.S. STANDARD SIEVE AND HYDROMETER



Gravel	Sand	Fines
0.0%	11.0%	89.0%

Lab #	Exploration	Sample Depth	Sample Date	Description	WC	LL	PL	PI
74	GZ-LC4	3-5'	8/5/13	Black Organic SILT, little fine Sand				

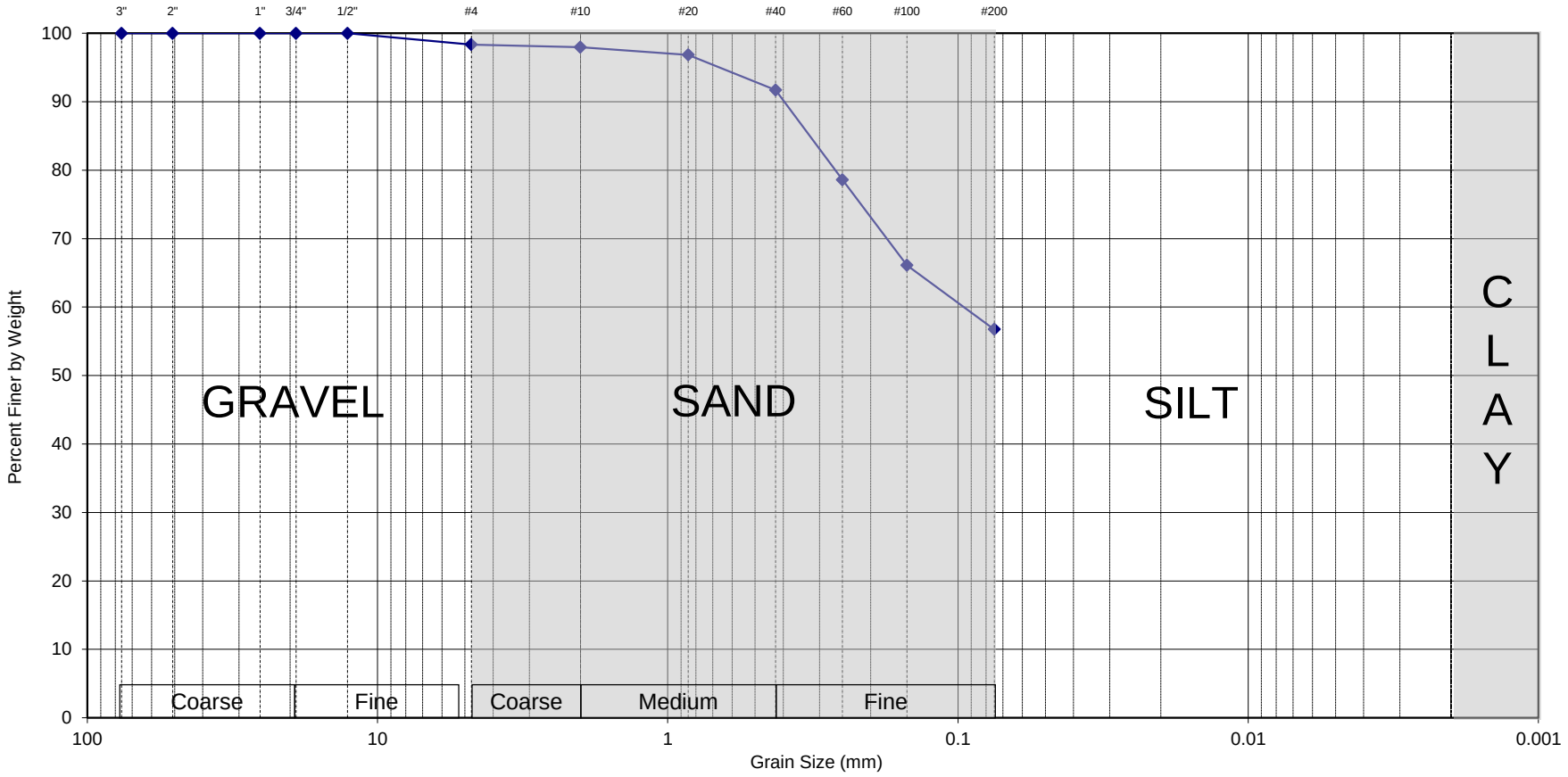
Sieve Size	% Passing
¾"	100.0
½"	100.0
#4	100.0
#10	99.8
#20	99.6
#40	99.3
#60	98.7
#100	98.4
#200	89.0

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U.S. STANDARD SIEVE AND HYDROMETER



Gravel	Sand	Fines
1.6%	41.6%	56.7%

Lab #	Exploration	Sample Depth	Sample Date	Description	WC	LL	PL	PI
75	GZ-LC5	2-4'	8/5/13	Black Organic SILT and f-m SAND, trace Gravel				

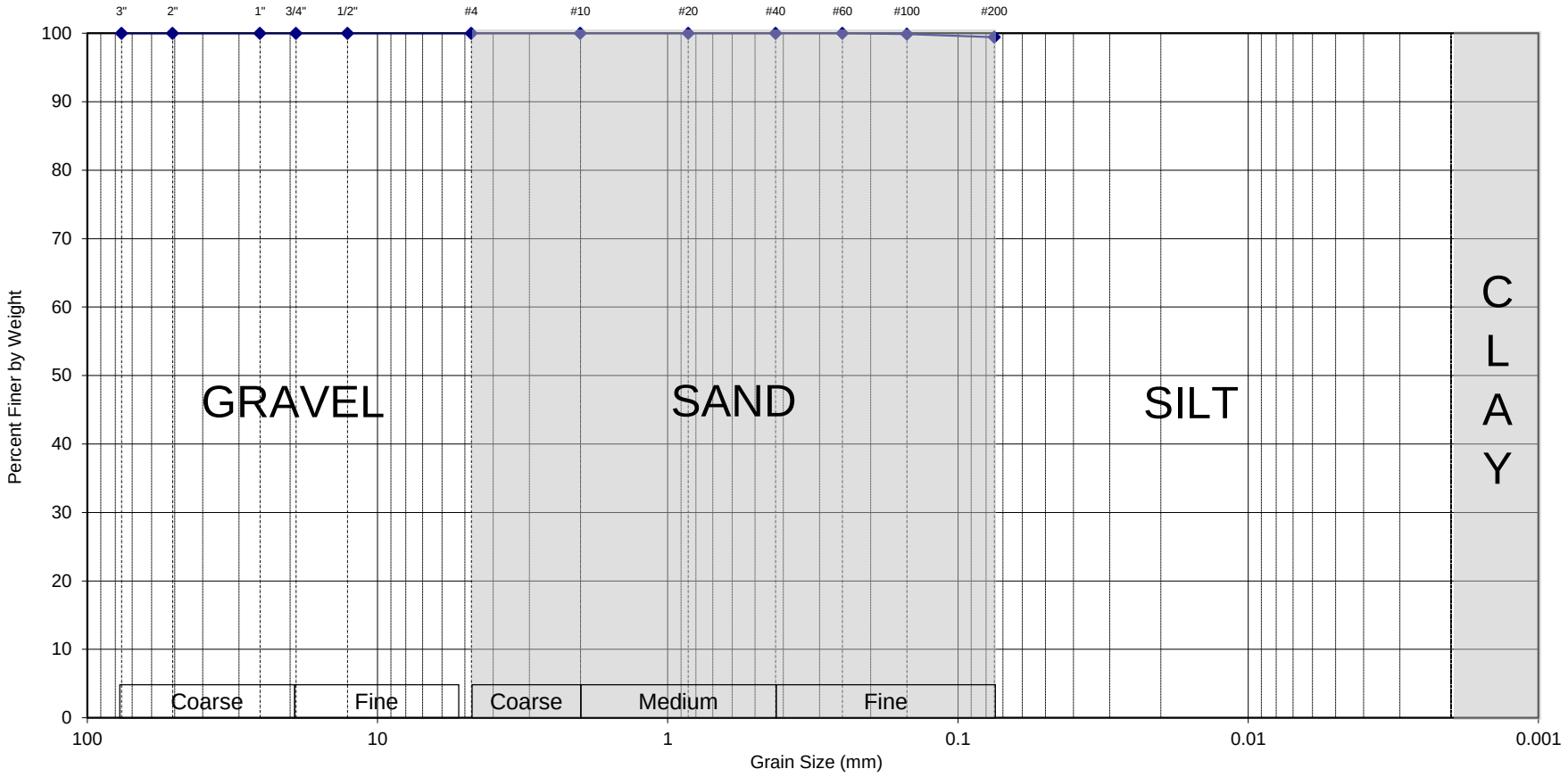
Sieve Size	% Passing
¾"	100.0
½"	100.0
#4	98.4
#10	98.0
#20	96.9
#40	91.7
#60	78.6
#100	66.1
#200	56.7

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U.S. STANDARD SIEVE AND HYDROMETER



Gravel	Sand	Fines
0.0%	0.6%	99.4%

Lab #	Exploration	Sample Depth	Sample Date	Description	WC	LL	PL	PI
76	GZ-LC6	1-3'	8/5/13	Dark Gray Organic SILT				

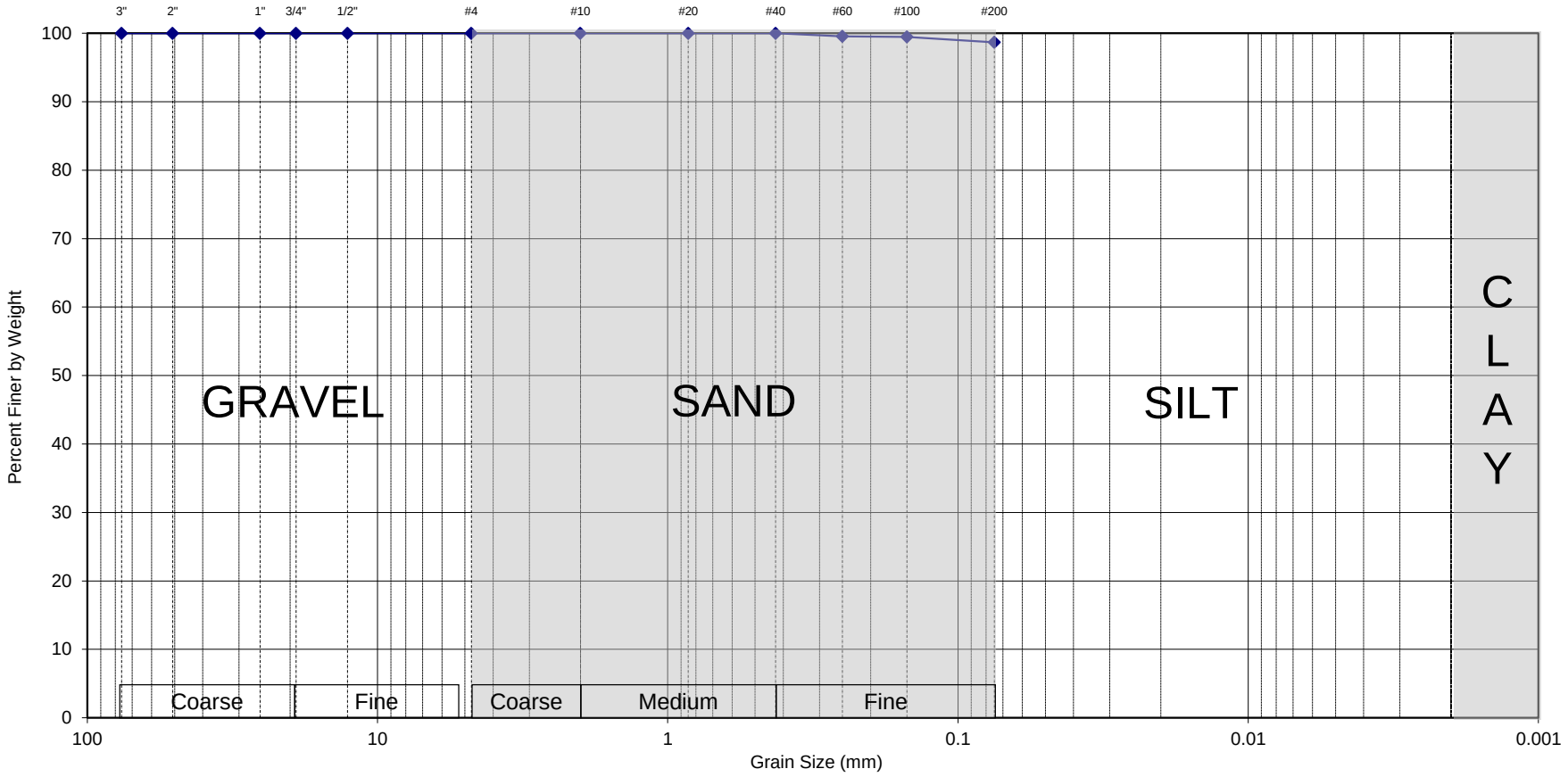
Sieve Size	% Passing
¾"	100.0
½"	100.0
#4	100.0
#10	100.0
#20	100.0
#40	100.0
#60	100.0
#100	99.9
#200	99.4

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U.S. STANDARD SIEVE AND HYDROMETER



Gravel	Sand	Fines
0.0%	1.3%	98.7%

Lab #	Exploration	Sample Depth	Sample Date	Description	WC	LL	PL	PI
77	GZ-LC7	0-3'	8/5/13	Black Organic SILT, trace Sand				

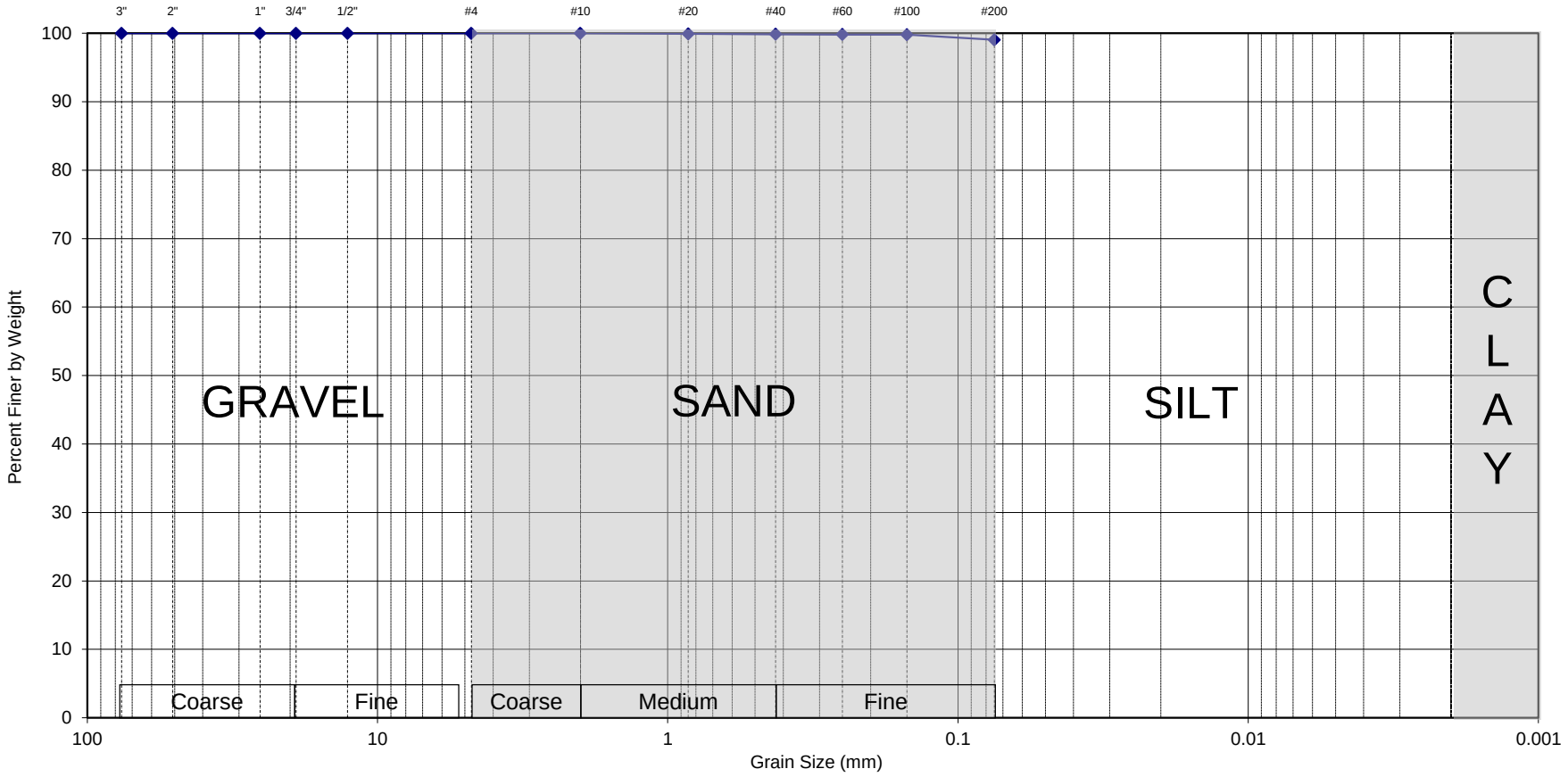
Sieve Size	% Passing
¾"	100.0
½"	100.0
#4	100.0
#10	100.0
#20	100.0
#40	100.0
#60	99.5
#100	99.5
#200	98.7

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U.S. STANDARD SIEVE AND HYDROMETER



Gravel	Sand	Fines
0.0%	1.0%	99.0%

Lab #	Exploration	Sample Depth	Sample Date	Description	WC	LL	PL	PI
78	GZ-LC8	2-4'	8/5/13	Black Organic SILT, trace Sand				

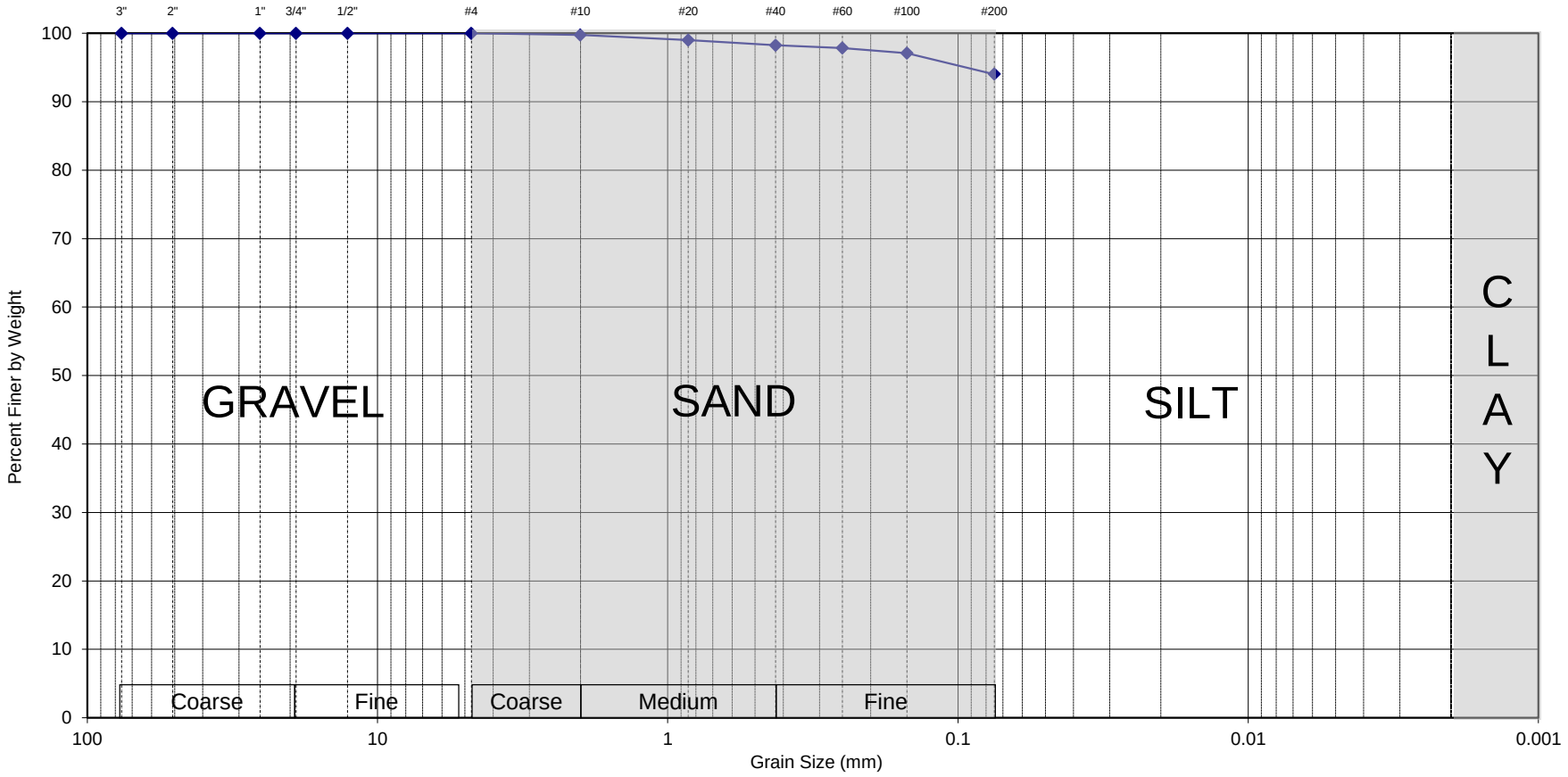
Sieve Size	% Passing
¾"	100.0
½"	100.0
#4	100.0
#10	100.0
#20	99.9
#40	99.9
#60	99.8
#100	99.8
#200	99.0

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U.S. STANDARD SIEVE AND HYDROMETER



Gravel	Sand	Fines
0.0%	6.0%	94.0%

Lab #	Exploration	Sample Depth	Sample Date	Description	WC	LL	PL	PI
79	GZ-LC9	1-3'	8/5/13	Gray Organic SILT, trace Sand				

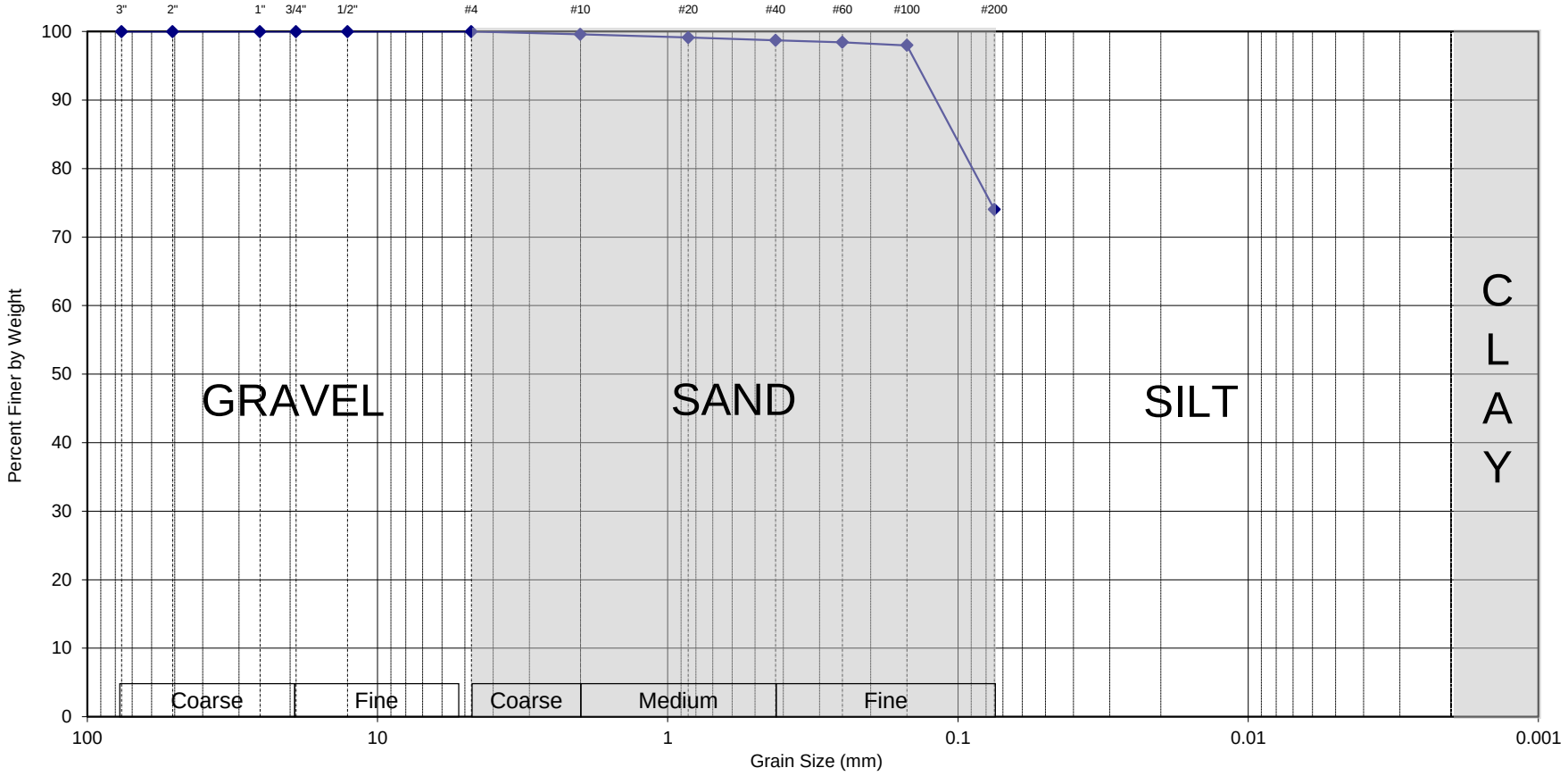
Sieve Size	% Passing
¾"	100.0
½"	100.0
#4	100.0
#10	99.7
#20	99.0
#40	98.3
#60	97.9
#100	97.1
#200	94.0

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U.S. STANDARD SIEVE AND HYDROMETER



Gravel	Sand	Fines
0.0%	26.0%	74.0%

Lab #	Exploration	Sample Depth	Sample Date	Description	WC	LL	PL	PI
80	GZ-LC10	2-3'	8/5/13	Gray Organic SILT, some fine Sand				

Sieve Size	% Passing
¾"	100.0
½"	100.0
#4	100.0
#10	99.6
#20	99.1
#40	98.7
#60	98.4
#100	98.0
#200	74.0

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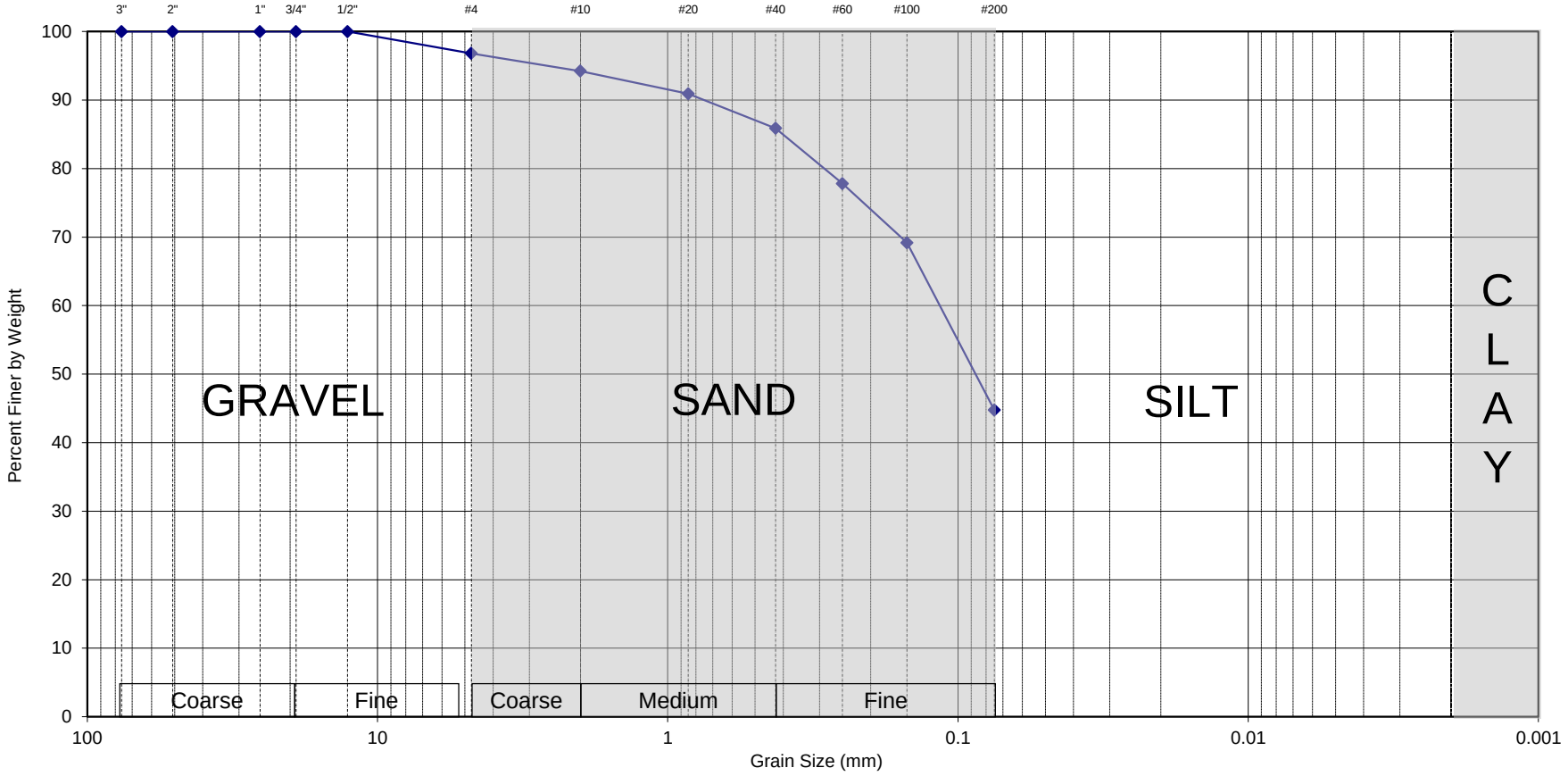
LABORATORY TESTING DATA SHEET

Project Name 1 Horizon Way
Project Location Everett, MA
Project No. 01.0171521.02
Report Date 8/13/2013
Project Engineer D. Leone
Date Reviewed 8/13/2013
Assigned By J. Chrzanowski
Reviewed By

Boring/ Test Pit No.	Depth (ft)	Sample Date	Lab No.	Identification Tests							Laboratory Log and Soil Description
				Water Content %	LL %	PL %	Sieve -200 %	Hyd -2µ %	Gs	ORG %	
GZ-109	1-2.4	8/2/13	7				44.7				Red-brown f-m SAND and SILT, trace Gravel
GZ-116	1-4	8/2/13	8				23.7				Red-brown f-m SAND, some Silt, little f-c Gravel
GZ-116	5-9	8/2/13	9				55.5				Gray Organic SILT and f-m SAND, trace gravel
GZ-120	0-4	8/2/13	10				65.6				Gray Organic SILT, some f-m Sand
GZ-122	1-4	8/2/13	11				71.6				Gray Organic SILT, some f-m Sand
GZ-124	0-3	8/2/13	12				54.0				Gray Organic SILT and f-m SAND, trace Gravel
GZ-124	5-9	8/2/13	13				42.9				Gray f-m SAND and Organic SILT, trace Gravel
GZ-130	0-1.4	8/2/13	14				52.0				Gray f-m Organic SILT and f-m SAND, trace Gravel
GZ-130	5-8	8/2/13	15				64.5				Gray f-m Organic SILT, some f-m Sand, trace Gravel
GZ-131	1-3	8/2/13	16				38.7				Gray fine SAND and Organic SILT
GZ-131	4-5	8/2/13	17				10.7				Gray f-c GRAVEL and f-c SAND, little Silt
GZ-129	0-4	8/2/13	18				55.4				Gray Organic SILT and fine SAND
GZ-134	0-1	8/2/13	19				71.4				Gray Organic SILT, some fine Sand
GZ-134	8-9	8/2/13	20				89.1				Gray Organic SILT, little fine Sand
GZ-135	1-3	8/2/13	21				26.0				Gray f-m SAND, some Organic Silt
GZ-135	0-9	8/2/13	22				63.2				Gray Organic SILT and f-m SAND
GZ-138	0-2	8/2/13	23				77.2				Gray Organic SILT, some f-m Sand

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U.S. STANDARD SIEVE AND HYDROMETER



Gravel	Sand	Fines
3.2%	52.1%	44.7%

Lab #	Exploration	Sample Depth	Sample Date	Description	WC	LL	PL	PI
7	GZ-109	1-2.4'	8/2/13	Red-brown f-m SAND and SILT, trace Gravel				

Sieve Size	% Passing
¾"	100.0
½"	100.0
#4	96.8
#10	94.2
#20	90.9
#40	85.9
#60	77.8
#100	69.2
#200	44.7

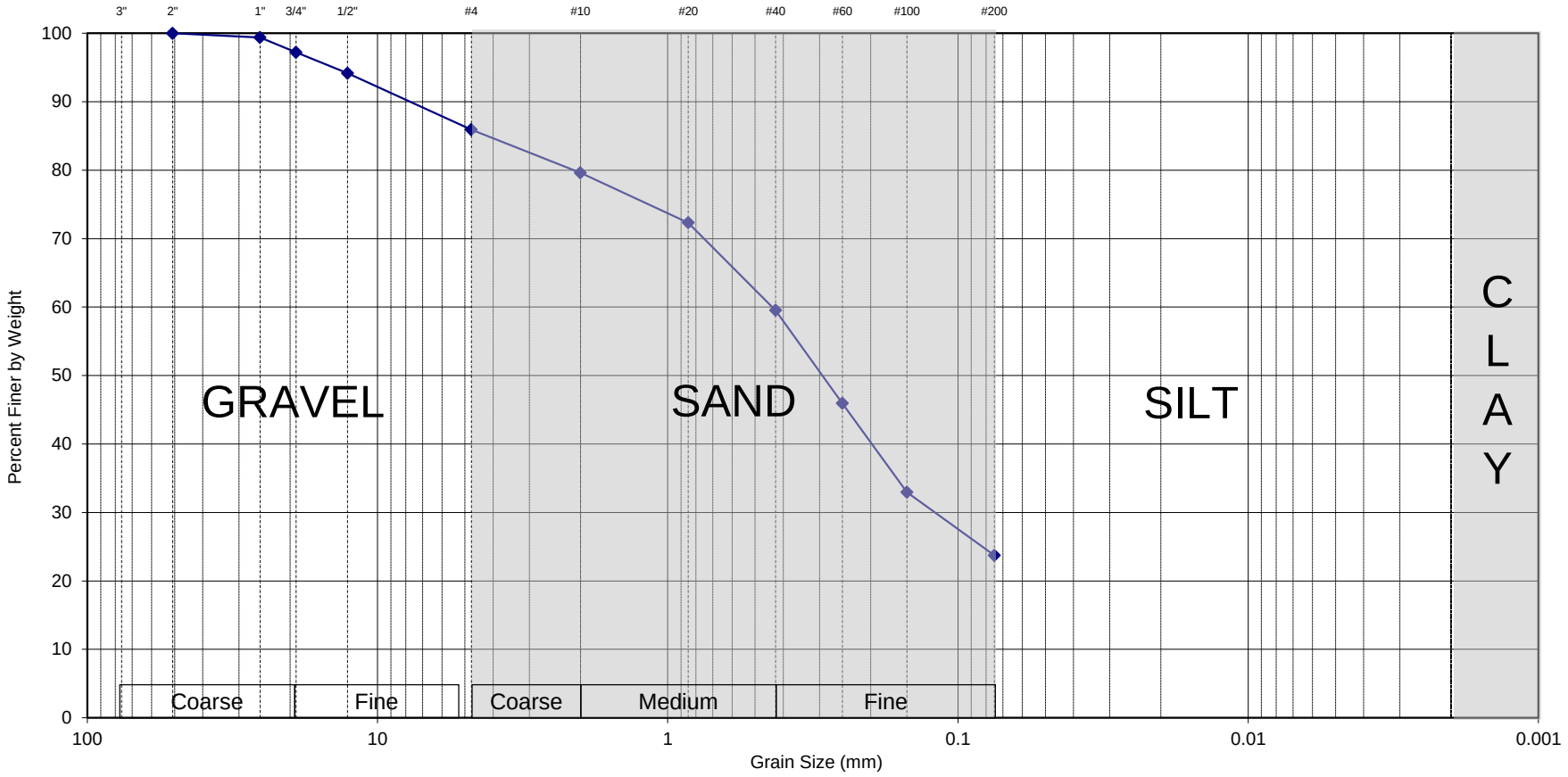
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ASTM D422

U.S. STANDARD SIEVE AND HYDROMETER



Gravel	Sand	Fines
14.1%	62.2%	23.7%

Lab #	Exploration	Sample Depth	Sample Date	Description	WC	LL	PL	PI
8	GZ-116	1-4'	8/2/13	Red-brown f-m SAND, some Silt, little f-c Gravel				

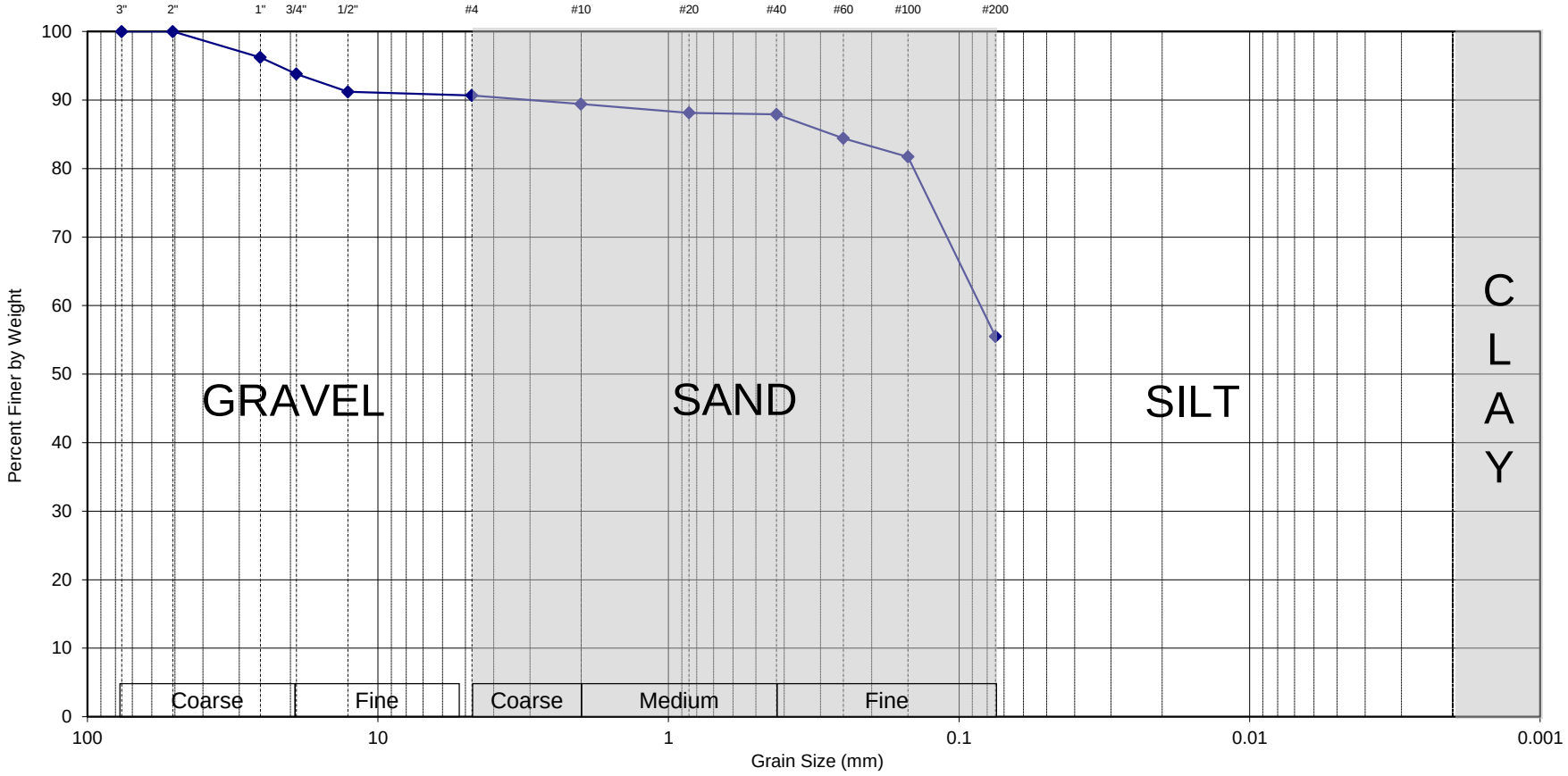
Sieve Size	% Passing
¾"	97.2
½"	94.2
#4	85.9
#10	79.6
#20	72.3
#40	59.5
#60	45.9
#100	33.0
#200	23.7

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U.S. STANDARD SIEVE AND HYDROMETER



Gravel	Sand	Fines
9.3%	35.1%	55.5%

Lab #	Exploration	Sample Depth	Sample Date	Description	WC	LL	PL	PI
9	GZ-116	5-9'	8/2/13	Gray Organic SILT and f-m SAND, trace gravel				

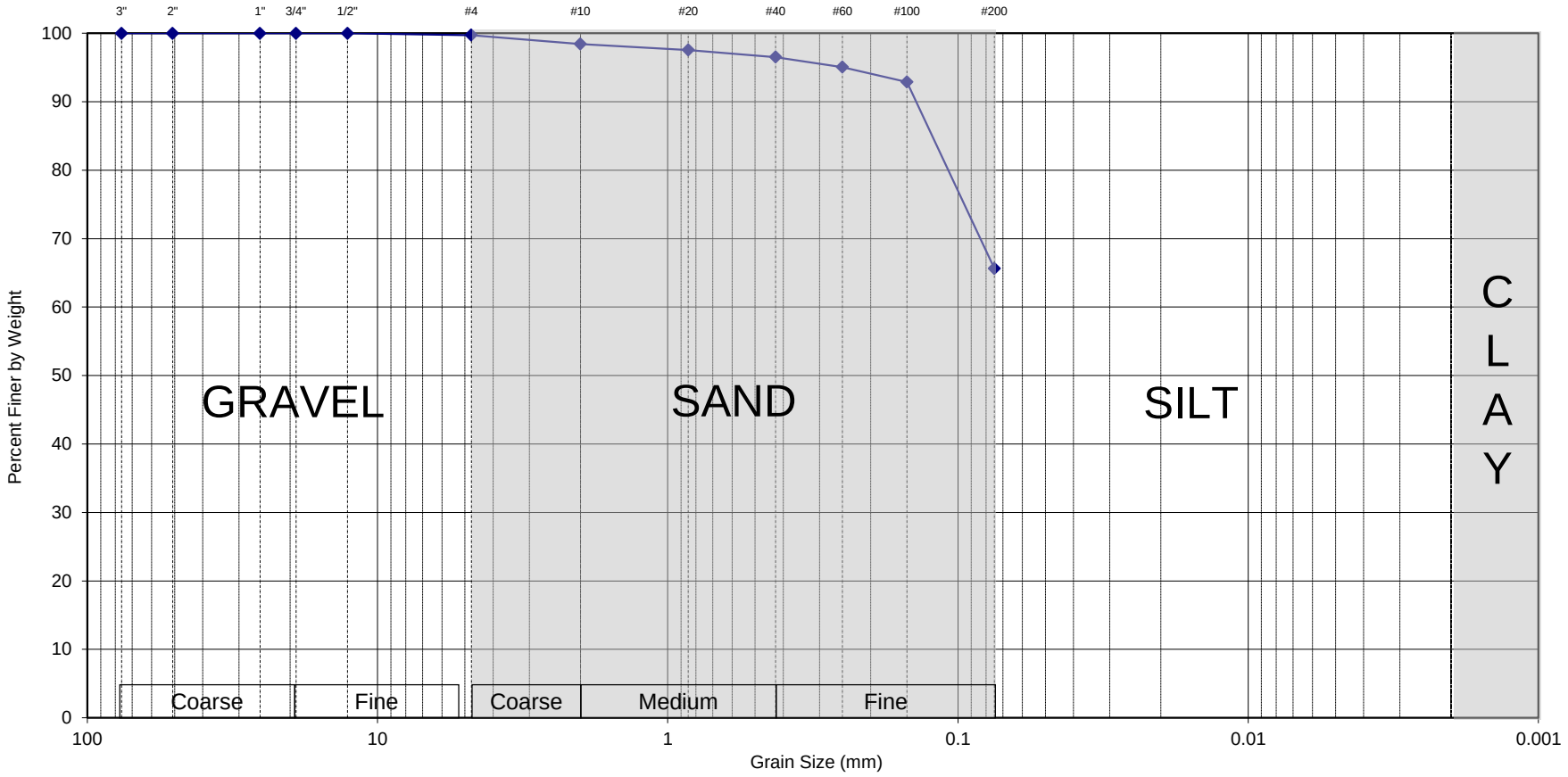
Sieve Size	% Passing
¾"	93.8
½"	91.2
#4	90.7
#10	89.4
#20	88.1
#40	87.9
#60	84.4
#100	81.7
#200	55.5

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U.S. STANDARD SIEVE AND HYDROMETER



Gravel	Sand	Fines
0.3%	34.1%	65.6%

Lab #	Exploration	Sample Depth	Sample Date	Description	WC	LL	PL	PI
10	GZ-120	0-4'	8/2/13	Gray Organic SILT, some f-m Sand				

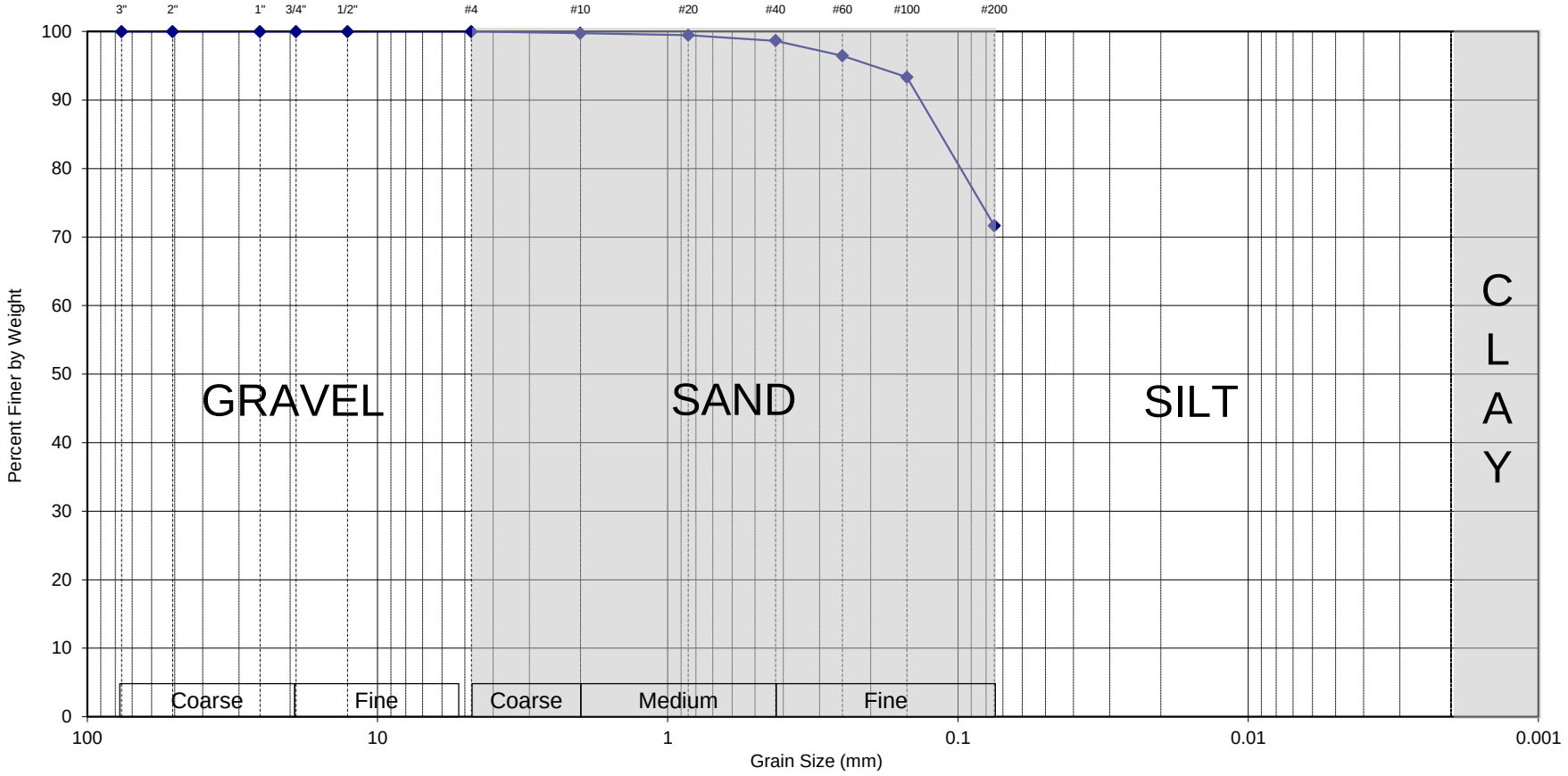
Sieve Size	% Passing
¾"	100.0
½"	100.0
#4	99.7
#10	98.4
#20	97.6
#40	96.5
#60	95.1
#100	92.9
#200	65.6

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U.S. STANDARD SIEVE AND HYDROMETER



Gravel	Sand	Fines
0.0%	28.4%	71.6%

Lab #	Exploration	Sample Depth	Sample Date	Description	WC	LL	PL	PI
11	GZ-122	1-4'	8/2/13	Gray Organic SILT, some f-m Sand				

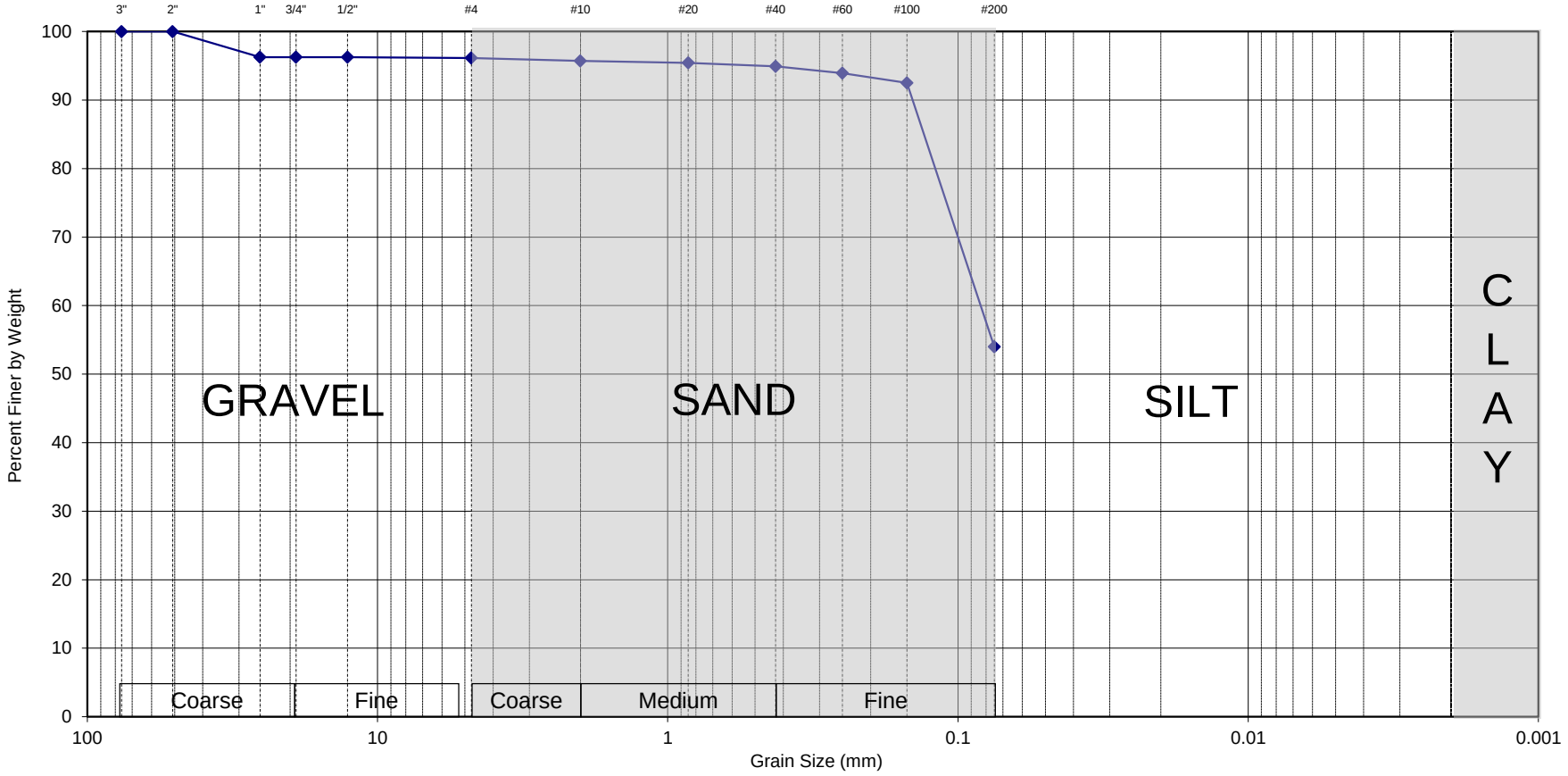
Sieve Size	% Passing
¾"	100.0
½"	100.0
#4	100.0
#10	99.8
#20	99.5
#40	98.7
#60	96.4
#100	93.3
#200	71.6

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GZA File # 01.0171521.02

Tested by: LM Date: 8/12/13
Reviewed by: MBP Date: 8/13/13

U.S. STANDARD SIEVE AND HYDROMETER



Gravel	Sand	Fines
3.9%	42.2%	54.0%

Lab #	Exploration	Sample Depth	Sample Date	Description	WC	LL	PL	PI
12	GZ-124	0-3'	8/2/13	Gray Organic SILT and f-m SAND, trace Gravel				

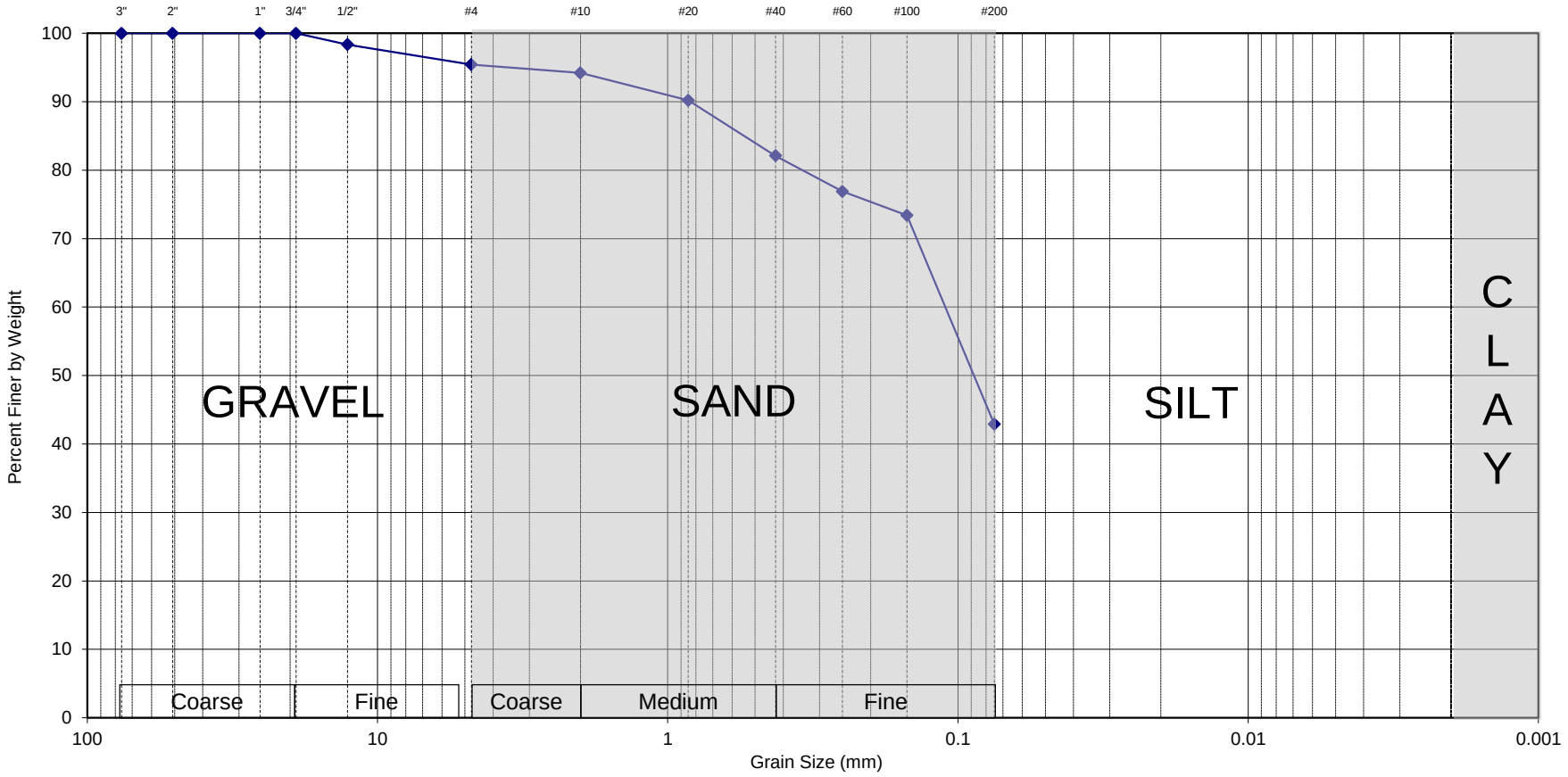
Sieve Size	% Passing
¾"	96.2
½"	96.2
#4	96.1
#10	95.7
#20	95.4
#40	94.9
#60	93.9
#100	92.5
#200	54.0

THIELSCH ENGINEERING
195 Frances Ave., Cranston, RI 02910
401-467-6454

CTS-74-13-0003
1 Horizon Way
Everett, MA
GZA File # 01.0171521.02

Tested by: LM Date: 8/12/13
Reviewed by: MBP Date: 8/13/13

U.S. STANDARD SIEVE AND HYDROMETER



Gravel	Sand	Fines
4.6%	52.6%	42.9%

Lab #	Exploration	Sample Depth	Sample Date	Description	WC	LL	PL	PI
13	GZ-124	5-9'	8/2/13	Gray f-m SAND and Organic SILT, trace Gravel				

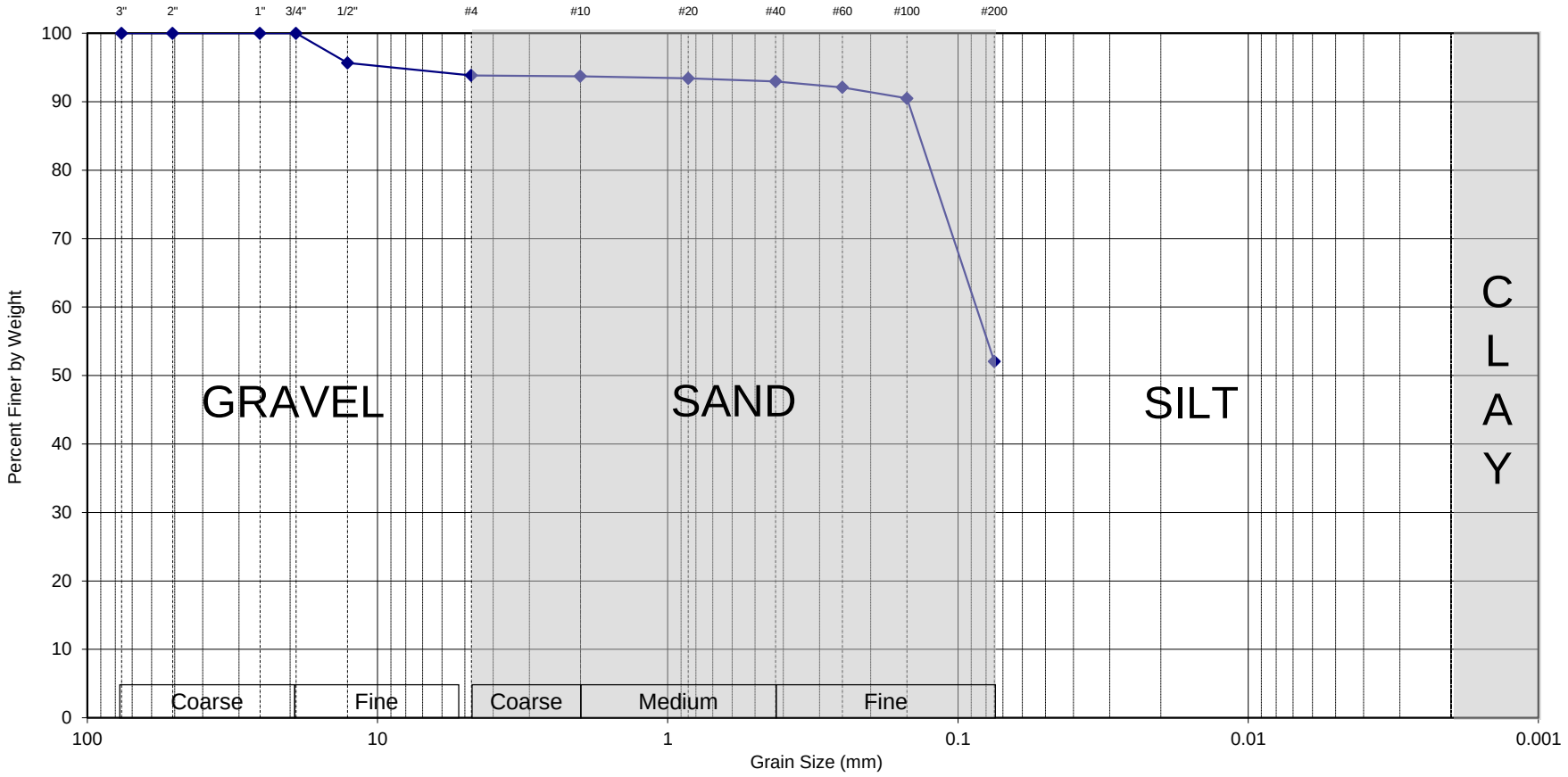
Sieve Size	% Passing
¾"	100.0
½"	98.3
#4	95.4
#10	94.2
#20	90.2
#40	82.1
#60	76.9
#100	73.4
#200	42.9

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Tested by: LM Date: 8/12/13
Reviewed by: MBP Date: 8/13/13

U.S. STANDARD SIEVE AND HYDROMETER



Gravel	Sand	Fines
6.2%	41.8%	52.0%

Lab #	Exploration	Sample Depth	Sample Date	Description	WC	LL	PL	PI
14	GZ-130	0-1.4'	8/2/13	Gray f-m Organic SILT and f-m SAND, trace Gravel				

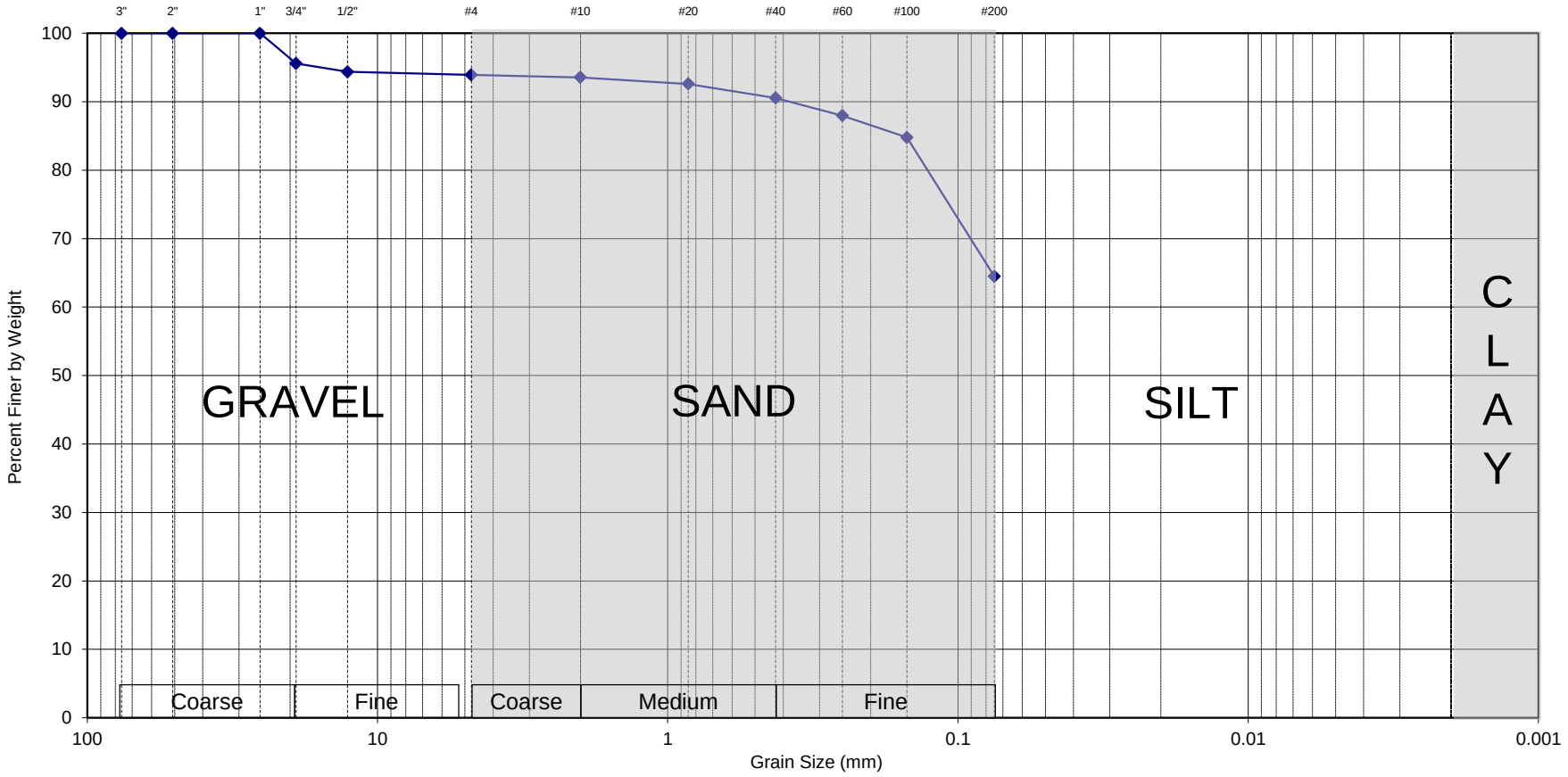
Sieve Size	% Passing
¾"	100.0
½"	95.7
#4	93.8
#10	93.7
#20	93.4
#40	93.0
#60	92.1
#100	90.5
#200	52.0

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GZA File # 01.0171521.02

Tested by: LM Date: 8/12/13
Reviewed by: MBP Date: 8/13/13

U.S. STANDARD SIEVE AND HYDROMETER



Gravel	Sand	Fines
6.1%	29.4%	64.5%

Lab #	Exploration	Sample Depth	Sample Date	Description	WC	LL	PL	PI
15	GZ-130	5-8'	8/2/13	Gray f-m Organic SILT, some f-m Sand, trace Gravel				

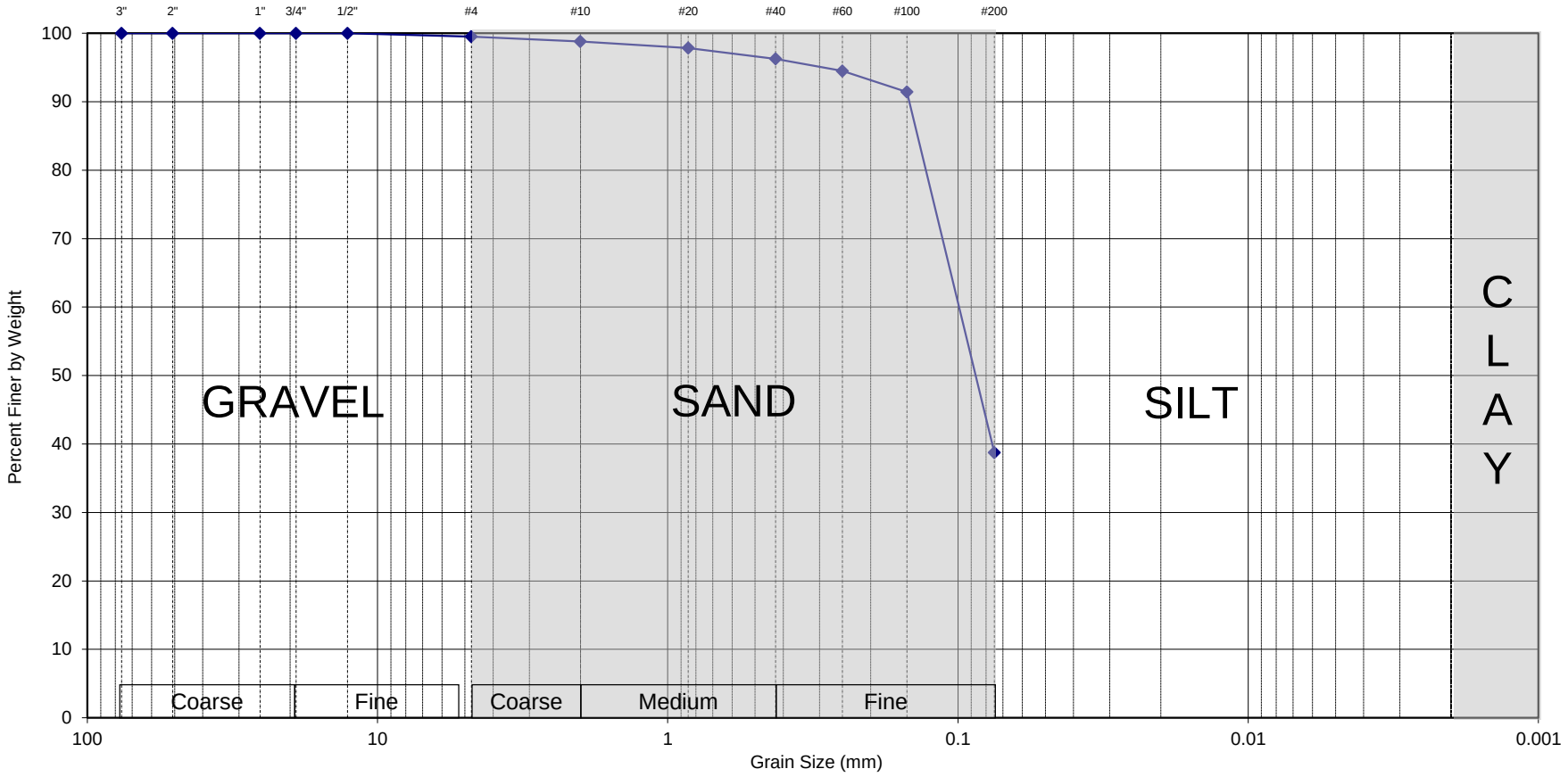
Sieve Size	% Passing
¾"	95.6
½"	94.4
#4	93.9
#10	93.5
#20	92.6
#40	90.6
#60	88.0
#100	84.8
#200	64.5

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GZA File # 01.0171521.02

Tested by: LM Date: 8/12/13
Reviewed by: MBP Date: 8/13/13

U.S. STANDARD SIEVE AND HYDROMETER



Gravel	Sand	Fines
0.5%	60.8%	38.7%

Lab #	Exploration	Sample Depth	Sample Date	Description	WC	LL	PL	PI
16	GZ-131	1-3'	8/2/13	Gray fine SAND and Organic SILT				

Sieve Size	% Passing
¾"	100.0
½"	100.0
#4	99.5
#10	98.8
#20	97.8
#40	96.3
#60	94.5
#100	91.4
#200	38.7

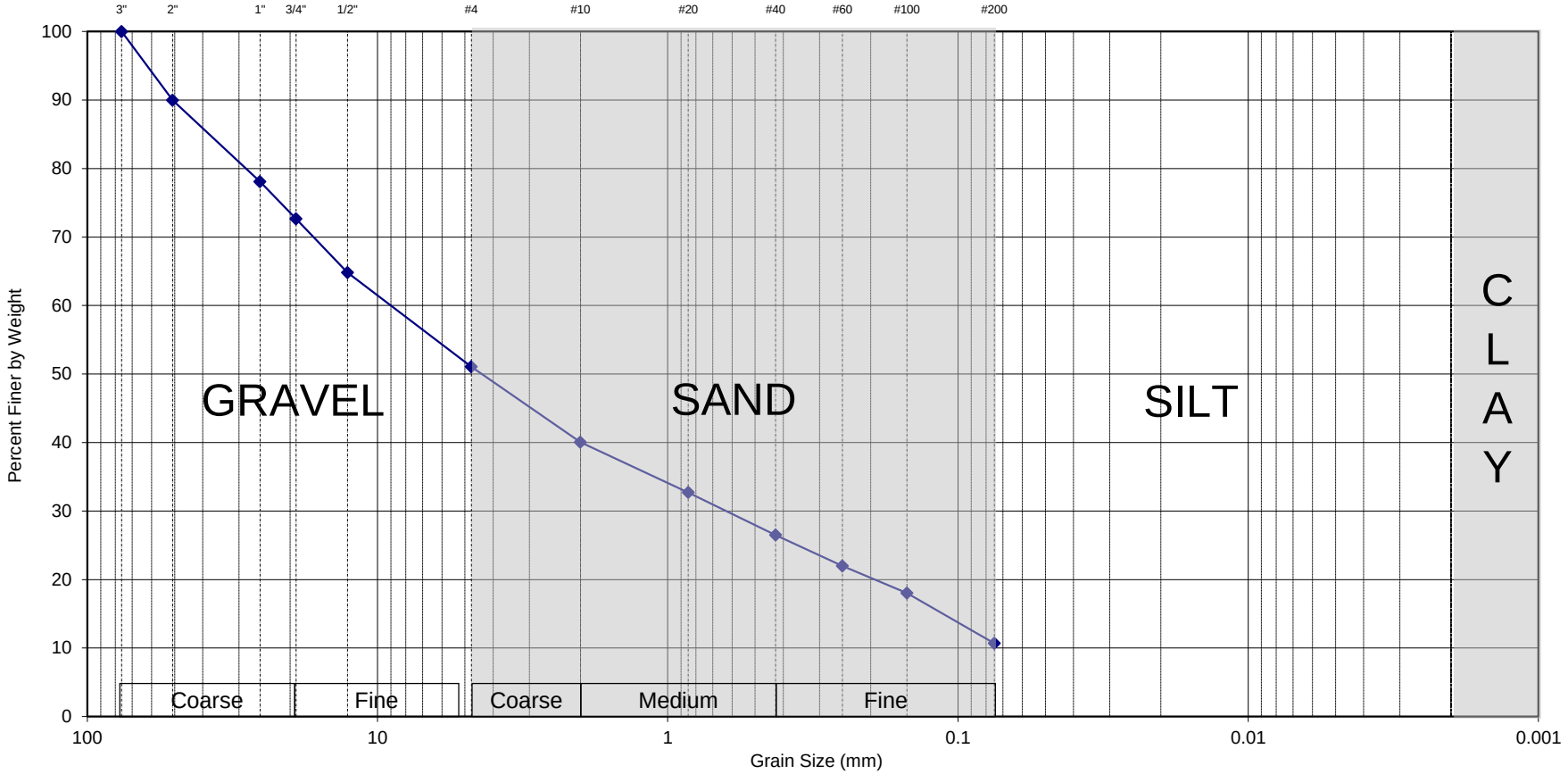
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CTS-74-13-0003
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GZA File # 01.0171521.02

Tested by: LM Date: 8/12/13
Reviewed by: MBP Date: 8/13/13

ASTM D422

U.S. STANDARD SIEVE AND HYDROMETER



Gravel	Sand	Fines
49.0%	40.4%	10.7%

Lab #	Exploration	Sample Depth	Sample Date	Description	WC	LL	PL	PI
17	GZ-131	4-5'	8/2/13	Gray f-c GRAVEL and f-c SAND, little Silt				

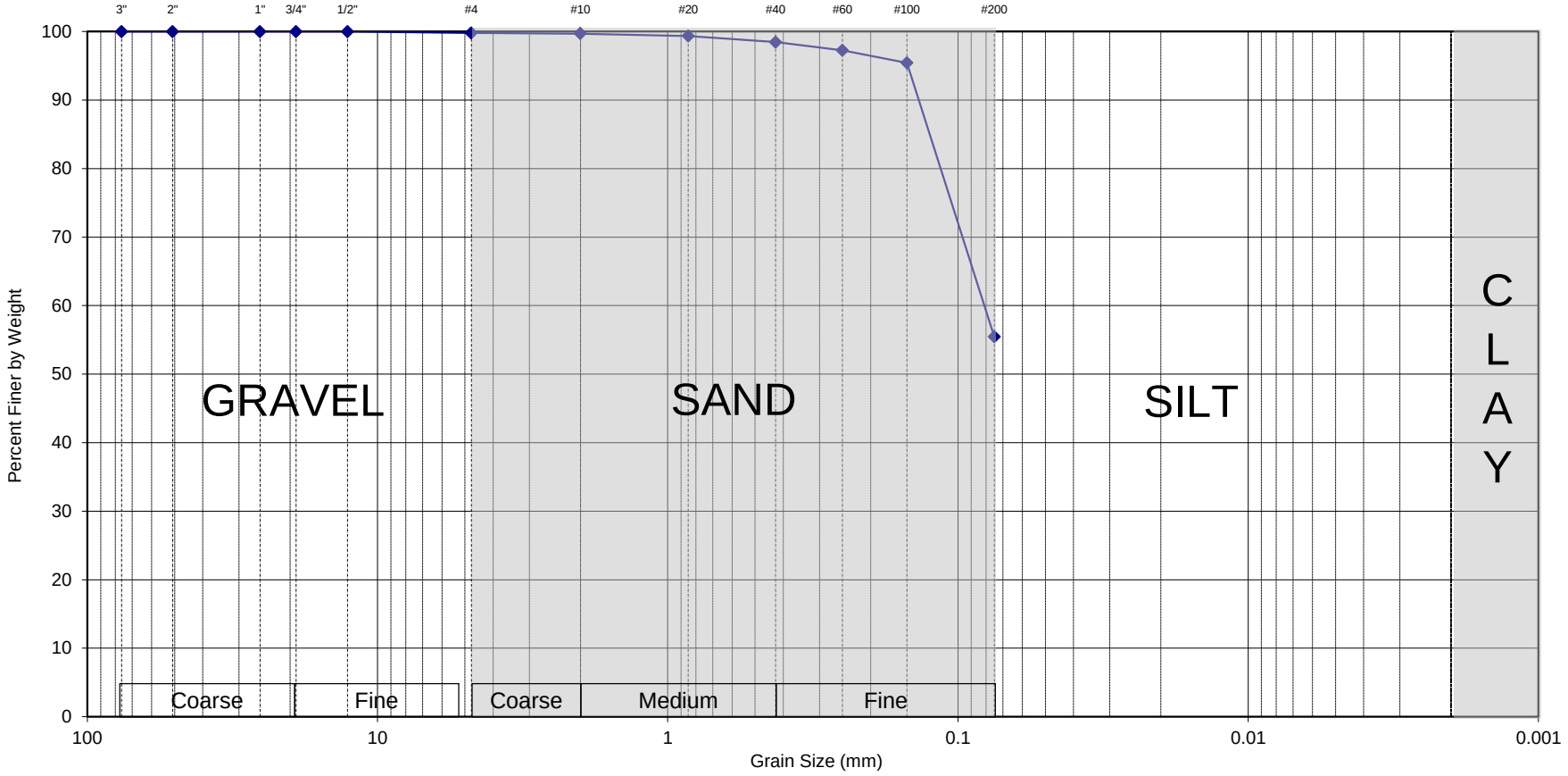
Sieve Size	% Passing
¾"	72.6
½"	64.8
#4	51.0
#10	40.0
#20	32.7
#40	26.5
#60	22.0
#100	18.0
#200	10.7

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1 Horizon Way
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GZA File # 01.0171521.02

Tested by: LM Date: 8/12/13
Reviewed by: MBP Date: 8/13/13

U.S. STANDARD SIEVE AND HYDROMETER



Gravel	Sand	Fines
0.2%	44.4%	55.4%

Lab #	Exploration	Sample Depth	Sample Date	Description	WC	LL	PL	PI
18	GZ-129	0-4'	8/2/13	Gray Organic SILT and fine SAND				

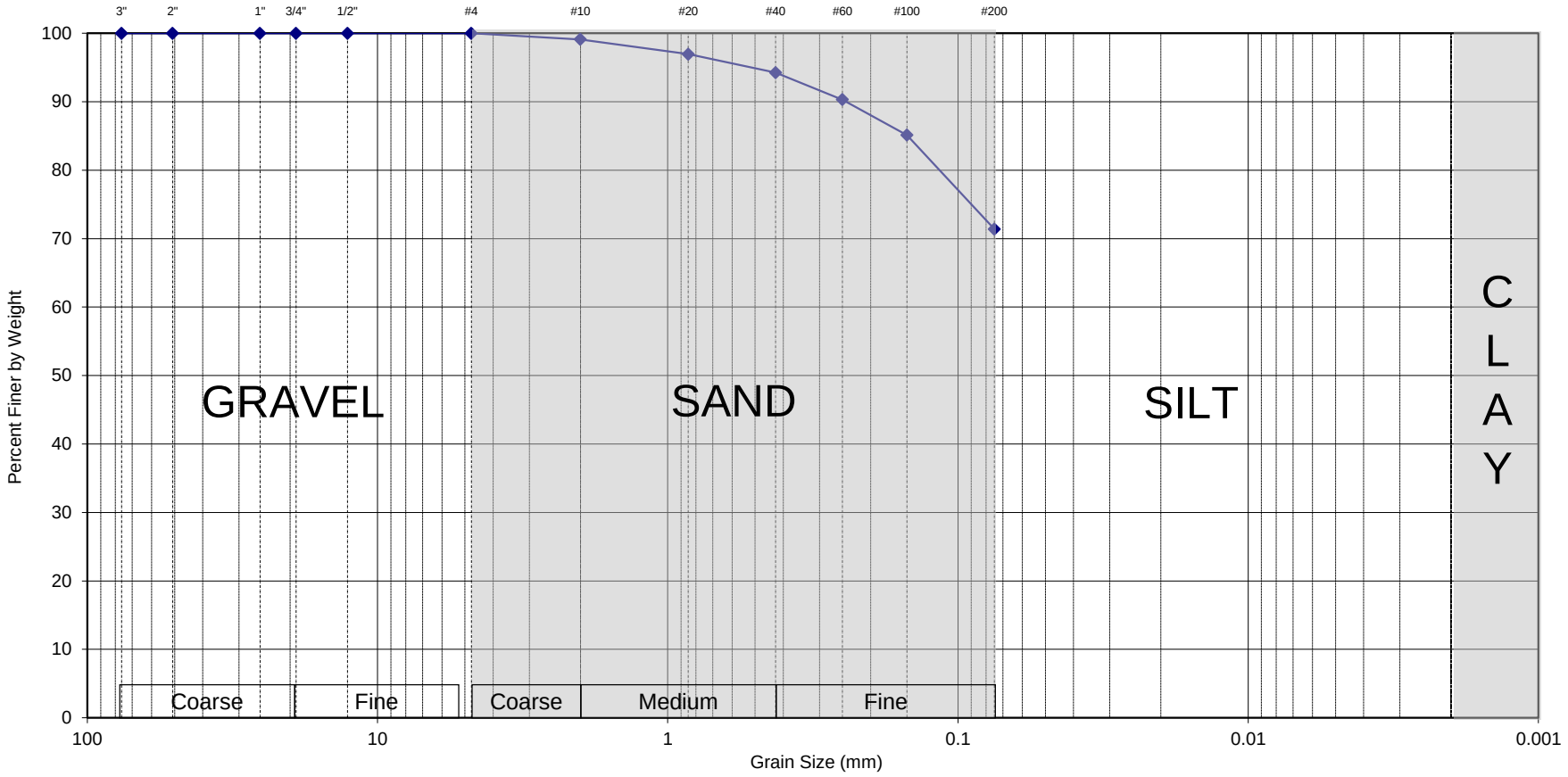
Sieve Size	% Passing
¾"	100.0
½"	100.0
#4	99.8
#10	99.7
#20	99.3
#40	98.5
#60	97.2
#100	95.4
#200	55.4

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Tested by: LM Date: 8/12/13
Reviewed by: MBP Date: 8/13/13

U.S. STANDARD SIEVE AND HYDROMETER



Gravel	Sand	Fines
0.0%	28.6%	71.4%

Lab #	Exploration	Sample Depth	Sample Date	Description	WC	LL	PL	PI
19	GZ-134	0-1'	8/2/13	Gray Organic SILT, some fine Sand				

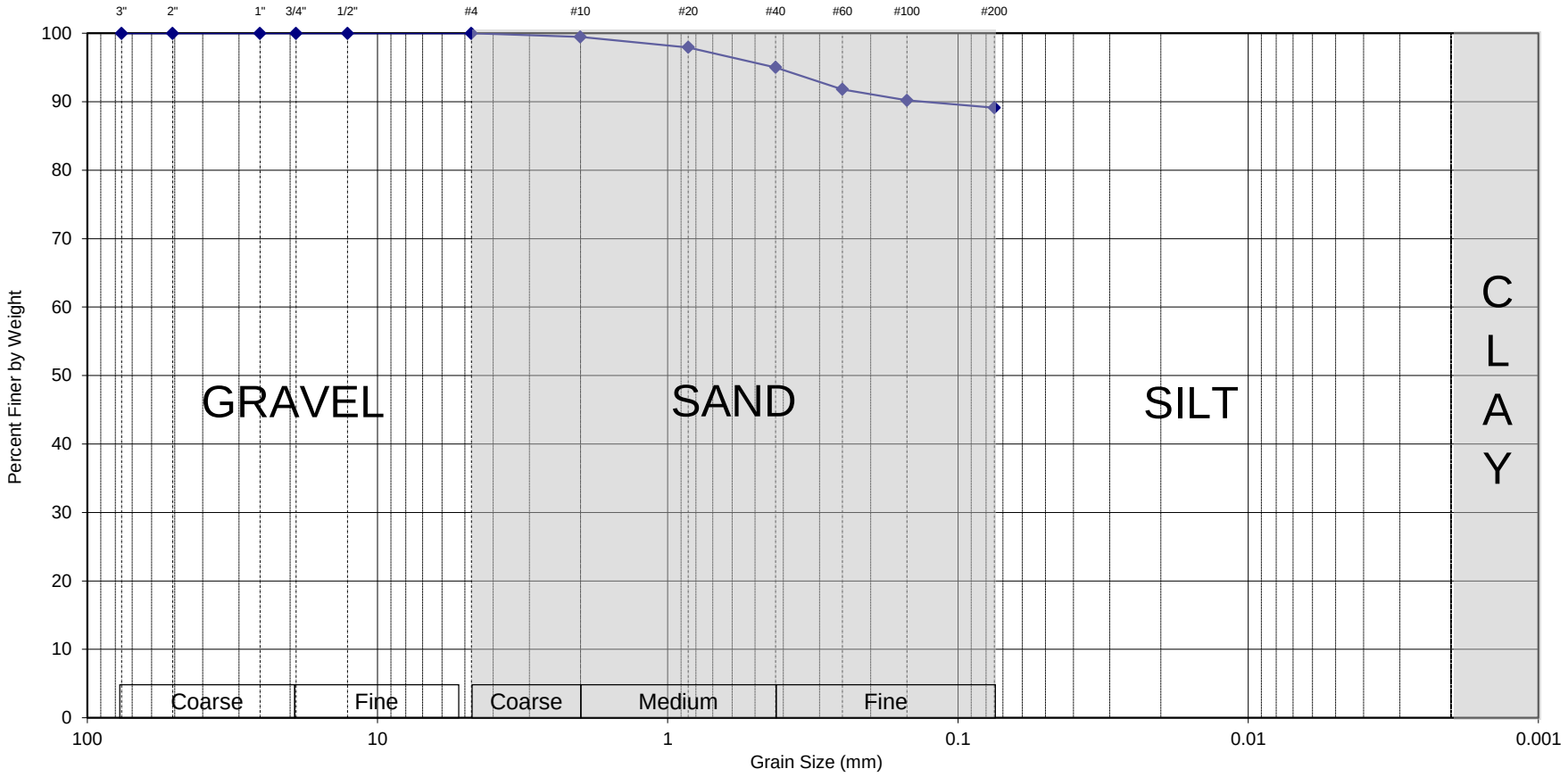
Sieve Size	% Passing
¾"	100.0
½"	100.0
#4	100.0
#10	99.1
#20	96.9
#40	94.3
#60	90.3
#100	85.1
#200	71.4

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Tested by: LM Date: 8/12/13
Reviewed by: MBP Date: 8/13/13

U.S. STANDARD SIEVE AND HYDROMETER



Gravel	Sand	Fines
0.0%	10.9%	89.1%

Lab #	Exploration	Sample Depth	Sample Date	Description	WC	LL	PL	PI
20	GZ-134	8-9'	8/2/13	Gray Organic SILT, little fine Sand				

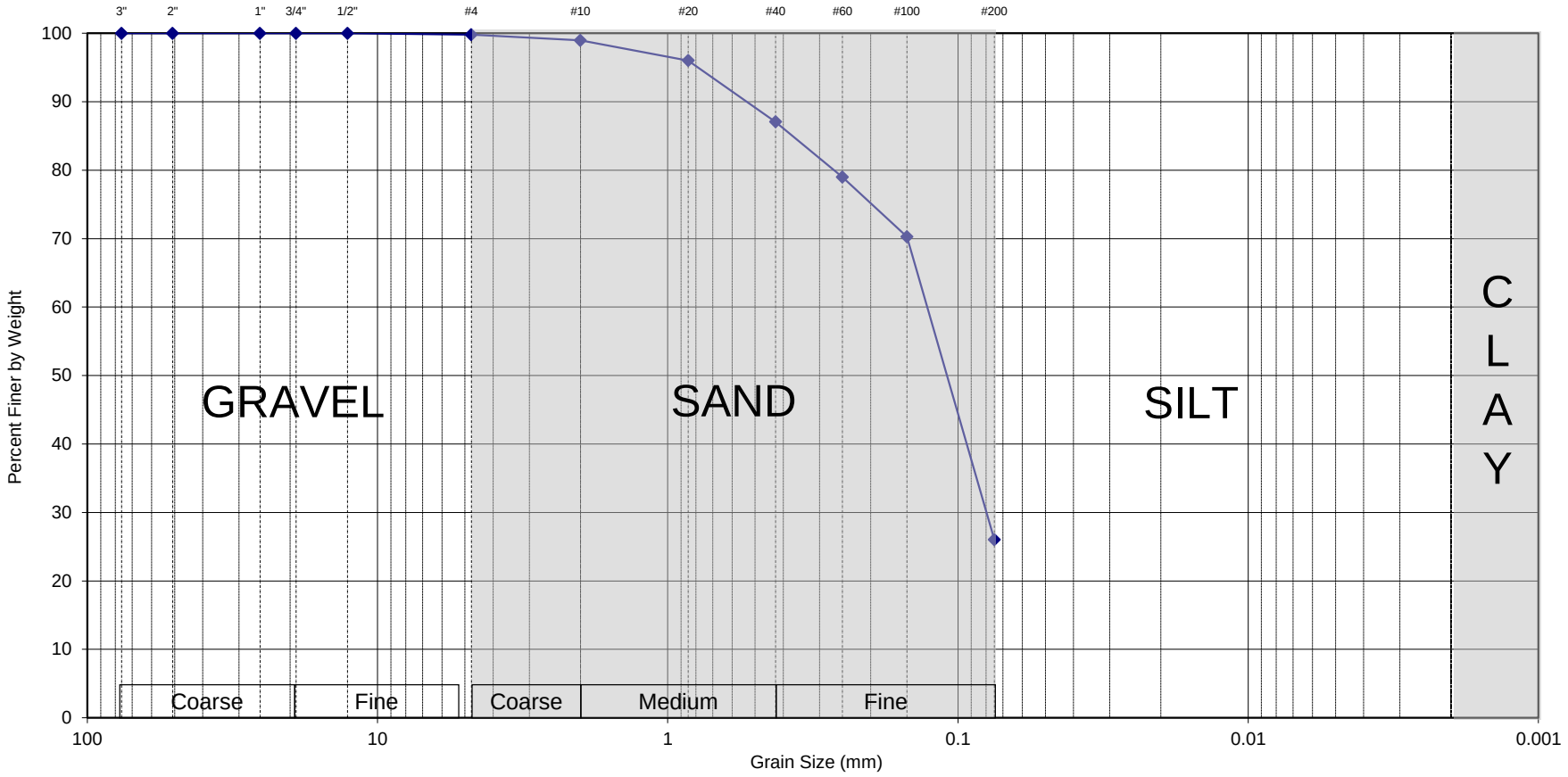
Sieve Size	% Passing
¾"	100.0
½"	100.0
#4	100.0
#10	99.5
#20	97.9
#40	95.0
#60	91.8
#100	90.2
#200	89.1

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U.S. STANDARD SIEVE AND HYDROMETER



Gravel	Sand	Fines
0.2%	73.8%	26.0%

Lab #	Exploration	Sample Depth	Sample Date	Description	WC	LL	PL	PI
21	GZ-135	1-3'	8/2/13	Gray f-m SAND, some Organic Silt				

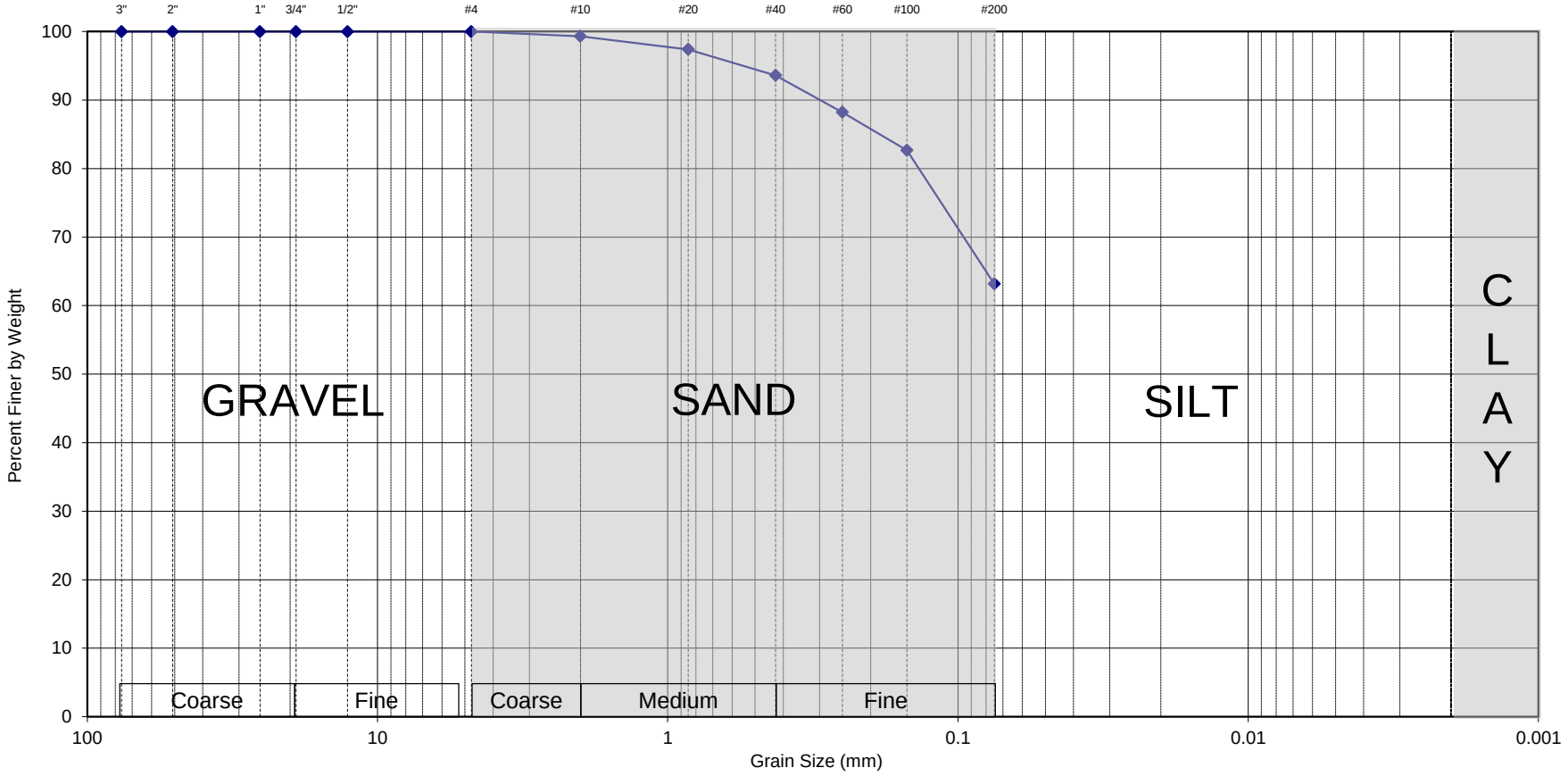
Sieve Size	% Passing
¾"	100.0
½"	100.0
#4	99.8
#10	99.0
#20	96.0
#40	87.0
#60	79.0
#100	70.3
#200	26.0

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Tested by: LM Date: 8/12/13
Reviewed by: MBP Date: 8/13/13

U.S. STANDARD SIEVE AND HYDROMETER



Gravel	Sand	Fines
0.0%	36.8%	63.2%

Lab #	Exploration	Sample Depth	Sample Date	Description	WC	LL	PL	PI
22	GZ-135	0-9'	8/2/13	Gray Organic SILT and f-m SAND				

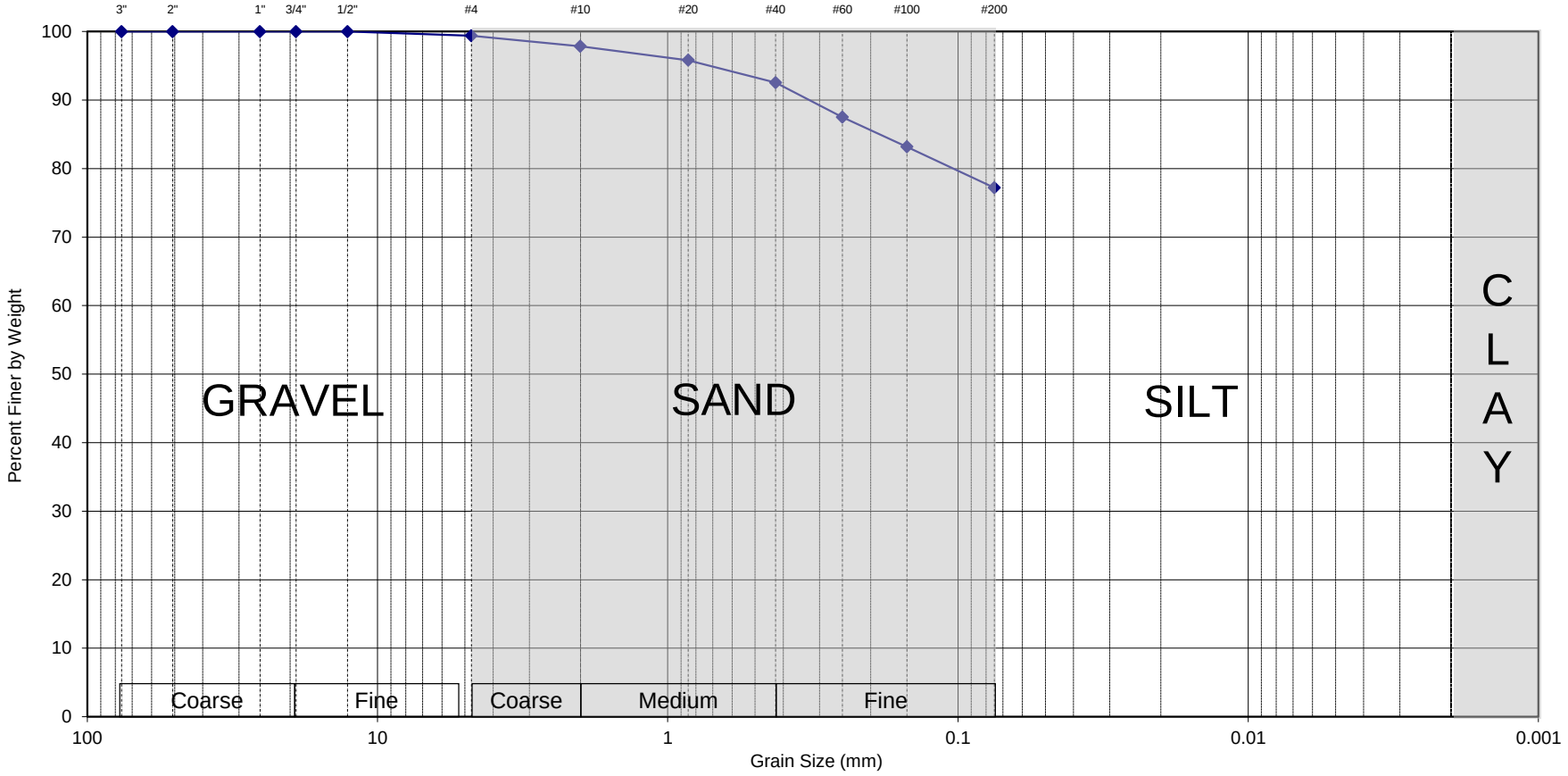
Sieve Size	% Passing
¾"	100.0
½"	100.0
#4	100.0
#10	99.3
#20	97.4
#40	93.6
#60	88.2
#100	82.7
#200	63.2

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Tested by: LM Date: 8/12/13
Reviewed by: MBP Date: 8/13/13

U.S. STANDARD SIEVE AND HYDROMETER



Gravel	Sand	Fines
0.6%	22.2%	77.2%

Lab #	Exploration	Sample Depth	Sample Date	Description	WC	LL	PL	PI
23	GZ-138	0-2'	8/2/13	Gray Organic SILT, some f-m Sand				

Sieve Size	% Passing
¾"	100.0
½"	100.0
#4	99.4
#10	97.9
#20	95.8
#40	92.5
#60	87.5
#100	83.2
#200	77.2

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Everett, MA
GZA File # 01.0171521.02

Tested by: LM Date: 8/12/13
Reviewed by: MBP Date: 8/13/13

APPENDIX E

ANALYTICAL DATA – 2013 UPSTREAM SAMPLES

© 2015 - GZA GeoEnvironmental, Inc. J:\170,000-179,999\171521\171521-00.DEL\FIGURES\GIS\MXDs\171521_LC_SAMPLES_2013_LOCATIONS.mxd, 9/15/2015, 2:10:13 PM, justin.ivas



LEGEND

⊗ 2013 SEDIMENT SAMPLE LOCATION

APPROXIMATE PROPERTY BOUNDS

SOURCE

1) THIS MAP CONTAINS THE ESRI ArcGIS ONLINE BING MAPS AERIAL LAYER PACKAGE, PUBLISHED DECEMBER 1, 2010 BY ESRI ARCIMS SERVICES AND UPDATED MONTHLY. THIS SERVICE USES UNIFORM NATIONALLY RECOGNIZED DATUM AND CARTOGRAPHY STANDARDS AND A VARIETY OF AVAILABLE SOURCES FROM SEVERAL DATA PROVIDERS. esri

2) THE SAMPLE LOCATIONS AND ELEVATIONS WERE APPROXIMATELY DETERMINED BY GPS. THIS DATA SHOULD BE CONSIDERED ACCURATE ONLY TO THE DEGREE IMPLIED BY THE METHOD USED

0 100 200 400

SCALE IN FEET

UNLESS SPECIFICALLY STATED BY WRITTEN AGREEMENT, THIS DRAWING IS THE SOLE PROPERTY OF GZA GEOENVIRONMENTAL, INC. (GZA). THE INFORMATION SHOWN ON THE DRAWING IS SOLELY FOR THE USE BY GZA'S CLIENT OR THE CLIENT'S DESIGNATED REPRESENTATIVE FOR THE SPECIFIC PROJECT AND LOCATION IDENTIFIED ON THE DRAWING. THE DRAWING SHALL NOT BE TRANSFERRED, REUSED, COPIED, OR ALTERED IN ANY MANNER FOR USE AT ANY OTHER LOCATION OR FOR ANY OTHER PURPOSE WITHOUT THE PRIOR WRITTEN CONSENT OF GZA, ANY TRANSFER, REUSE, OR MODIFICATION TO THE DRAWING BY THE CLIENT OR OTHERS, WITHOUT THE PRIOR WRITTEN EXPRESS CONSENT OF GZA, WILL BE AT THE USER'S SOLE RISK AND WITHOUT ANY RISK OR LIABILITY TO GZA.

WYNN EVERETT

EVERETT, MA

2013 MYSTIC RIVER UPSTREAM SEDIMENT SAMPLE LOCATIONS

PREPARED BY:	PREPARED FOR:		
GZA GeoEnvironmental, Inc. Engineers and Scientists www.gza.com	WYNN MA, LLC.		
PROJ MGR: DEL	REVIEWED BY: DEL	CHECKED BY: DEL	FIGURE E-1
DESIGNED BY: TLB	DRAWN BY: JAI	SCALE: 1 " = 200 FEET	
DATE: 09/15/2015	PROJECT NO. 01.0171521.13	REVISION NO.	

Wynn Resort Casino
Everett, Massachusetts

Analyte	Sample No. / Sample Date: / Sample Time: / ClientSample: / Units	1308109-07 08/06/2013 11:20 GZ-LC1 T 0-0_5ft	1308109-08 08/05/2013 13:30 GZ-LC1 2-4ft	1308109-09 08/06/2013 11:26 GZ-LC2 T 0-0_5ft	1308109-10 08/05/2013 14:05 GZ-LC2 2-4ft	1308109-11 08/06/2013 11:36 GZ-LC3 T 0-0_5ft
Aroclor 1016	mg/kg dry	<0.0340	<0.0445	<5.02	<4.87	<0.0482
Aroclor 1221	mg/kg dry	<0.0340	<0.0445	<5.02	<4.87	<0.0482
Aroclor 1232	mg/kg dry	<0.0340	<0.0445	<5.02	<4.87	<0.0482
Aroclor 1242	mg/kg dry	<0.0340	<0.0445	<5.02	<4.87	<0.0482
Aroclor 1248	mg/kg dry	**0.166**	<0.0445	**11.9**	**43.5**	**0.699**
Aroclor 1254	mg/kg dry	**0.213**	<0.0445	**28.2**	**33.7**	**0.622**
Aroclor 1260	mg/kg dry	**0.0667**	<0.0445	<5.02	<4.87	**0.232**
Aroclor 1262	mg/kg dry	<0.0340	<0.0445	<5.02	<4.87	<0.0482
Aroclor 1268	mg/kg dry	<0.0340	<0.0445	<5.02	<4.87	<0.0482
1,2,4-Trichlorobenzene	mg/kg dry	<0.439	<0.567	<1.28	<12.7	<0.618
1,2-Dichlorobenzene	mg/kg dry	<0.439	<0.567	<1.28	<12.7	<0.618
1,3-Dichlorobenzene	mg/kg dry	<0.439	<0.567	<1.28	<12.7	<0.618
1,4-Dichlorobenzene	mg/kg dry	<0.439	<0.567	<1.28	<12.7	<0.618
2-Methylnaphthalene	mg/kg dry	<0.439	<0.567	<1.28	<12.7	<0.618
2-Methylphenol	mg/kg dry	<0.439	<0.567	<1.28	<12.7	<0.618
Acenaphthene	mg/kg dry	<0.439	<0.567	<1.28	<12.7	<0.618
Acenaphthylene	mg/kg dry	<0.439	<0.567	<1.28	<12.7	<0.618
Anthracene	mg/kg dry	<0.439	<0.567	<1.28	<12.7	<0.618
Benzo(a)anthracene	mg/kg dry	**0.711**	<0.567	<1.28	<12.7	**1.14**
Benzo(a)pyrene	mg/kg dry	**0.804**	<0.284	<0.643	<6.37	**1.22**
Benzo(b)fluoranthene	mg/kg dry	**0.854**	<0.567	<1.28	<12.7	**1.66**
Benzo(g,h,i)perylene	mg/kg dry	<0.439	<0.567	<1.28	<12.7	<0.618
Benzo(k)fluoranthene	mg/kg dry	**0.548**	<0.567	<1.28	<12.7	**0.791**
bis(2-Ethylhexyl)phthalate	mg/kg dry	**7.98**	<0.567	**1570**	**6160**	**13.7**
Butylbenzylphthalate	mg/kg dry	<0.439	<0.567	<1.28	**20.5**	<0.618
Carbazole	mg/kg dry	<0.439	<0.567	<1.28	<12.7	<0.618
Chrysene	mg/kg dry	**0.728**	<0.284	<0.643	<6.37	**1.34**
Dibenzo(a,h)Anthracene	mg/kg dry	<0.220	<0.284	<0.643	<6.37	<0.310
Dibenzofuran	mg/kg dry	<0.439	<0.567	<1.28	<12.7	**0.693**
Diethylphthalate	mg/kg dry	<0.439	<0.567	<1.28	<12.7	<0.618
Dimethylphthalate	mg/kg dry	<0.439	<0.567	<1.28	<12.7	<0.618
Di-n-butylphthalate	mg/kg dry	<0.439	<0.567	<1.28	<12.7	<0.618
Di-n-octylphthalate	mg/kg dry	<0.439	<0.567	**234**	**2730**	**1.06**
Fluoranthene	mg/kg dry	**0.945**	<0.567	**1.62**	<12.7	**2.61**
Fluorene	mg/kg dry	<0.439	<0.567	<1.28	<12.7	<0.618
Hexachlorobenzene	mg/kg dry	<0.439	<0.567	<1.28	<12.7	<0.618
Hexachlorocyclopentadiene	mg/kg dry	<2.20	<2.84	<6.43	<63.7	<3.10
Indeno(1,2,3-cd)Pyrene	mg/kg dry	<0.439	<0.567	<1.28	<12.7	<0.618
Naphthalene	mg/kg dry	<0.439	<0.567	<1.28	<12.7	**7.11**
Phenanthrene	mg/kg dry	<0.439	<0.567	<1.28	<12.7	**3.1**
Phenol	mg/kg dry	<0.439	<0.567	<1.28	<12.7	<0.618
Pyrene	mg/kg dry	**1.53**	<0.567	<1.28	<12.7	**2.01**
2-Methylnaphthalene	mg/kg dry	**0.064**	<0.015	<0.158	<1.25	<0.076
Acenaphthene	mg/kg dry	<0.055	<0.015	<0.158	<1.25	<0.076
Acenaphthylene	mg/kg dry	**0.192**	<0.015	<0.158	<1.25	**0.085**
Anthracene	mg/kg dry	**0.19**	<0.015	<0.158	<1.25	**0.147**
Benzo(a)anthracene	mg/kg dry	**0.462**	<0.015	<0.158	<1.25	**0.452**
Benzo(a)pyrene	mg/kg dry	**0.597**	<0.015	**0.19**	<1.25	**0.571**
Benzo(b)fluoranthene	mg/kg dry	**0.746**	<0.015	**0.456**	<1.25	**0.727**
Benzo(g,h,i)perylene	mg/kg dry	**0.35**	<0.015	**0.31**	<1.25	**0.36**
Benzo(k)fluoranthene	mg/kg dry	**0.208**	<0.015	**0.177**	<1.25	**0.287**
Chrysene	mg/kg dry	**0.533**	<0.015	**0.272**	<1.25	**0.513**
Dibenzo(a,h)Anthracene	mg/kg dry	**0.104**	<0.015	<0.158	<1.25	**0.107**
Fluoranthene	mg/kg dry	**0.69**	<0.015	**0.317**	<1.25	**0.815**
Fluorene	mg/kg dry	**0.06**	<0.015	<0.158	<1.25	<0.076
Indeno(1,2,3-cd)Pyrene	mg/kg dry	**0.385**	<0.015	**0.323**	<1.25	**0.415**
Naphthalene	mg/kg dry	**0.124**	<0.015	<0.158	<1.25	**0.174**
Phenanthrene	mg/kg dry	**0.352**	<0.015	<0.158	<1.25	**0.397**
Pyrene	mg/kg dry	**0.916**	<0.015	**0.367**	<1.25	**0.788**
Total Organic Carbon	mg/kg	**71800**	**-**	**58500**	**-**	**24500**
C11-C22 Aromatics1,2	mg/kg dry	**146**	<42.6	**8040**	**13000**	**353**
C11-C22 Unadjusted Aromatics1	mg/kg dry	**152**	<42.6	**8040**	**13000**	**360**
C19-C36 Aliphatics1	mg/kg dry	**194**	<42.6	**573**	**320**	**321**
C9-C18 Aliphatics1	mg/kg dry	<33.0	<42.6	**2320**	**1830**	**78.6**
Antimony	mg/kg dry	**1.4**	<1.7	<3.8	<3.8	**2.5**
Arsenic	mg/kg dry	**43**	**3.4**	**7.1**	**13**	**80.9**
Barium	mg/kg dry	**49.7**	**20.5**	**54.4**	**37.1**	**81.7**
Beryllium	mg/kg dry	**0.4**	**0.48**	**0.43**	**0.28**	<0.38
Cadmium	mg/kg dry	<1.24	**0.46**	**2.11**	**1.77**	<1.84
Chromium	mg/kg dry	**42.3**	**19.9**	**62.2**	**58.8**	**45.2**
Lead	mg/kg dry	**148**	<3.4	**217**	**177**	**211**
Mercury	mg/kg dry	**0.634**	<0.032	**0.895**	**0.748**	**0.48**
Nickel	mg/kg dry	**13.7**	**11.2**	**19.3**	**17.7**	**17.2**
Selenium	mg/kg dry	**1.32**	<1.69	<3.84	<3.84	**2.38**
Silver	mg/kg dry	**2.16**	<0.34	**1.96**	**1.49**	**5.23**
Thallium	mg/kg dry	<1.24	<1.69	<3.84	<3.84	<1.84
Vanadium	mg/kg dry	**39.6**	**25.6**	**126**	**128**	**68.6**
Zinc	mg/kg dry	**319**	**32.6**	**276**	**231**	**596**

Wynn Resort Casino
Everett, Massachusetts

Analyte	Sample No. / Sample Date: / Sample Time: / ClientSample:	1308109-12 08/05/2013 14:15 GZ-LC-3 0_5-2ft	1308109-13 08/05/2013 14:15 GZ-LC-3 4-6ft	1308109-14 08/06/2013 11:42 GZ-LC4 T 0-0_5ft	1308109-15 08/05/2013 14:25 GZ-LC4 0_5-2ft	1308109-16 08/05/2013 14:25 GZ-LC4 2-4ft
	Units					
Aroclor 1016	mg/kg dry	<0.0398	<1.78	<0.0684	<0.0579	<2.42
Aroclor 1221	mg/kg dry	<0.0398	<1.78	<0.0684	<0.0579	<2.42
Aroclor 1232	mg/kg dry	<0.0398	<1.78	<0.0684	<0.0579	<2.42
Aroclor 1242	mg/kg dry	<0.0398	<1.78	<0.0684	<0.0579	<2.42
Aroclor 1248	mg/kg dry	**0.629**	**9.44**	**1.11**	**7.75**	**14.3**
Aroclor 1254	mg/kg dry	**0.791**	**15.4**	**1.25**	**10.1**	**22.7**
Aroclor 1260	mg/kg dry	**0.237**	<1.78	**0.533**	<0.0579	<2.42
Aroclor 1262	mg/kg dry	<0.0398	<1.78	<0.0684	<0.0579	<2.42
Aroclor 1268	mg/kg dry	<0.0398	<1.78	<0.0684	<0.0579	<2.42
1,2,4-Trichlorobenzene	mg/kg dry	<0.510	<45.4	<4.43	<0.741	<8.11
1,2-Dichlorobenzene	mg/kg dry	<0.510	<45.4	<4.43	<0.741	<8.11
1,3-Dichlorobenzene	mg/kg dry	<0.510	<45.4	<4.43	<0.741	<8.11
1,4-Dichlorobenzene	mg/kg dry	<0.510	<45.4	<4.43	<0.741	<8.11
2-Methylnaphthalene	mg/kg dry	<0.510	<45.4	<4.43	<0.741	<8.11
2-Methylphenol	mg/kg dry	<0.510	<45.4	<4.43	<0.741	<8.11
Acenaphthene	mg/kg dry	<0.510	<45.4	<4.43	<0.741	<8.11
Acenaphthylene	mg/kg dry	<0.510	<45.4	<4.43	<0.741	<8.11
Anthracene	mg/kg dry	<0.510	<45.4	<4.43	<0.741	<8.11
Benzo(a)anthracene	mg/kg dry	<0.510	<45.4	<4.43	**0.799**	<8.11
Benzo(a)pyrene	mg/kg dry	**0.488**	<22.7	<2.22	**1.46**	<4.07
Benzo(b)fluoranthene	mg/kg dry	**0.743**	<45.4	<4.43	**2.38**	<8.11
Benzo(g,h,i)perylene	mg/kg dry	<0.510	<45.4	<4.43	<0.741	<8.11
Benzo(k)fluoranthene	mg/kg dry	<0.510	<45.4	<4.43	**1.43**	<8.11
bis(2-Ethylhexyl)phthalate	mg/kg dry	**31.8**	**7320**	**534**	**6190**	**4280**
Butylbenzylphthalate	mg/kg dry	<0.510	<45.4	<4.43	**2.03**	**118**
Carbazole	mg/kg dry	<0.510	<45.4	<4.43	<0.741	<8.11
Chrysene	mg/kg dry	**0.44**	<22.7	<2.22	**1.79**	<4.07
Dibenzo(a,h)Anthracene	mg/kg dry	<0.256	<22.7	<2.22	<0.371	<4.07
Dibenzofuran	mg/kg dry	<0.510	<45.4	<4.43	<0.741	<8.11
Diethylphthalate	mg/kg dry	<0.510	<45.4	<4.43	<0.741	<8.11
Dimethylphthalate	mg/kg dry	<0.510	<45.4	<4.43	<0.741	<8.11
Di-n-butylphthalate	mg/kg dry	<0.510	<45.4	<4.43	<0.741	<8.11
Di-n-octylphthalate	mg/kg dry	**1.45**	**1420**	**5.15**	**156**	**1080**
Fluoranthene	mg/kg dry	**0.868**	<45.4	<4.43	**2.56**	<8.11
Fluorene	mg/kg dry	<0.510	<45.4	<4.43	<0.741	<8.11
Hexachlorobenzene	mg/kg dry	<0.510	<45.4	<4.43	<0.741	<8.11
Hexachlorocyclopentadiene	mg/kg dry	<2.56	<227	<22.2	<3.71	<40.7
Indeno(1,2,3-cd)Pyrene	mg/kg dry	<0.510	<45.4	<4.43	<0.741	<8.11
Naphthalene	mg/kg dry	<0.510	<45.4	<4.43	**2.55**	**713**
Phenanthrene	mg/kg dry	<0.510	<45.4	<4.43	**1.24**	<8.11
Phenol	mg/kg dry	<0.510	<45.4	<4.43	<0.741	<8.11
Pyrene	mg/kg dry	**0.884**	<45.4	<4.43	**2.19**	<8.11
2-Methylnaphthalene	mg/kg dry	<0.063	<0.114	<0.107	**0.104**	**0.543**
Acenaphthene	mg/kg dry	<0.063	<0.114	<0.107	**0.126**	<0.485
Acenaphthylene	mg/kg dry	<0.063	<0.114	<0.107	**0.152**	<0.485
Anthracene	mg/kg dry	**0.145**	<0.114	**0.119**	**0.296**	<0.485
Benzo(a)anthracene	mg/kg dry	**0.315**	**0.119**	**0.282**	**0.204**	**1.03**
Benzo(a)pyrene	mg/kg dry	**0.32**	<0.114	**0.346**	**0.619**	<0.485
Benzo(b)fluoranthene	mg/kg dry	**0.408**	**0.197**	**0.444**	**0.974**	**1.22**
Benzo(g,h,i)perylene	mg/kg dry	**0.21**	<0.114	**0.29**	**0.541**	<0.485
Benzo(k)fluoranthene	mg/kg dry	**0.115**	<0.114	**0.171**	**0.341**	**1.38**
Chrysene	mg/kg dry	**0.313**	**0.201**	**0.35**	**0.611**	**2.06**
Dibenzo(a,h)Anthracene	mg/kg dry	<0.063	<0.114	**0.196**	**0.156**	<0.485
Fluoranthene	mg/kg dry	**0.633**	**0.512**	**0.538**	**0.908**	**1.94**
Fluorene	mg/kg dry	<0.063	<0.114	<0.107	**0.185**	<0.485
Indeno(1,2,3-cd)Pyrene	mg/kg dry	**0.23**	<0.114	**0.346**	**0.578**	<0.485
Naphthalene	mg/kg dry	**0.07**	**0.599**	**0.145**	**0.6**	**26.4**
Phenanthrene	mg/kg dry	**0.438**	**0.384**	**0.341**	**0.833**	**0.989**
Pyrene	mg/kg dry	**0.541**	**0.416**	**0.525**	**0.915**	**0.834**
Total Organic Carbon	mg/kg	**18600**	**-**	**58700**	**-**	**-**
C11-C22 Aromatics1,2	mg/kg dry	**147**	**6430**	**433**	**1850**	**2000**
C11-C22 Unadjusted Aromatics1	mg/kg dry	**147**	**6430**	**446**	**1850**	**2070**
C19-C36 Aliphatics1	mg/kg dry	**117**	**111**	**721**	**798**	**284**
C9-C18 Aliphatics1	mg/kg dry	<38.5	**975**	**81.6**	**263**	**1510**
Antimony	mg/kg dry	**2.6**	<1.4	<2.5	**3.2**	**2.5**
Arsenic	mg/kg dry	**75.4**	**31.1**	**57.3**	**70.8**	**32.1**
Barium	mg/kg dry	**73.6**	**48.5**	**97.6**	**84.2**	**62.5**
Beryllium	mg/kg dry	<0.31	<0.28	**0.79**	**0.54**	<0.51
Cadmium	mg/kg dry	**1.8**	<1.35	<2.48	**2.6**	<2.43
Chromium	mg/kg dry	**28.2**	**29.5**	**106**	**84.7**	**33.7**
Lead	mg/kg dry	**163**	**117**	**336**	**337**	**135**
Mercury	mg/kg dry	**0.274**	**0.159**	**0.803**	**1.08**	**0.533**
Nickel	mg/kg dry	**13.8**	**11.5**	**34.9**	**41.5**	**17**
Selenium	mg/kg dry	**2.19**	**2.18**	**3.08**	**3.79**	<2.43
Silver	mg/kg dry	**5.58**	**3.75**	**4.4**	**5.02**	**2.75**
Thallium	mg/kg dry	<1.49	<1.35	<2.48	<2.16	<2.43
Vanadium	mg/kg dry	**51.4**	**62.4**	**109**	**180**	**112**
Zinc	mg/kg dry	**884**	**297**	**648**	**611**	**321**

Wynn Resort Casino
Everett, Massachusetts

Analyte	Sample No. / Sample Date: / Sample Time: / ClientSample: / Units	1308109-17 08/05/2013 14:25 GZ-LC4 4-6ft	1308109-18 08/05/2013 14:50 GZ-LC5 0-0_5ft	1308109-19 08/05/2013 14:50 GZ-LC5 2-4ft	1308109-20 08/05/2013 15:05 GZ-LC6 0-0_5ft	1308110-01 08/05/2013 15:05 GZ-LC6 2-4ft
Aroclor 1016	mg/kg dry	<2.08	<0.166	<0.0944	<0.147	<0.0901
Aroclor 1221	mg/kg dry	<2.08	<0.166	<0.0944	<0.147	<0.0901
Aroclor 1232	mg/kg dry	<2.08	<0.166	<0.0944	<0.147	<0.0901
Aroclor 1242	mg/kg dry	<2.08	<0.166	<0.0944	<0.147	<0.0901
Aroclor 1248	mg/kg dry	**20.9**	<0.166	**1.12**	**0.386**	**1.19**
Aroclor 1254	mg/kg dry	**29.5**	**0.915**	**1.21**	**0.767**	**1.45**
Aroclor 1260	mg/kg dry	<2.08	**1.01**	**0.924**	**0.749**	**1.21**
Aroclor 1262	mg/kg dry	<2.08	<0.166	<0.0944	<0.147	<0.0901
Aroclor 1268	mg/kg dry	<2.08	<0.166	<0.0944	<0.147	<0.0901
1,2,4-Trichlorobenzene	mg/kg dry	<13.2	<1.59	<0.905	<1.40	<1.16
1,2-Dichlorobenzene	mg/kg dry	<13.2	<1.59	<0.905	<1.40	<1.16
1,3-Dichlorobenzene	mg/kg dry	<13.2	<1.59	<0.905	<1.40	<1.16
1,4-Dichlorobenzene	mg/kg dry	<13.2	<1.59	<0.905	<1.40	<1.16
2-Methylnaphthalene	mg/kg dry	<13.2	<1.59	<0.905	<1.40	<1.16
2-Methylphenol	mg/kg dry	<13.2	<1.59	<0.905	<1.40	<1.16
Acenaphthene	mg/kg dry	<13.2	<1.59	<0.905	<1.40	<1.16
Acenaphthylene	mg/kg dry	<13.2	<1.59	<0.905	<1.40	<1.16
Anthracene	mg/kg dry	<13.2	<1.59	<0.905	<1.40	<1.16
Benzo(a)anthracene	mg/kg dry	<13.2	**1.64**	**1.19**	<1.40	<1.16
Benzo(a)pyrene	mg/kg dry	<6.60	**1.8**	**1.04**	**1.49**	<0.580
Benzo(b)fluoranthene	mg/kg dry	<13.2	**2.6**	**1.3**	**2.35**	<1.16
Benzo(g,h,i)perylene	mg/kg dry	<13.2	<1.59	<0.905	<1.40	<1.16
Benzo(k)fluoranthene	mg/kg dry	<13.2	<1.59	<0.905	<1.40	<1.16
bis(2-Ethylhexyl)phthalate	mg/kg dry	**15400**	**85.2**	**408**	**27.1**	**39.9**
Butylbenzylphthalate	mg/kg dry	**14.3**	<1.59	<0.905	<1.40	<1.16
Carbazole	mg/kg dry	<13.2	<1.59	<0.905	<1.40	<1.16
Chrysene	mg/kg dry	<6.60	**1.76**	**1.48**	**1.65**	<0.580
Dibenzo(a,h)Anthracene	mg/kg dry	<6.60	<0.796	<0.454	<0.704	<0.580
Dibenzofuran	mg/kg dry	<13.2	<1.59	<0.905	<1.40	<1.16
Diethylphthalate	mg/kg dry	<13.2	<1.59	<0.905	<1.40	<1.16
Dimethylphthalate	mg/kg dry	<13.2	<1.59	<0.905	<1.40	<1.16
Di-n-butylphthalate	mg/kg dry	<13.2	<1.59	<0.905	<1.40	<1.16
Di-n-octylphthalate	mg/kg dry	**4370**	<1.59	**5.02**	<1.40	<1.16
Fluoranthene	mg/kg dry	<13.2	**3.59**	**2.63**	**3.55**	<1.16
Fluorene	mg/kg dry	<13.2	<1.59	<0.905	<1.40	<1.16
Hexachlorobenzene	mg/kg dry	<13.2	<1.59	<0.905	<1.40	<1.16
Hexachlorocyclopentadiene	mg/kg dry	<66.0	<7.96	<4.54	<7.04	<5.80
Indeno(1,2,3-cd)Pyrene	mg/kg dry	<13.2	<1.59	<0.905	<1.40	<1.16
Naphthalene	mg/kg dry	<13.2	**1.85**	**1.22**	<1.40	<1.16
Phenanthrene	mg/kg dry	<13.2	<1.59	<0.905	<1.40	<1.16
Phenol	mg/kg dry	<13.2	<1.59	<0.905	<1.40	<1.16
Pyrene	mg/kg dry	<13.2	**3**	**2.52**	**2.9**	<1.16
2-Methylnaphthalene	mg/kg dry	**0.372**	<0.524	<0.149	<0.238	<0.144
Acenaphthene	mg/kg dry	<0.169	<0.524	<0.149	<0.238	<0.144
Acenaphthylene	mg/kg dry	<0.169	<0.524	<0.149	<0.238	**0.19**
Anthracene	mg/kg dry	<0.169	<0.524	**0.196**	<0.238	**0.195**
Benzo(a)anthracene	mg/kg dry	<0.169	**0.535**	**0.25**	**0.647**	**0.322**
Benzo(a)pyrene	mg/kg dry	<0.169	**0.66**	**0.256**	**0.923**	**0.351**
Benzo(b)fluoranthene	mg/kg dry	**0.169**	**0.933**	**0.309**	**1.45**	**0.437**
Benzo(g,h,i)perylene	mg/kg dry	<0.169	**0.619**	**0.238**	**0.904**	**0.299**
Benzo(k)fluoranthene	mg/kg dry	<0.169	<0.524	<0.149	**0.4**	**0.149**
Chrysene	mg/kg dry	**0.203**	**0.629**	**0.303**	**0.933**	**0.379**
Dibenzo(a,h)Anthracene	mg/kg dry	<0.169	<0.524	<0.149	**0.657**	<0.144
Fluoranthene	mg/kg dry	**0.298**	**1.01**	**0.487**	**1.52**	**0.546**
Fluorene	mg/kg dry	**0.169**	<0.524	<0.149	<0.238	<0.144
Indeno(1,2,3-cd)Pyrene	mg/kg dry	<0.169	**0.65**	**0.202**	**0.923**	**0.253**
Naphthalene	mg/kg dry	**4.37**	**0.608**	**0.262**	<0.238	**0.425**
Phenanthrene	mg/kg dry	**0.379**	<0.524	**0.22**	**0.39**	**0.184**
Pyrene	mg/kg dry	**0.264**	**1.04**	**0.612**	**1.32**	**0.736**
Total Organic Carbon	mg/kg	**-**	**150000**	**-**	**155000**	**-**
C11-C22 Aromatics1,2	mg/kg dry	<521	**583**	**875**	**498**	**617**
C11-C22 Unadjusted Aromatics1	mg/kg dry	<521	**583**	**875**	**503**	**617**
C19-C36 Aliphatics1	mg/kg dry	<521	**1130**	**1110**	**950**	**1010**
C9-C18 Aliphatics1	mg/kg dry	**3090**	<160	**286**	<147	**247**
Antimony	mg/kg dry	<4.0	<6.3	<3.4	<5.7	<3.5
Arsenic	mg/kg dry	**10.4**	**19.6**	**27**	**18.2**	**42.8**
Barium	mg/kg dry	**55.4**	**84.9**	**86.9**	**91.1**	**96.5**
Beryllium	mg/kg dry	**0.25**	**1.06**	**0.91**	**1.05**	**0.8**
Cadmium	mg/kg dry	**1.48**	**4.51**	**5.91**	**4.21**	**5.34**
Chromium	mg/kg dry	**60.3**	**92.5**	**128**	**96.2**	**141**
Lead	mg/kg dry	**180**	**326**	**391**	**312**	**473**
Mercury	mg/kg dry	**0.695**	**1.05**	**0.914**	**0.911**	**1.27**
Nickel	mg/kg dry	**17.8**	**36.1**	**48.2**	**32.7**	**53.3**
Selenium	mg/kg dry	<3.98	<6.27	<3.38	<5.68	<3.46
Silver	mg/kg dry	**1.41**	**1.92**	**1.77**	**1.73**	**2.31**
Thallium	mg/kg dry	<3.98	<6.27	<3.38	<5.68	<3.46
Vanadium	mg/kg dry	**159**	**77.1**	**94.2**	**65.6**	**106**
Zinc	mg/kg dry	<4.0	**672**	**1200**	**726**	**1290**

Wynn Resort Casino
Everett, Massachusetts

Analyte	Sample No. / Sample Date: / Sample Time: / ClientSample: / Units	1308110-02 08/05/2013 15:15 GZ-LC7 0-0_5ft	1308110-03 08/05/2013 15:15 GZ-LC7 2-4ft	1308110-04 08/05/2013 15:15 GZ-LC7 4-5ft4in	1308110-05 08/05/2013 15:25 GZ-LC8 0-0_5ft	1308110-06 08/05/2013 15:25 GZ-LC8 2-4ft
Aroclor 1016	mg/kg dry	<0.156	<0.0979	<0.0649	<0.165	<0.110
Aroclor 1221	mg/kg dry	<0.156	<0.0979	<0.0649	<0.165	<0.110
Aroclor 1232	mg/kg dry	<0.156	<0.0979	<0.0649	<0.165	<0.110
Aroclor 1242	mg/kg dry	<0.156	**7.76**	<0.0649	<0.165	<0.110
Aroclor 1248	mg/kg dry	**0.341**	<0.0979	**2.33**	**0.434**	**1.41**
Aroclor 1254	mg/kg dry	**0.826**	**3.79**	**2.06**	**0.74**	**1.71**
Aroclor 1260	mg/kg dry	**0.864**	**1.38**	**0.728**	**0.644**	**1.31**
Aroclor 1262	mg/kg dry	<0.156	<0.0979	<0.0649	<0.165	<0.110
Aroclor 1268	mg/kg dry	<0.156	<0.0979	<0.0649	<0.165	<0.110
1,2,4-Trichlorobenzene	mg/kg dry	<1.50	<1.25	<0.829	<2.07	<1.41
1,2-Dichlorobenzene	mg/kg dry	<1.50	<1.25	<0.829	<2.07	<1.41
1,3-Dichlorobenzene	mg/kg dry	<1.50	<1.25	<0.829	<2.07	<1.41
1,4-Dichlorobenzene	mg/kg dry	<1.50	<1.25	<0.829	<2.07	<1.41
2-Methylnaphthalene	mg/kg dry	<1.50	<1.25	<0.829	<2.07	<1.41
2-Methylphenol	mg/kg dry	<1.50	<1.25	<0.829	<2.07	<1.41
Acenaphthene	mg/kg dry	<1.50	<1.25	<0.829	<2.07	<1.41
Acenaphthylene	mg/kg dry	<1.50	<1.25	**1.15**	<2.07	<1.41
Anthracene	mg/kg dry	<1.50	<1.25	**1.19**	<2.07	<1.41
Benzo(a)anthracene	mg/kg dry	**2.02**	**3.42**	**3**	**2.39**	<1.41
Benzo(a)pyrene	mg/kg dry	**2.34**	**2.59**	**2.91**	**2.92**	**1.16**
Benzo(b)fluoranthene	mg/kg dry	**4.1**	**3.05**	**3.11**	**4.6**	**1.46**
Benzo(g,h,i)perylene	mg/kg dry	<1.50	<1.25	**1.58**	**2.87**	<1.41
Benzo(k)fluoranthene	mg/kg dry	**1.79**	**1.7**	**1.29**	<2.07	<1.41
bis(2-Ethylhexyl)phthalate	mg/kg dry	**32.8**	**689**	**417**	**32.4**	**173**
Butylbenzylphthalate	mg/kg dry	<1.50	<1.25	<0.829	<2.07	<1.41
Carbazole	mg/kg dry	<1.50	<1.25	<0.829	<2.07	<1.41
Chrysene	mg/kg dry	**2.57**	**3.47**	**3.56**	**4.03**	**1.49**
Dibenzo(a,h)Anthracene	mg/kg dry	<0.751	<0.626	**0.736**	**1.37**	<0.708
Dibenzofuran	mg/kg dry	<1.50	<1.25	<0.829	<2.07	<1.41
Diethylphthalate	mg/kg dry	<1.50	<1.25	<0.829	<2.07	<1.41
Dimethylphthalate	mg/kg dry	<1.50	<1.25	<0.829	<2.07	<1.41
Di-n-butylphthalate	mg/kg dry	<1.50	<1.25	<0.829	<2.07	<1.41
Di-n-octylphthalate	mg/kg dry	<1.50	**6.29**	**6.86**	<2.07	**1.52**
Fluoranthene	mg/kg dry	**5.09**	**6.45**	**5.97**	**8.07**	**2.39**
Fluorene	mg/kg dry	<1.50	<1.25	<0.829	<2.07	<1.41
Hexachlorobenzene	mg/kg dry	<1.50	<1.25	<0.829	<2.07	<1.41
Hexachlorocyclopentadiene	mg/kg dry	<7.51	<6.26	<4.16	<10.4	<7.08
Indeno(1,2,3-cd)Pyrene	mg/kg dry	<1.50	<1.25	**1.14**	**2.18**	<1.41
Naphthalene	mg/kg dry	<1.50	**1.37**	**0.879**	<2.07	<1.41
Phenanthrene	mg/kg dry	<1.50	**1.97**	**1.78**	<2.07	<1.41
Phenol	mg/kg dry	<1.50	<1.25	<0.829	<2.07	<1.41
Pyrene	mg/kg dry	**3.72**	**7.58**	**6.31**	**6.01**	**2.54**
2-Methylnaphthalene	mg/kg dry	<0.245	<0.154	**0.221**	<0.256	<0.177
Acenaphthene	mg/kg dry	<0.245	<0.154	**0.172**	<0.256	<0.177
Acenaphthylene	mg/kg dry	**0.274**	**0.277**	**0.832**	**0.767**	**0.304**
Anthracene	mg/kg dry	**0.255**	**0.339**	**0.844**	**0.829**	**0.325**
Benzo(a)anthracene	mg/kg dry	**0.686**	**0.549**	**1.65**	**3.08**	**0.551**
Benzo(a)pyrene	mg/kg dry	**0.98**	**0.653**	**1.63**	**4.18**	**0.692**
Benzo(b)fluoranthene	mg/kg dry	**1.48**	**0.752**	**2.2**	**6.51**	**0.953**
Benzo(g,h,i)perylene	mg/kg dry	**0.99**	**0.505**	**1.03**	**3.14**	**0.523**
Benzo(k)fluoranthene	mg/kg dry	**0.431**	**0.37**	**0.709**	**2.36**	**0.297**
Chrysene	mg/kg dry	**0.951**	**0.659**	**1.76**	**4.63**	**0.741**
Dibenzo(a,h)Anthracene	mg/kg dry	<0.245	<0.154	**0.34**	**0.829**	<0.177
Fluoranthene	mg/kg dry	**1.48**	**0.998**	**2.68**	**7.49**	**1.07**
Fluorene	mg/kg dry	<0.245	<0.154	**0.197**	<0.256	<0.177
Indeno(1,2,3-cd)Pyrene	mg/kg dry	**1**	**0.487**	**1.13**	**3.56**	**0.508**
Naphthalene	mg/kg dry	**0.245**	**0.376**	**0.836**	**0.389**	**0.346**
Phenanthrene	mg/kg dry	**0.402**	**0.419**	**0.84**	**1.52**	**0.417**
Pyrene	mg/kg dry	**1.36**	**1.2**	**3.48**	**6.59**	**1.25**
Total Organic Carbon	mg/kg	**160000**	**-**	**-**	**163000**	**105000**
C11-C22 Aromatics1,2	mg/kg dry	**317**	**643**	**1330**	**457**	**398**
C11-C22 Unadjusted Aromatics1	mg/kg dry	**317**	**643**	**1350**	**475**	**398**
C19-C36 Aliphatics1	mg/kg dry	**646**	**1130**	**944**	**1050**	**665**
C9-C18 Aliphatics1	mg/kg dry	<150	**182**	**458**	<162	**124**
Antimony	mg/kg dry	<5.9	<3.7	<2.3	<6.4	<4.1
Arsenic	mg/kg dry	**30.4**	**33**	**48.4**	**32.7**	**39.6**
Barium	mg/kg dry	**83**	**92.9**	**101**	**101**	**96.3**
Beryllium	mg/kg dry	**0.8**	**0.84**	**0.69**	**0.97**	**0.99**
Cadmium	mg/kg dry	**3.37**	**4.47**	**4.28**	**3.53**	**5.35**
Chromium	mg/kg dry	**89.8**	**109**	**96.4**	**96.7**	**153**
Lead	mg/kg dry	**321**	**415**	**318**	**362**	**554**
Mercury	mg/kg dry	**0.972**	**1.85**	**1.4**	**1.05**	**1.52**
Nickel	mg/kg dry	**31.6**	**43.1**	**23.3**	**33**	**60.7**
Selenium	mg/kg dry	<5.89	<3.69	**2.39**	<6.37	<4.11
Silver	mg/kg dry	**1.82**	**2.31**	**2.1**	**1.96**	**2.68**
Thallium	mg/kg dry	<5.89	<3.69	<2.34	<6.37	<4.11
Vanadium	mg/kg dry	**63.1**	**87.7**	**86.6**	**74.3**	**114**
Zinc	mg/kg dry	**743**	**854**	**743**	**884**	**1640**

Wynn Resort Casino
Everett, Massachusetts

Analyte	Sample No. / Sample Date: / Sample Time: / ClientSample: / Units	1308110-07 08/05/2013 15:25 GZ-LC8 4-6ft	1308110-08 08/05/2013 15:25 GZ-LC8 6-7ft3in	1308110-09 08/05/2013 15:35 GZ-LC9 0-0_5ft	1308110-10 08/05/2013 15:35 GZ-LC9 2-4ft	1308110-11 08/05/2013 15:35 GZ-LC9 4-5ft2in
Aroclor 1016	mg/kg dry	<0.0565	<0.0350	<0.154	<0.0899	<0.0524
Aroclor 1221	mg/kg dry	<0.0565	<0.0350	<0.154	<0.0899	<0.0524
Aroclor 1232	mg/kg dry	<0.0565	<0.0350	<0.154	<0.0899	<0.0524
Aroclor 1242	mg/kg dry	<0.0565	<0.0350	<0.154	<0.0899	<0.0524
Aroclor 1248	mg/kg dry	**2.75**	<0.0350	**0.319**	**3.4**	**1.25**
Aroclor 1254	mg/kg dry	**1.01**	<0.0350	**0.732**	**2.74**	**1.41**
Aroclor 1260	mg/kg dry	**0.449**	<0.0350	**0.672**	**1.09**	**0.456**
Aroclor 1262	mg/kg dry	<0.0565	<0.0350	<0.154	<0.0899	<0.0524
Aroclor 1268	mg/kg dry	<0.0565	<0.0350	<0.154	<0.0899	<0.0524
1,2,4-Trichlorobenzene	mg/kg dry	<0.710	<0.436	<1.96	<1.17	<0.654
1,2-Dichlorobenzene	mg/kg dry	<0.710	<0.436	<1.96	<1.17	<0.654
1,3-Dichlorobenzene	mg/kg dry	<0.710	<0.436	<1.96	<1.17	<0.654
1,4-Dichlorobenzene	mg/kg dry	<0.710	<0.436	<1.96	<1.17	<0.654
2-Methylnaphthalene	mg/kg dry	<0.710	<0.436	<1.96	<1.17	<0.654
2-Methylphenol	mg/kg dry	<0.710	<0.436	<1.96	<1.17	<0.654
Acenaphthene	mg/kg dry	<0.710	<0.436	<1.96	<1.17	<0.654
Acenaphthylene	mg/kg dry	**0.93**	<0.436	<1.96	<1.17	<0.654
Anthracene	mg/kg dry	<0.710	<0.436	<1.96	<1.17	<0.654
Benzo(a)anthracene	mg/kg dry	**1.55**	<0.436	<1.96	<1.17	**1.29**
Benzo(a)pyrene	mg/kg dry	**1.22**	<0.219	**1.61**	<0.585	**1.14**
Benzo(b)fluoranthene	mg/kg dry	**1.43**	<0.436	**3.2**	<1.17	**1.34**
Benzo(g,h,i)perylene	mg/kg dry	<0.710	<0.436	<1.96	<1.17	<0.654
Benzo(k)fluoranthene	mg/kg dry	<0.710	<0.436	**3.71**	<1.17	<0.654
bis(2-Ethylhexyl)phthalate	mg/kg dry	**344**	**55**	**21.5**	**102**	**232**
Butylbenzylphthalate	mg/kg dry	<0.710	<0.436	<1.96	<1.17	<0.654
Carbazole	mg/kg dry	<0.710	<0.436	<1.96	<1.17	<0.654
Chrysene	mg/kg dry	**1.91**	<0.219	**2.07**	<0.585	**1.35**
Dibenzo(a,h)Anthracene	mg/kg dry	<0.356	<0.219	<0.985	<0.585	<0.328
Dibenzofuran	mg/kg dry	<0.710	<0.436	<1.96	<1.17	<0.654
Diethylphthalate	mg/kg dry	<0.710	<0.436	<1.96	<1.17	<0.654
Dimethylphthalate	mg/kg dry	<0.710	<0.436	<1.96	<1.17	<0.654
Di-n-butylphthalate	mg/kg dry	<0.710	<0.436	<1.96	<1.17	<0.654
Di-n-octylphthalate	mg/kg dry	**5.17**	**0.632**	<1.96	**1.29**	**3.17**
Fluoranthene	mg/kg dry	**3**	<0.436	**3.43**	<1.17	**2.61**
Fluorene	mg/kg dry	<0.710	<0.436	<1.96	<1.17	<0.654
Hexachlorobenzene	mg/kg dry	<0.710	<0.436	<1.96	<1.17	<0.654
Hexachlorocyclopentadiene	mg/kg dry	<3.56	<2.19	<9.85	<5.85	<3.28
Indeno(1,2,3-cd)Pyrene	mg/kg dry	<0.710	<0.436	<1.96	<1.17	<0.654
Naphthalene	mg/kg dry	<0.710	<0.436	<1.96	<1.17	**0.702**
Phenanthrene	mg/kg dry	<0.710	<0.436	<1.96	<1.17	<0.654
Phenol	mg/kg dry	<0.710	<0.436	<1.96	<1.17	<0.654
Pyrene	mg/kg dry	**2.99**	<0.436	**2.5**	<1.17	**2.68**
2-Methylnaphthalene	mg/kg dry	<0.089	<0.011	<0.238	<0.143	<0.083
Acenaphthene	mg/kg dry	<0.089	<0.011	<0.238	<0.143	<0.083
Acenaphthylene	mg/kg dry	**0.222**	<0.011	**0.638**	**0.332**	**0.318**
Anthracene	mg/kg dry	**0.186**	<0.011	**0.59**	**0.378**	**0.325**
Benzo(a)anthracene	mg/kg dry	**0.34**	**0.012**	**1.66**	**0.578**	**0.554**
Benzo(a)pyrene	mg/kg dry	**0.386**	**0.012**	**2.37**	**0.629**	**0.557**
Benzo(b)fluoranthene	mg/kg dry	**0.436**	**0.013**	**3.82**	**0.778**	**0.663**
Benzo(g,h,i)perylene	mg/kg dry	**0.218**	<0.011	**1.79**	**0.429**	**0.292**
Benzo(k)fluoranthene	mg/kg dry	**0.125**	<0.011	**1.05**	**0.257**	**0.196**
Chrysene	mg/kg dry	**0.379**	**0.013**	**2.5**	**0.704**	**0.62**
Dibenzo(a,h)Anthracene	mg/kg dry	<0.089	<0.011	**0.476**	<0.143	**0.093**
Fluoranthene	mg/kg dry	**0.55**	**0.021**	**3.79**	**1.07**	**0.948**
Fluorene	mg/kg dry	<0.089	<0.011	<0.238	<0.143	<0.083
Indeno(1,2,3-cd)Pyrene	mg/kg dry	**0.222**	<0.011	**2.02**	**0.389**	**0.308**
Naphthalene	mg/kg dry	**0.264**	**0.013**	**0.438**	**0.349**	**0.288**
Phenanthrene	mg/kg dry	**0.193**	<0.011	**0.905**	**0.389**	**0.312**
Pyrene	mg/kg dry	**0.765**	**0.027**	**3.63**	**1.46**	**1.22**
Total Organic Carbon	mg/kg	**-**	**-**	**145000**	**-**	**-**
C11-C22 Aromatics1,2	mg/kg dry	**368**	<33.8	**403**	**1350**	**872**
C11-C22 Unadjusted Aromatics1	mg/kg dry	**368**	<33.8	**403**	**1370**	**887**
C19-C36 Aliphatics1	mg/kg dry	**296**	<33.8	**755**	**1730**	**658**
C9-C18 Aliphatics1	mg/kg dry	**132**	<33.8	<153	**557**	**309**
Antimony	mg/kg dry	<2.2	<1.3	<6.0	<3.5	<1.9
Arsenic	mg/kg dry	**29.2**	**10.8**	**33.6**	**52.6**	**36.4**
Barium	mg/kg dry	**66.1**	**25.6**	**92.7**	**119**	**78.4**
Beryllium	mg/kg dry	**0.56**	**0.31**	**0.85**	**0.86**	**0.6**
Cadmium	mg/kg dry	**4.83**	**0.47**	**3.47**	**6.01**	**2.89**
Chromium	mg/kg dry	**93.9**	**24.4**	**90.6**	**137**	**79**
Lead	mg/kg dry	**260**	**39.2**	**341**	**403**	**232**
Mercury	mg/kg dry	**1.01**	<0.018	**1**	**1.63**	**0.971**
Nickel	mg/kg dry	**30.6**	**10.3**	**32.2**	**40.1**	**20.6**
Selenium	mg/kg dry	<2.20	<1.27	<6.05	<3.49	<1.88
Silver	mg/kg dry	**1.55**	**0.45**	**1.85**	**2.66**	**1.66**
Thallium	mg/kg dry	<2.20	<1.27	<6.05	<3.49	<1.88
Vanadium	mg/kg dry	**74.8**	**28.5**	**68.3**	**122**	**75.2**
Zinc	mg/kg dry	**1440**	**99.9**	**804**	**1720**	**483**

Wynn Resort Casino
Everett, Massachusetts

Analyte	Sample No. Sample Date: Sample Time: ClientSample: Units	1308110-12 08/05/2013 15:45 GZ-LC10 0-0_5ft	1308110-13 08/05/2013 15:45 GZ-LC10 2-4ft
Aroclor 1016	mg/kg dry	<0.0955	<0.0356
Aroclor 1221	mg/kg dry	<0.0955	<0.0356
Aroclor 1232	mg/kg dry	<0.0955	<0.0356
Aroclor 1242	mg/kg dry	<0.0955	<0.0356
Aroclor 1248	mg/kg dry	**0.391**	<0.0356
Aroclor 1254	mg/kg dry	**0.67**	<0.0356
Aroclor 1260	mg/kg dry	**0.608**	<0.0356
Aroclor 1262	mg/kg dry	<0.0955	<0.0356
Aroclor 1268	mg/kg dry	<0.0955	<0.0356
1,2,4-Trichlorobenzene	mg/kg dry	<1.16	<0.446
1,2-Dichlorobenzene	mg/kg dry	<1.16	<0.446
1,3-Dichlorobenzene	mg/kg dry	<1.16	<0.446
1,4-Dichlorobenzene	mg/kg dry	<1.16	<0.446
2-Methylnaphthalene	mg/kg dry	<1.16	<0.446
2-Methylphenol	mg/kg dry	<1.16	<0.446
Acenaphthene	mg/kg dry	<1.16	<0.446
Acenaphthylene	mg/kg dry	<1.16	<0.446
Anthracene	mg/kg dry	<1.16	<0.446
Benzo(a)anthracene	mg/kg dry	<1.16	<0.446
Benzo(a)pyrene	mg/kg dry	**1.54**	<0.224
Benzo(b)fluoranthene	mg/kg dry	**2.54**	<0.446
Benzo(g,h,i)perylene	mg/kg dry	**1.24**	<0.446
Benzo(k)fluoranthene	mg/kg dry	<1.16	<0.446
bis(2-Ethylhexyl)phthalate	mg/kg dry	**27.2**	<0.446
Butylbenzylphthalate	mg/kg dry	<1.16	<0.446
Carbazole	mg/kg dry	<1.16	<0.446
Chrysene	mg/kg dry	**1.54**	<0.224
Dibenzo(a,h)Anthracene	mg/kg dry	<0.580	<0.224
Dibenzofuran	mg/kg dry	<1.16	<0.446
Diethylphthalate	mg/kg dry	<1.16	<0.446
Dimethylphthalate	mg/kg dry	<1.16	<0.446
Di-n-butylphthalate	mg/kg dry	<1.16	<0.446
Di-n-octylphthalate	mg/kg dry	<1.16	<0.446
Fluoranthene	mg/kg dry	**1.81**	<0.446
Fluorene	mg/kg dry	<1.16	<0.446
Hexachlorobenzene	mg/kg dry	<1.16	<0.446
Hexachlorocyclopentadiene	mg/kg dry	<5.80	<2.24
Indeno(1,2,3-cd)Pyrene	mg/kg dry	<1.16	<0.446
Naphthalene	mg/kg dry	<1.16	<0.446
Phenanthrene	mg/kg dry	<1.16	<0.446
Phenol	mg/kg dry	<1.16	<0.446
Pyrene	mg/kg dry	**2.06**	<0.446
2-Methylnaphthalene	mg/kg dry	<0.147	<0.012
Acenaphthene	mg/kg dry	<0.147	<0.012
Acenaphthylene	mg/kg dry	**0.593**	<0.012
Anthracene	mg/kg dry	**0.452**	<0.012
Benzo(a)anthracene	mg/kg dry	**0.886**	<0.012
Benzo(a)pyrene	mg/kg dry	**1.26**	<0.012
Benzo(b)fluoranthene	mg/kg dry	**1.86**	<0.012
Benzo(g,h,i)perylene	mg/kg dry	**0.915**	<0.012
Benzo(k)fluoranthene	mg/kg dry	**0.499**	<0.012
Chrysene	mg/kg dry	**1.17**	<0.012
Dibenzo(a,h)Anthracene	mg/kg dry	**0.252**	<0.012
Fluoranthene	mg/kg dry	**1.63**	<0.012
Fluorene	mg/kg dry	<0.147	<0.012
Indeno(1,2,3-cd)Pyrene	mg/kg dry	**0.962**	<0.012
Naphthalene	mg/kg dry	**0.464**	<0.012
Phenanthrene	mg/kg dry	**0.569**	<0.012
Pyrene	mg/kg dry	**1.71**	<0.012
Total Organic Carbon	mg/kg	**111000**	**-**
C11-C22 Aromatics1,2	mg/kg dry	**229**	<34.9
C11-C22 Unadjusted Aromatics1	mg/kg dry	**229**	<34.9
C19-C36 Aliphatics1	mg/kg dry	**390**	<34.9
C9-C18 Aliphatics1	mg/kg dry	<92.7	<34.9
Antimony	mg/kg dry	<3.7	<1.4
Arsenic	mg/kg dry	**27.2**	**4.1**
Barium	mg/kg dry	**77**	**11.1**
Beryllium	mg/kg dry	**0.65**	**0.21**
Cadmium	mg/kg dry	**3.42**	<0.28
Chromium	mg/kg dry	**73.2**	**11.6**
Lead	mg/kg dry	**275**	<2.8
Mercury	mg/kg dry	**0.89**	<0.018
Nickel	mg/kg dry	**31.5**	**6.9**
Selenium	mg/kg dry	<3.66	<1.40
Silver	mg/kg dry	**1.62**	<0.28
Thallium	mg/kg dry	<3.66	<1.40
Vanadium	mg/kg dry	**58.4**	**14.7**
Zinc	mg/kg dry	**709**	**21**

APPENDIX F

TOXICITY TEST REPORTS



New England Bioassay
a Division of GZA GeoEnvironmental, Inc.

77 Batson Drive
Manchester, CT
06042
860-643-9560
FAX 860-646-7169

28-DAY TOXICITY TESTS WITH THE AMPHIPOD, LEPTOCHEIRUS PLUMULOSUS, USING WHOLE-SEDIMENT SAMPLES COLLECTED ON AUGUST 6, 2013 FROM THE WYNN MA, LLC EVERETT STAGING YARD IN EVERETT, MA

October 16, 2013

Performed For:

GZA GeoEnvironmental, Inc.
1 Edgewater Drive
Norwood, MA 02062

Performed by:

New England Bioassay
77 Batson Drive
Manchester, Connecticut 06042

SUMMARY

Client:	GZA GeoEnvironmental, Inc.
Site:	Wynn MA, LLC's staging yard Everett, MA
GZA Job Number:	01.171521.02 Task 6
Test Materials:	Whole Sediment Samples (Estuarine)
Sample Date:	August 6, 2013 (9 Whole Sediment Samples)
Delivery Date:	August 22, 2013
Test Type:	28-day Single Concentration Survival & Growth Toxicity Tests with the Amphipod, *Leptocheirus plumulosus*
Test Endpoint:	28-day survival & growth
Test Dates:	August 28, 2013 – September 25, 2013

New England Bioassay
a Division of GZA GeoEnvironmental, Inc.

77 Batson Drive
Manchester, CT
06042
860-643-9560
FAX 860-646-7169

28-DAY TOXICITY TESTS WITH THE AMPHIPOD, LEPTOCHEIRUS PLUMULOSUS, USING WHOLE-SEDIMENT SAMPLES COLLECTED ON AUGUST 6, 2013 FROM THE WYNN MA, LLC EVERETT STAGING YARD IN EVERETT, MA

October 16, 2013

INTRODUCTION

This report contains results of toxicity tests performed using grab samples of nine estuarine sediments collected on August 6, 2013 from the Wynn MA, LLC's staging yard in Everett, MA. Toxicity tests with the whole sediment samples were conducted by exposing the saltwater amphipod, *Leptocheirus plumulosus*, to each of the nine sediment samples for 28 days in a static-renewal test system. All toxicity test work reported here was performed at New England Bioassay (NEB) in Manchester, CT.

MATERIALS AND METHODS

Sample Collection and Handling

Grab samples of nine estuarine sediments for toxicity screening were collected on August 6, 2013 from the Wynn MA, LLC's staging yard in Everett, MA. The samples were picked up from the GZA office in Norwood, MA and delivered to NEB by NEB courier on August 22, 2013 at 1400 h; the whole sediment samples were then stored refrigerated in their original containers until test set-up. Copies of chain of custody documentation are found in Appendix B.

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Upon receipt at NEB, the sediment samples (1-gallon HDPE plastic containers) were logged into the laboratory (Table 1). The sediment samples were then stored in the dark in a cold room (4° ± 2°C) until testing. Free-standing water found in the original sample containers was used to represent pore water; the pore water was collected and then analyzed for salinity and total ammonia (Attachment 1). Before testing, the nine sediment samples were removed from the cold room and then manually stirred in their original containers to ensure homogeneity.

TABLE 1. DESCRIPTION OF ESTUARINE WHOLE SEDIMENT SAMPLES COLLECTED FROM EVERETT, MA

Sample Description	Sample Date	Sample Type	NEB COC Nos.
	Whole Sediments		
GZ-104T	8/6/13	Grab	C33-3574
GZ-114T	8/6/13	Grab	C33-3575
GZ-116T	8/6/13	Grab	C33-3576
GZ-126T	8/6/13	Grab	C33-3577
GZ-135T	8/6/13	Grab	C33-3578
GZ-137T	8/6/13	Grab	C33-3579
GZ-LC1T	8/6/13	Grab	C33-3580
GZ-LC2T	8/6/13	Grab	C33-3581
GZ-LC3T	8/6/13	Grab	C33-3582

Observations on gross physical characteristics of sediment samples were then made. A description of each sample before test set-up can be found in Attachment 2.

In addition to testing site sediment samples, an artificial control sediment was evaluated as a quality-control check to determine adequacy of organisms and test system. The artificial control sediment was created based on EPA recommendations and consisted of natural sand and composted cow manure (Attachment 3). Control sediments were handled similarly to the site sediments.

After homogenization and characterization, between 2 cm and 5 cm of wet sediment was measured into 1L Pyrex glass beakers; a total of five beakers were prepared in this manner for each site sediment and the control sediment. Remaining sediment from each site was then stored in a cold room at 4° ± 2°.

Overlying water was added to each replicate beaker; gentle aeration of the overlying water was then initiated in all test and control beakers. After settling for about 4 h at the test temperature, aliquots of overlying water were removed from each sediment for total ammonia analysis; about 75% of the test solution was then removed and replaced with fresh overlying water. After test solution renewal, initial water quality measurements were performed; beakers containing the sediment and overlying water were then ready for introduction of test organisms.

Test Organisms

Leptocheirus plumulosus

Leptocheirus plumulosus, (Crustacea, Amphipoda) is an infaunal sediment-burrowing amphipod recommended as a test species for sediment tests (COE/EPA, 1994a, 1994b, 1995, 1998). This species is widely distributed in the estuarine and mesohaline portions of the Atlantic coast. Amphipods required for testing were obtained from an in-house culture. The amphipods were sorted by size through various sieves on August 27th to obtain the size needed for the sediment tests. The tests were initiated by loading 20 amphipods into each of the test and control beakers. A subsample of 40 amphipods was set aside for length measurements (Appendix A).

Test Water

Overlying water used in the whole-sediment toxicity tests was artificial saltwater (ASW) prepared using deionized water and Instant Ocean sea salts to a salinity of 20 ppt ± 2. The water preparation log can be found in Attachment 4.

Test Systems

L. plumulosus Whole-Sediment 28-Day Toxicity Tests

The amphipod toxicity test procedures are primarily based on recommendations in EPA/COE Inland Testing Manual (ITM) guidance documents (1994a; updated 1998); additional EPA guidance was also consulted (1994b, 2001). Immature amphipods were continuously exposed for 28 days under static-renewal conditions to sediment samples from each site. An artificial control sediment was evaluated similarly to the nine site sediments. Immature amphipods were exposed in groups of 20 animals in 1L Pyrex glass beakers containing 2-5 cm of sediment and filled with approximately 825 mls overlying laboratory-prepared saltwater, with five beakers per concentration (100 animals per sediment).

The test beakers for each sediment were placed in a controlled environmental chamber under the ITM specified test conditions (temperature 25° ± 2°C; photoperiod 16 h light and 8 h dark). After adding amphipods to the test chambers, the chambers were loosely covered to reduce evaporation.

All replicates received a change of the overlying water every Monday, Wednesday and Friday until test termination. Beakers were fed 2mls of crushed Tetramin flake three times a week after water renewal. To maintain adequate dissolved oxygen levels in the overlying water during testing, test and control beakers were continuously aerated (single bubble aeration) throughout the 28-day tests. At regular intervals, temperature, dissolved oxygen, pH, and salinity were measured in each sample and control (Appendix A). Samples of overlying water were taken on days 0 and 28 and sent to Phoenix Environmental Laboratories to monitor ammonia levels (Appendix B). Ammonia levels were also monitored on day 2 and day 14 in the lab using a salicylate-based color indicator to ensure they were not above the acceptable range (Attachment 1).

At test termination, the contents of each test chamber are sieved to isolate the test organisms. The mesh sizes for sieving the contents of the test chambers are 0.5 – 0.6 mm for adults and 0.25 mm for offspring. The sieved material from the large mesh sieve, which will include the adult amphipods, is rinsed into plexi-glass sorting trays and survival counts are performed. Amphipods and residual sediment retained on the 0.25mm sieve are rinsed into a labeled sample container using 70% isopropyl alcohol and a funnel supported by a ring stand. Approximately 3 ml of rose bengal solution is added to stain the organisms. If any young are observed while counting the adults in the sorting tray, the contents of the sorting tray are sieved again and added to the alcohol preserved container. The preserved young are counted within 2 weeks of test termination.

All live adult amphipods within a replicate were placed in pre-weighed drying pans and kept in a drying oven overnight (70°C). The following day, the weigh pans containing the dried amphipods were removed from the drying oven and placed in a desiccator. Amphipods were subsequently reweighed as a group using a 5-place balance. Total dry weight per replicate was then divided by number of amphipods weighed to obtain an average dry weight per surviving amphipod (Appendix A).

Reference Toxicant Test

An acute reference toxicant test (potassium chloride; KCl) was conducted with the same group of *L. plumulosus* collected for use in the sediment tests. The 96-h survival data were used to calculate an LC_{50} for *L. plumulosus*. The KCl test consisted of six nominal concentrations (125, 250, 500, 1000, 1500, and 2000 mg/L KCl) and a dilution-water control (ASW). The reference toxicant data can be found in Appendix B.

Statistical Analysis

Toxicity data from the amphipod tests were used to determine if the sediment samples exhibited significant effects on survival, growth and reproduction when compared with the test endpoints in laboratory control sediment (EPA, 1993, 1994c). Statistical analyses were run using the Comprehensive Environmental Toxicity Information System (CETIS v1.8.7.7), which uses an automated decision tree based on the EPA's flowchart for statistical analysis. Copies of data sheets and statistical summary printouts for the *L. plumulosus* toxicity tests are located in Appendix A.

RESULTS

Leptocheirus plumulosus 28-Day Toxicity Tests

Results of the *L. plumulosus* 28-day screening toxicity tests (test dates: August 28, 2013 – September 25, 2013) are summarized in Table 2. Survival of *L. plumulosus* in the NEB artificial control sediment was 91% after 28 days. Site sediment GZ-LC2T exhibited a statistically-significant reduction (Steel's many-one rank test; $P < 0.05$) in survival of *L. plumulosus* when compared with the survival in the artificial control. Survival in the eight remaining site sediments did not exhibit a statistically-significant reduction when compared with the artificial control. Survival in the site sediment samples ranged from 0% to 94% after a 28-day exposure.

Average weight of the *L.plumulosus* was 1.395 mg after 28 days in the artificial control. When the average weight of the nine site sediments was compared with the artificial control, a statistically-significant reduction was found in samples GZ-104T, GZ-114T, GZ-126T, GZ-137T, GZ-LC2T and GZ-LC3T (Dunnett Multiple Comparison Test; $P < 0.05$). There was no statistically-significant reduction in weight between the site samples GZ-116T, GZ-135T and GZ-LC1T when compared with the artificial control. Average weight in the site sediment samples ranged from 0 mg to 0.899 mg after a 28-day exposure.

Amphipods exposed to the artificial control sediment increased in dry weight by approximately 17.7-fold during the 28-day exposure. For the nine site sediments, dry weight increases over initial dry weights ranged from 4.1-fold for sample GZ-104T to 11.3-fold for GZ-LC1T.

There was a statistically-significant reduction in all of the site sediment samples for reproduction when compared against the artificial control, which had 382 young. However, the observations made on total number of offspring seem to correlate closely with the mean weights at 28-days. The three site sediment samples that did not have a statistically-significant reduction in weight compared with the artificial control, GZ-116T, GZ-135T and GZ-LC1T, also had the highest number of young at test termination; 115, 150 and 148, respectively. These three samples each had an average weight of $\geq$ 0.875mg. The remaining six site sediment samples, which were all found to have average weights that were significantly reduced from the control, had a noticeably smaller amount of young (Table 2).

TABLE 2. 28-DAY SURVIVAL, WEIGHTS & OFFSPRING FOR *L.PLUMULOSUS*

Test Dates: 8/28/13 – 9/25/13

Sample Description	28-day Survival (%)	Sig[a]	28-day Weight (mg)	Sig[a]	28-day # of Offspring	Sig[a]
Artificial Control	91.0		1.395		382	
GZ-104T	54.0	NS	0.326	*	48	*
GZ-114T	64.0	NS	0.355	*	55	*
GZ-116T	86.0	NS	0.883	NS	115	*
GZ-126T	84.0	NS	0.337	*	0	*
GZ-135T	94.0	NS	0.875	NS	150	*
GZ-137T	82.0	NS	0.450	*	26	*
GZ-LC1T	83.0	NS	0.899	NS	148	*
GZ-LC2T	0.0	*	0.0	*	0	*
GZ-LC3T	77.0	NS	0.577	*	38	*

[a]Sig: NS: not significant at 0.05; *: significant at 0.05

TABLE 3.WATER QUALITY MEASUREMENTS FOR L.PLUMULOSUS
28-DAY TOXICITY TESTS
Test Dates: 8/28/13 – 9/25/13

Sample	D.O. (mg/L)	Temperature (°C)	pH (SU)	Salinity (ppt)
		NEB LAB CONTROL SEDIMENT		
Artificial Control	6.6-8.0	24.4-25.7	7.7-8.2	20-21
		SITE TEST SEDIMENTS		
GZ-104T	6.2-8.1	24.3-25.7	7.8-8.5	20-22
GZ-114T	6.5-7.9	24.4-25.7	7.7-8.4	20-22
GZ-116T	6.0-8.2	24.3-25.3	7.6-8.4	20-21
GZ-126T	6.3-8.2	24.2-25.3	7.7-8.4	20-21
GZ-135T	6.0-7.9	24.1-25.3	7.7-8.3	20-21
GZ-137T	5.1-8.1	24.1-25.3	7.6-8.4	20-21
GZ-LC1T	6.2-8.0	24.1-24.6	7.6-8.3	20-22
GZ-LC2T	6.3-8.1	24.2-24.9	7.7-8.5	20-21
GZ-LC3T	6.4-8.0	24.2-25.3	7.7-8.6	20-22
Test Summary	**5.1-8.2**	**24.1-25.7**	**7.6-8.6**	**20-22**

Reference Toxicant Testing

The SDS 96-h LC_{50} was estimated for *L. plumulosus* using survival data generated from an acute reference toxicant test with the same cohort of amphipods used in sediment testing (test dates: 8/28/13 – 9/1/13). The 96-h LC_{50} for *L. plumulosus* was estimated at 12.074 mg/L SDS (Spearman method; confidence limits of 10.349 to 14.087 mg/L SDS). Survival of control amphipods was 100% at test completion (96 h).

SUMMARY

The least toxic samples appear to be GZ-116T, GZ-135T and GZ-LC1T. These three samples had the highest survival rate (≥ 83%), the highest average weights (≥ 0.875 mg) and the highest number of offspring (≥ 115). They did not exhibit any statistically-significant survival or weight reductions when compared with the control. The most toxic sample was GZ-LC2T, which had 0% survival at 28 days and produced no offspring. The remaining five site samples (GZ-104T, GZ-114T, GZ-126T, GZ-137T and GZ-LC3T) showed moderate toxicity. Their survival at 28-days was not significantly reduced when compared with the control, however their average weight at 28-days was significantly lower. They also produced lower amounts of offspring (≤ 55). A description of the overall test observations made by the technicians can be found in Attachment 5.

CERTIFICATION

I certify that the toxicity test data presented in this report were obtained under my direction or supervision in accordance with protocols of the U.S. Environmental Protection Agency, where applicable. The information is, to the best of my knowledge and belief, true, accurate, and complete.

Kimberly Wills
Laboratory Manager
New England Bioassay

10/16/13
Date

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U.S. EPA. 1994c. Short-term Methods for Measuring the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms. 2nd edition. EPA-600/4-91-003. Environmental Monitoring and Systems Laboratory, Cincinnati, OH.

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U.S. EPA. 2001. Methods for Assessing the Chronic Toxicity of Marine and Estuarine Sediment-associated Contaminants with the Amphipod, Leptocheirus plumulosus. 1st edition, EPA 600/R-01/020, Office of Research and Development, Washington, D.C..

APPENDIX A

28-DAY TOXICITY DATA SHEETS

STATISTICAL ANALYSES PRINTOUTS

ATTACHMENT 1

28-Day Saltwater Sediment Testing - Additional Chemical Measurements

Client: **GZA GeoEnvironmental, Inc.**

Project: **Everett, MA (01.171521.02 Task 6)**

Test pre-set date: **8-27-13**

Test set-up date: **8-28-13**
(Day 0)

Pore water salinity & pH: * **(ppt. / S.U.)**

8-27-13

Artificial Control:	**24 / 7.9**	GZ-135 T	**33 / 8.0**
GZ-104 T	**30 / 7.9**	GZ-137 T	**32 / 7.8**
GZ-114 T	**32 / 7.9**	GZ-LC 1 T	**30 / 7.9**
GZ-116 T	**30 / 7.2**	GZ-LC 2 T	**30 / 8.1**
GZ-126 T	**31 / 7.7**	GZ-LC 3 T	**30 / 7.9**

Pore water ammonia: * **(mg/L)**

8-27-13 (by salicylate-based color indicator)

Artificial Control:	**≤ 4**	GZ-135 T	**≤ 16**
GZ-104 T	**≤ 16**	GZ-137 T	**≤ 4**
GZ-114 T	**≤ 16**	GZ-LC 1 T	**≤ 16**
GZ-116 T	**≤ 16**	GZ-LC 2 T	**≤ 8**
GZ-126 T	**≤ 16**	GZ-LC 3 T	**≤ 16**

* Free-standing water found in the original sample containers was used to represent "pore water."

Overlying Test Water Ammonia:

In order to determine the ammonia levels within the overlying water of each sediment test, samples of overlying water were collected on days 0 and 28, and sent to Phoenix Environmental Laboratories, Inc., in Manchester, CT.

Additional ammonia measurements were conducted at NEB using a salicylate-based color indicator. This was done to insure that the ammonia levels within the test chambers were not above the acceptable range. Otherwise, water changes would have been performed to reduce these ammonia levels (not found to be necessary in this case). See below:

Total Ammonia: (In **mg/L**, using a salicylate-based color indicator.)

	Day 2	Day 14
Date:	8-30-13	9-11-13
Artificial Control	**≤ 4**	**≤ 4**
GZ-104 T	**≤ 2**	**≤ 1**
GZ-114 T	**≤ 4**	**≤ 1**
GZ-116 T	**≤ 2**	**≤ 1**
GZ-126 T	**≤ 2**	**≤ 1**

	Day 2	Day 14
Date:	8-30-13	9-11-13
GZ-135 T	**≤ 4**	**≤ 1**
GZ-137 T	**≤ 2**	**≤ 1**
GZ-LC 1 T	**≤ 2**	**≤ 1**
GZ-LC 2 T	**≤ 1**	**≤ 1**
GZ-LC 3 T	**≤ 2**	**≤ 1**

ATTACHMENT 2

Descriptions of Sediment Samples

(At time of test pre-set)

Client: GZA GeoEnvironmental, Inc. Pre-set date: 8-27-13

Project: Everett, MA (01.171521.02 Task 6) Start date: 8-28-13

GZ-104 T / C33-3574: Black in color; smooth texture, fine-grained, with small stones and small snail shells; strong odor of petroleum.

GZ-114 T / C33-3575: Black in color; smooth texture, fine-grained, "pudding-like" consistency; shells of mussels and shells of oysters; faint odor of petroleum.

GZ-116 T / C33-3576: Black in color; sticky, but gritty, with small stones and clam shell fragments; faint odor of petroleum.

GZ-126 T / C33-3577: Dark gray in color; sticky, but gritty, with clam shell fragments; only natural odor detected.

GZ-135 T / C33-3578: Grayish black in color; sticky, heavy clay with sand, less fluid than the other samples; a razor clam shell was observed; only natural odor detected.

GZ-137 T / C33-3579: Black in color; smooth texture, fine grained, sticky; small clam shells observed; odor of petroleum noticeable.

GZ-LC 1 T / C33-3580: Dark gray in color; smooth, sticky and clay-like, with clam shells; small, live worms seen; faint odor of petroleum.

GZ-LC 2 T / C33-3581: Gray in color (lighter than the other samples); "fluffy" consistency, not dense or heavy; a few rocks were present, as well as shells of slipper-shell mollusks; strong odor of petroleum.

GZ-LC 3 T / C33-3582: Black in color; smooth, slippery texture, fine-grained, with a few small stones or shell fragments; odor of petroleum noticeable.

ATTACHMENT 3

Preparation of Artificial Control Sediment

(Saltwater version for *Leptocheirus plumulosus*)

Client: **GZA GeoEnvironmental, Inc.**

Project: **Everett, MA (01.171521.02 Task 6)**

Date prepared: **8-27-13**

Test pre-set date: **8-27-13**

Test setup date: **8-28-13**

Ingredients: Natural sand, sterilized natural marine sediment, and redart clay.
Artificial salt water (Instant Ocean™) used to increase pore water salinity.

Natural fine-grain sand was collected from a clean site in Huntington, MA. Portions of sand were rinsed through a 300 micron mesh. Sand grains small enough to pass through the mesh were further rinsed. The rinsed sand was stirred into artificial salt water, to provide the final product with increased pore-water salinity. The sand was allowed to settle, and the excess salt water was decanted.

Natural marine sediment was collected (7-30-13) from the Barn Island Wildlife Management Area in Stonington, CT. A portion of this sediment was sieved, then sterilized by microwaves in order to remove and/or destroy indigenous organisms. The sterilized sediment was allowed to cool.

Redart clay was obtained from Sheffield Pottery, Inc., in Sheffield, MA.

All ingredients were thoroughly blended together, and re-homogenized before use.

Amounts added:

Natural sand, ≤ 300 µm:	**660 ml**	(55% by volume)
Sterilized natural marine sediment:	**480**	(40% by volume)
Redart clay:	**60**	(5% by volume)

New England Bioassay

ATTACHMENT 4

Water Preparation for Marine Sediment Testing

Client: GZA GeoEnvironmental, Inc.

Project: Everett, MA (01.171521.02 Task 6)

Marine sediment

Testing start date: 8/28/13

Test type: 28-day, whole sediment

Test species: *Leptocheirus plumulosus*

Date Prepared	Dates Used	Type	Salinity (ppt.)	pH (S.U.)	Alkalinity (mg/L as $CaCO_3$)
8-27-13	8-27-13 → 9-6-13	D.I. w/ Instant Ocean™	20	8.1	95
9-6-13	9-9-13 → 9-23-13	↓	19	8.2	100
	· last renewal date				

ATTACHMENT 5

Marine Sediment - Overall Test Observations

Client: GZA GeoEnvironmental, Inc. Start date: 8-28-13

Project: Everett, MA (01.171521.02 Task 6) End date: 9-25-13

At test initiation (Day 0), test organisms were added to all replicate beakers. For all samples (and the control sediment), the amphipods quickly swam downward through the overlying water, and entered the sediment almost immediately.

One day after test initiation, small tunnel entrances (holes) were clearly visible on the surface of the control sediment, and short tunnels (burrows) could be seen against the glass on the side of the beakers, near the bottom. All but one of the test samples exhibited this type of burrowing by Day 1. These burrows remained visible throughout the duration of the test, slowly becoming longer and more branched.

For sample sediment **GZ-LC 2 T,** no burrows or tunnel entrances were ever observed. In fact, the organisms disappeared on day zero, and were never seen again. There was absolutely no indication of life or activity in the beakers containing sample GZ-LC 2 T throughout the test period. This is in stark contrast with all other samples, (and the control sediment), where borrows were obvious, and organisms could occasionally be seen roaming the surface of the sediment (an activity that increased as the organisms became mature).

All tests were fed on a normal schedule, after a 40% water change occurring on Mondays, Wednesdays, and Fridays. Salinity increases (due to evaporation) were controlled thru these water changes.

No indigenous organisms were observed during the test period.

At test breakdown:

Visual observation of recovered test organisms:

The surviving test amphipods recovered from the **control sediment** (on day 28) appeared healthy, and relatively consistent in size. They also appeared larger than some of those that were recovered from the various sample sediments.

The following size descriptions were made visually, and should not be considered to be as reliable or precise as the (more objective) dry-weight data:

Artificial control: organisms larger, generally consistent in size.

GZ-104 T: Mixed sizes, some organisms larger, others small and weak-looking. The largest organisms were found in replicate **D** (survival = 17), while the smallest organisms were found in replicate **A** (survival = 1) and in replicate **E** (survival = 6).

GZ-114 T: Most organisms were smaller than the control organisms, but to varying degrees. Those that appeared the most similar in size to the control organisms were found in the replicate having the highest survival (replicate **C**, survival = 18); however, smaller organisms were found in replicate **D**, were the survival was nearly as high (replicate **D,** survival = 17).

GZ-116 T: Organisms appeared only somewhat smaller than those found in the control sediment.

GZ-126 T: Organisms appeared noticeably smaller than those found in the control sediment.

Marine Sediment - Overall Test Observations (Page 2)

Client: GZA GeoEnvironmental, Inc. Start date: 8-28-13

Project: Everett, MA (01.171521.02 Task 6) End date: 9-25-13

GZ-135 T: Organisms in replicate **E** appeared smaller than those in the other replicates (survival was high in all replicates).

GZ-137 T: Organisms in replicate **C** appeared larger than those in the other replicates (survival in replicate **C** = 19). The organisms appeared smaller in all other replicates (besides replicate **C**); however, survival was equally as high in replicate **D** (survival = 19). So, the size difference did not appear to correspond with any particular difference in survival.

GZ-LC 1 T: Organisms appeared bigger in replicates **C**, **D**, and **E**, but were moderately smaller in replicates **A** and **B**. (Survival was generally high, except in replicate **B**, where survival = 6.)

GZ-LC 2 T: Absolutely no organisms were ever seen in sample **GZ-LC 2 T** after they were added on Day 0.

GZ-LC 3 T: The organisms recovered from replicate **A** were larger, while those found in the other replicates appeared smaller.

Additional Observations:

One live sand worm (2-3 inches long) was found in replicate **B** of sediment **GZ-116 T**. Another live sand worm (appx. 1.5 inches) was found in replicate **D** of sediment **GZ-126 T**.

A **very strong, undefined, chemical odor** was given off by the process of seiving sediment **GZ-LC 2 T** at test breakdown.

Initial Length and Weight Data - *Leptocheirus plumulosus*

Client: GZA GeoEnvironmental, Inc.

Project: Everett, MA (01.171521.02 Task 6)

Organism Lot #: Lp13(8-28)ME

Source: NEB

Date sampled / preserved: 8-28-13

Date of length measurement: 9-5-13

Four groups of ten organisms, selected randomly:

Length (mm):

	A	B	C	D
	1.2	1.6	2.1	2.1
	2.0	1.7	0.9	1.8
	1.4	2.1	1.7	1.7
	1.9	1.0	1.3	0.9
	1.3	1.0	1.5	1.9
	1.0	1.6	1.5	1.0
	1.2	1.1	1.1	1.0
	1.0	1.2	1.4	1.2
	0.9	1.0	1.3	1.7
	1.0	1.5	1.1	1.2
Mean Length:	1.3 mm	1.4 mm	1.4 mm	1.4 mm

Dry Weight:

	A	B	C	D
Pan + organisms:	943.21 mg	932.21 mg	940.82 mg	941.19 mg
- Pan (tare):	943.12 mg	932.00 mg	940.60 mg	940.92 mg
= organism weight	0.09 mg	0.21 mg	0.22 mg	0.27 mg
Qty. org. per pan:	10	10	10	10
Mean Weight:	0.009 mg	0.021 mg	0.022 mg	0.027 mg

Reviewed by: _____ Date: 10/16/13

New England Bioassay

New England Bioassay - *Sediment Toxicity Data*

Sample ID: **Artificial Control Sediment** (Lab prepared)

Page 1

Start date / time: 8-28-13 1105

Client / Source: **GZA GeoEnvironmental, Inc. / Everett, MA (~~18.~~01.171521.02 Task 6)**

End date / time:

Description / I.D. #'s: Saltwater control sediment NEB C.O.C #: **C33-3661**

Technicians: LC, AH, KB

Test organism: *Leptocheirus plumulosus*

Org. lot #: LP13(8-28)MC

Salt water- Date prep: (see attachment)

Quantity of organisms added per replicate: 20

Source: NEB
Neonates, 1-2 mm

Salinity / Alkalinity: (see attachment)

Day	Temp. (°C)	Salinity (ppt.) (Add D.I. to maintain volume & salinity.) Rep: A	B	C	D	E	Dissolved Oxygen (mg/L) A	B	C	D	E	pH (S.U.) A	B	C	D	E	Water Renewal (appx. %)
0	24.6	20	20	20	20	20	7.0	7.0	6.9	6.9	6.9	7.9	7.9	7.9	7.9	7.9	
1	25.7																
2	25.4	21	21	21	21	21	7.0					7.9					50
3	24.4																
4	24.7																
5	24.6	20					6.7					8.1					50
6	24.7																
7	24.7	20					7.1					8.0					50
8	25.1																
9	25.1	20					8.0					8.2					50
10	24.7																
11	24.7																
12	24.6	20					7.2					8.0					50
13	24.7																
14	24.8	20					6.7					7.8					50

New England Bioassay - *Sediment Toxicity Data*

Sample ID: **Artificial Control Sediment** (Lab prepared)

Page 2

Client / Source: **GZA GeoEnvironmental, Inc. / Everett, MA (~~18~~ 01.171521.02 Task 6)**

Test start date: 8-28-13

Description / I.D. #'s: Saltwater control sediment NEB C.O.C #: **C33-3661**

Page 2 entries started: 9-12-13

End date / Time: 9-25-13 / 1135

Day	Temp. (°C)	Salinity (ppt.) (Add D.I. to maintain volume & salinity.) Rep: A	B	C	D	E	Dissolved Oxygen (mg/L) A	B	C	D	E	pH (S.U.) A	B	C	D	E	Water Renewal (appx. %)
15	24.5																
16	25.0	21					7.1					7.9					50
17	24.7																
18	24.8																
19	24.6	20					6.9					7.8					50
20	24.4																
21	24.6	20					7.1					8.0					50
22	24.6																
23	24.6	20					6.6					8.0					50
24	24.6																
25	24.7																
26	24.5	21					7.2					7.8					50
27	24.6																
28	24.7	20	20	20	20	20	7.1	7.1	6.9	6.6	6.7	7.7	7.8	7.7	7.8	7.8	

	A	B	C	D	E
Day 28 Survival: (Qty. per Replicate)	19	16	18	20	18

Overall Survival: 91 %

New England Bioassay - *Sediment Toxicity Data*

Sample ID: **GZ - 104 T**

Page 1

Start date / time: 8-28-13 / 1105

Client / Source: **GZA GeoEnvironmental, Inc. / Everett, MA (~~18~~ 01.171521.02 Task 6)**

End date / time:

Description / I.D. #'s: Marine sediment NEB C.O.C #: **C33-3574**

Technicians: LC, AH, KB

Test organism: *Leptocheirus plumulosus*

Org. lot #: Lp 13 (8-28) MC

Salt water- Date prep: (see attachment)

Quantity of organisms added per replicate: 20

Source: NEB Neonates, 1-2 mm

Salinity / Alkalinity: (see attachment)

Day	Temp. (°C)	Salinity (ppt.) (Add D.I. to maintain volume & salinity.) Rep: A	B	C	D	E	Dissolved Oxygen (mg/L) A	B	C	D	E	pH (S.U.) A	B	C	D	E	Water Renewal (appx. %)
0	24.6	20	20	20	20	20	6.2	6.9	6.4	6.8	6.7	7.8	7.8	7.8	7.8	7.8	
1	25.7																
2	25.4	21	21	21	21	22 (A)	7.0					8.0					50
3	24.3																
4	24.7																
5	24.6	20					6.8					8.4					50
6	24.7																
7	24.7	20					7.0					8.4					50
8	25.1																
9	25.1	20					8.1					8.5					50
10	24.8																
11	24.7																
12	24.6	20					7.2					8.2					50
13	24.7																
14	24.8	21					6.7					7.8					50

(A) D.I. added to replicate; 8-30-13.

New England Bioassay - *Sediment Toxicity Data* Sample ID: **GZ - 104 T** **Page 2**

Client / Source: **GZA GeoEnvironmental, Inc. / Everett, MA (~~18~~ 21.171521.02 Task 6)**

Description / I.D. #'s: Marine sediment NEB C.O.C #: **C33-3574**

Test start date: 8-28-13

Page 2 entries started: 9-12-13

End date / Time: 9-25-13 / 1210

Day	Temp. (°C)	Rep	Salinity (ppt.) A	B	C	D	E	Dissolved Oxygen (mg/L) A	B	C	D	E	pH (S.U.) A	B	C	D	E	Water Renewal (appx. %)
15	24.5	15																
16	25.0	16	21					6.9					8.0					50
17	24.7	17																
18	24.8	18																
19	24.6	19	20					7.0					8.0					50
20	24.6	20																
21	24.6	21	20					7.1					8.1					50
22	24.6	22																
23	24.8	23	20					6.8					8.1					50
24	24.6	24																
25	24.7	25																
26	24.5	26	21					6.9					7.9					50
27	24.6	27																
28	24.6	28	20	20	20	20	20	6.7	6.6	6.7	6.5	6.5	8.0	8.0	8.0	8.0	8.0	

	A	B	C	D	E
Day 28 Survival: (Qty. per Replicate)	1	15	15	17	6

Overall Survival: 54 %

New England Bioassay - *Sediment Toxicity Data*

Sample ID: **GZ - 114 T**

Start date / time: 8-28-13, 1105

Client / Source: **GZA GeoEnvironmental, Inc. / Everett, MA (~~18~~01.171521.02 Task 6)**

End date / time:

Description / I.D. #'s: Marine sediment NEB C.O.C #: **C33-3575**

Technicians: LC, AH, KB

Test organism: *Leptocheirus plumulosus*

Org. lot #: Lp13 (8-28) MC

Salt water- Date prep: (see attachment)

Quantity of organisms added per replicate: 20

Source: NEB
Neonates, 1-2 mm

Salinity / Alkalinity: (see attachment)

Day	Temp. (°C)	Salinity (ppt.) Rep: A	B	C	D	E	Dissolved Oxygen (mg/L) A	B	C	D	E	pH (S.U.) A	B	C	D	E	Water Renewal (appx. %)
0	24.6	20	20	20	20	20	6.5	6.5	6.5	6.8	6.6	7.8	7.8	7.8	7.8	7.8	
1	25.7																
2	25.4	21	21	21	21	22 (A)	7.0					7.9					50
3	24.5																
4	24.7																
5	24.6	20					6.8					8.4					50
6	24.7																
7	24.7	20					6.9					8.4					50
8	25.1																
9	25.1	20					7.9					8.4					50
10	24.7																
11	24.7																
12	24.6	21					7.3					8.0					50
13	24.7																
14	24.8	20					6.6					7.7					50

(A) DI added to replicate; 8-30-13

New England Bioassay - *Sediment Toxicity Data* Sample ID: **GZ - 114 T** **Page 2**

Client / Source: **GZA GeoEnvironmental, Inc. / Everett, MA (~~18~~ 01.171521.02 Task 6)** Test start date: 8-28-13

Description / I.D. #'s: Marine sediment NEB C.O.C #: **C33-3575** *Page 2* entries started: 9-12-13

End date / Time: 9-25-13 / 1255

Day	Temp. (°C)	Salinity (ppt.) (Add D.I. to maintain volume & salinity.) Rep: A	B	C	D	E	Dissolved Oxygen (mg/L) A	B	C	D	E	pH (S.U.) A	B	C	D	E	Water Renewal (appx. %)
15	24.5																
16	25.0	21					7.0					8.0					50
17	24.7																
18	24.8																
19	24.6	20					6.9					8.0					50
20	24.6																
21	24.4	20					7.0					8.0					50
22	24.6																
23	24.6	20					6.7					8.0					50
24	24.6																
25	24.7																
26	24.5	21					7.0					7.8					50
27	24.6																
28	24.6	20	20	20	20	20	6.7	6.6	6.8	6.7	6.7	7.8	7.8	7.8	7.8	7.8	

Day 28 Survival: (Qty. per Replicate)	A	B	C	D	E
	4	12	18	17	13

Overall Survival: 64 %

New England Bioassay - *Sediment Toxicity Data*

Sample ID: **GZ - 116 T**

Start date / time: 8-28-13 1105

Client / Source: **GZA GeoEnvironmental, Inc. / Everett, MA (~~18~~ 01.171521.02 Task 6)**

End date / time:

Description / I.D. #'s: Marine sediment NEB C.O.C #: **C33-3576**

Technicians: LC, AH, KB

Test organism: *Leptocheirus plumulosus*

Org. lot #: LP13(8-28)MC

Salt water- Date prep: (see attachment)

Quantity of organisms added per replicate: 20

Source: NEB

Neonates, 1-2 mm

Salinity / Alkalinity: (see attachment)

Day	Temp. (°C)	Rep	Salinity (ppt.) (Add D.I. to maintain volume & salinity.) A	B	C	D	E	Dissolved Oxygen (mg/L) A	B	C	D	E	pH (S.U.) A	B	C	D	E	Water Renewal (appx. %)
0	24.6	0	20	20	20	20	20	6.3	6.0	6.5	6.4	6.7	7.7	7.7	7.8	7.7	7.8	
1	25.3	1																
2	25.2	2	20	20	20	20	21	6.9					7.8					50
3	24.3	3																
4	24.9	4																
5	24.6	5	20					7.4					8.1					50
6	24.6	6																
7	24.6	7	21					7.0					8.1					50
8	25.1	8																
9	25.0	9	~~20~~					8.2					8.4					50
10	24.5	10																
11	24.5	11																
12	24.4	12	20					7.2					8.2					50
13	24.7	13																
14	24.7	14	20					6.6					8.0					50

New England Bioassay - *Sediment Toxicity Data*

Sample ID: **GZ - 116 T**

Page 2

Client / Source: **GZA GeoEnvironmental, Inc. / Everett, MA (~~18~~01.171521.02 Task 6)**

Test start date: 8-28-13

Description / I.D. #'s: Marine sediment NEB C.O.C #: **C33-3576**

Page 2 entries started: 9-12-13

End date / Time: 9-25-13 / 1315

Day	Temp. (°C)	Salinity (ppt.) (Add D.I. to maintain volume & salinity.) Rep: A	B	C	D	E	Dissolved Oxygen (mg/L) A	B	C	D	E	pH (S.U.) A	B	C	D	E	Water Renewal (appx. %)
15	24.7																
16	24.6	20					6.6					8.0					50
17	24.6																
18	24.7																
19	24.6	20					6.8					8.1					50
20	24.7																
21	24.3	20					6.8					8.1					50
22	24.4																
23	24.4	20					6.5					8.1					50
24	24.8																
25	24.8																
26	24.3	21					6.6					7.9					50
27	24.7																
28	24.7	20	20	20	20	20	6.7	6.5	6.6	6.4	6.5	7.7	7.6	7.9	7.8	7.9	

Day 28 Survival: (Qty. per Replicate)	A	B	C	D	E
	18	16	15	19	18

Overall Survival: 86 %

New England Bioassay - *Sediment Toxicity Data*

Sample ID: **GZ - 126 T**

Start date / time: 8-28-13 1105

Client / Source: **GZA GeoEnvironmental, Inc. / Everett, MA (~~18~~01.171521.02 Task 6)**

End date / time:

Description / I.D. #'s: Marine sediment NEB C.O.C #: **C33-3577**

Technicians: LC, AH, KB

Test organism: *Leptocheirus plumulosus*

Org. lot #: Lp13 (8-28) MC

Salt water- Date prep: (see attachment)

Quantity of organisms added per replicate: 20

Source: NEB
Neonates, 1-2 mm

Salinity / Alkalinity: (see attachment)

Day	Temp. (°C)	Rep	Salinity (ppt.) (Add D.I. to maintain volume & salinity.) A	B	C	D	E	Dissolved Oxygen (mg/L) A	B	C	D	E	pH (S.U.) A	B	C	D	E	Water Renewal (appx. %)
0	24.6	0	20	20	20	20	20	6.3	6.5	6.5	6.5	6.5	7.8	7.8	7.8	7.8	7.8	
1	25.3	1																
2	25.2	2	21	20	20	20	21	7.0					7.8					50
3	24.2	3																
4	24.9	4																
5	24.6	5	21					6.9					8.0					50
6	24.6	6																
7	24.6	7	21					7.0					8.0					50
8	25.1	8																
9	25.0	9	20					8.2					8.4					50
10	24.3	10																
11	24.7	11																
12	24.4	12	20					7.4					8.1					50
13	24.7	13																
14	24.7	14	20					6.8					7.9					50

New England Bioassay - *Sediment Toxicity Data* Sample ID: **GZ - 126 T** **Page 2**

Client / Source: **GZA GeoEnvironmental, Inc. / Everett, MA (01.171521.02 Task 6)** Test start date: 8-28-13

Description / I.D. #'s: Marine sediment NEB C.O.C #: **C33-3577** *Page 2* entries started: 9-12-13

End date / Time: 9-25-13 / 1340

Day	Temp. (°C)	Rep	Salinity (ppt.) A	B	C	D	E	Dissolved Oxygen (mg/L) A	B	C	D	E	pH (S.U.) A	B	C	D	E	Water Renewal (appx. %)
15	24.7	15						15					15					15	
16	24.6	16	20					16 7.1					16 7.9					16	50
17	24.6	17						17					17					17	
18	24.7	18						18					18					18	
19	24.6	19	20					19 6.9					19 7.9					19	50
20	24.7	20						20					20					20	
21	24.2	21	20					21 7.0					21 8.1					21	50
22	24.4	22						22					22					22	
23	24.4	23	20					23 6.7					23 8.0					23	50
24	24.8	24						24					24					24	
25	24.8	25						25					25					25	
26	24.3	26	21					26 6.9					26 7.7					26	50
27	24.7	27						27					27					27	
28	24.6	28	20	20	20	20	20	28 7.1	6.7	6.7	6.6	6.6	28 7.7	7.7	7.7	7.7	7.8		

Day 28 Survival: (Qty. per Replicate)	A	B	C	D	E
	20	17	18	18	11

Overall Survival: 84 %

New England Bioassay - *Sediment Toxicity Data*

Sample ID: **GZ - 135 T**

Start date / time: 8-28-13, 1105

Client / Source: **GZA GeoEnvironmental, Inc. / Everett, MA (~~18~~ 01.171521.02 Task 6)**

End date / time:

Description / I.D. #'s: Marine sediment NEB C.O.C #: **C33-3578**

Technicians: LC, AH, KB

Test organism: *Leptocheirus plumulosus*

Org. lot #: Lp13(8-28)MC

Salt water- Date prep: (see attachment)

Quantity of organisms added per replicate: 20

Source: NEB
Neonates, 1-2 mm

Salinity / Alkalinity: (see attachment)

Day	Temp. (°C)	Salinity (ppt.) (Add D.I. to maintain volume & salinity.) Rep: A	B	C	D	E	Dissolved Oxygen (mg/L) A	B	C	D	E	pH (S.U.) A	B	C	D	E	Water Renewal (appx. %)
0	24.6	20	20	20	20	20	6.0	6.5	6.6	6.6	6.4	7.7	7.8	7.8	7.8	7.8	
1	25.3																
2	25.2	21	21	21	21	21	6.9					7.8					50
3	24.5																
4	24.9																
5	24.6	20					6.8					8.3					50
6	24.6																
7	24.6	21					6.9					8.1					50
8	25.1																
9	25.0	20					7.9					8.2					50
10	24.3																
11	24.6																
12	24.4	20					7.3					8.1					50
13	24.7																
14	24.7	21					6.6					7.9					50

New England Bioassay - *Sediment Toxicity Data* Sample ID: **GZ - 135 T** **Page 2**

Client / Source: **GZA GeoEnvironmental, Inc. / Everett, MA (18.171521.02 Task 6)** 01

Description / I.D. #'s: Marine sediment NEB C.O.C #: **C33-3578**

Test start date: 8-28-13

Page 2 entries started: 9-12-13

End date / Time: 9-25-13 / 1415

Day	Temp. (°C)	Salinity (ppt.) (Add D.I. to maintain volume & salinity.) Rep: A	B	C	D	E	Dissolved Oxygen (mg/L) A	B	C	D	E	pH (S.U.) A	B	C	D	E	Water Renewal (appx. %)
15	24.7																
16	24.6	21					6.6					7.8					50
17	24.6																
18	24.7																
19	24.6	20					6.8					7.9					50
20	24.7																
21	24.1	20					7.3					8.1					50
22	24.4																
23	24.2	20					7.0					8.2					50
24	24.8																
25	24.8																
26	24.3	21					6.7					7.8					50
27	24.7																
28	24.7	20	20	20	20	20	6.6	6.6	6.6	6.5	6.6	7.8	7.8	7.8	7.7	7.8	

	A	B	C	D	E
Day 28 Survival: (Qty. per Replicate)	17	15	20	20	19

Overall Survival: 94 %

New England Bioassay - *Sediment Toxicity Data*

Sample ID: **GZ - 137 T**

Start date / time: 8-28-13, 1105

Client / Source: **GZA GeoEnvironmental, Inc. / Everett, MA (~~18~~.171521.02 Task 6)** 01

End date / time:

Description / I.D. #'s: Marine sediment NEB C.O.C #: **C33-3579**

Technicians: LC, AH, KB

Test organism: *Leptocheirus plumulosus*

Org. lot #: Lp 13 (8-28) MC

Salt water- Date prep: (see attachment)

Quantity of organisms added per replicate: 20

Source: NEB Neonates, 1-2 mm

Salinity / Alkalinity: (see attachment)

Day	Temp. (°C)	Salinity (ppt.) (Add D.I. to maintain volume & salinity.) Rep: A	B	C	D	E	Dissolved Oxygen (mg/L) A	B	C	D	E	pH (S.U.) A	B	C	D	E	Water Renewal (appx. %)
0	24.6	20	20	20	20	20	5.1	5.8	6.1	6.8	6.1	7.6	7.7	7.8	7.8	7.7	
1	25.3																
2	25.2	20	20	20	20	20	7.0					7.8					50
3	24.3																
4	24.9																
5	24.6	20					6.7					8.4					50
6	24.6																
7	24.6	21					6.9					8.3					50
8	25.1																
9	25.0	20					8.1					8.4					50
10	24.3																
11	24.6																
12	24.4	20					7.4					8.3					50
13	24.7																
14	24.7	21					6.5					8.0					50

New England Bioassay - *Sediment Toxicity Data* Sample ID: **GZ - 137 T** **Page 2**

Client / Source: **GZA GeoEnvironmental, Inc. / Everett, MA (~~18~~ 01.171521.02 Task 6)** Test start date: 8-28-13

Description / I.D. #'s: Marine sediment NEB C.O.C #: **C33-3579** *Page 2* entries started: 9-12-13

End date / Time: 9-25-13 / 1440

Day	Temp. (°C)	Rep	Salinity (ppt.) A	B	C	D	E	Dissolved Oxygen (mg/L) A	B	C	D	E	pH (S.U.) A	B	C	D	E	Water Renewal (appx. %)
15	24.7	15						15					15					15
16	24.6	16	21					16 6.9					16 8.0					16 50
17	24.6	17						17					17					17
18	24.7	18						18					18					18
19	24.6	19	~~2~~0					19 6.8					19 8.1					19 50
20	24.7	20						20					20					20
21	24.1	21	20					21 6.9					21 8.2					21 50
22	24.4	22						22					22					22
23	24.2	23	20					23 6.6					23 8.2					23 50
24	24.8	24						24					24					24
25	24.8	25						25					25					25
26	24.3	26	21					26 6.8					26 8.0					26 50
27	24.7	27						27					27					27
28	24.6	28	20	20	20	20	20	28 6.8	6.7	6.7	6.7	6.6	28 7.9	8.0	8.0	7.9	8.0	

	A	B	C	D	E
Day 28 Survival: (Qty. per Replicate)	12	15	19	19	17

Overall Survival: 82 %

New England Bioassay - *Sediment Toxicity Data*

Sample ID: **GZ - LC 1 T**

Start date / time: 8-28-13, 1105

Client / Source: **GZA GeoEnvironmental, Inc. / Everett, MA (~~16~~01.171521.02 Task 6)**

End date / time:

Description / I.D. #'s: Marine sediment NEB C.O.C #: **C33-3580**

Technicians: LC, AH, KB

Test organism: *Leptocheirus plumulosus*

Org. lot #: Lp13 (8-28) MC

Salt water- Date prep: (see attachment)

Quantity of organisms added per replicate: 20

Source: NEB
Neonates, 1-2 mm

Salinity / Alkalinity: (see attachment)

Day	Temp. (°C)	Rep	Salinity (ppt.) (Add D.I. to maintain volume & salinity.) A	B	C	D	E	Dissolved Oxygen (mg/L) A	B	C	D	E	pH (S.U.) A	B	C	D	E	Water Renewal (appx. %)
0	24.2	0	20	20	20	20	20	6.2	6.3	6.6	6.8	6.6	7.6	7.6	7.7	7.7	7.7	
1	24.6	1																
2	24.5	2	21	20	20	20	21	6.9					7.8					50
3	24.2	3																
4	24.2	4																
5	24.5	5	21					7.0					8.3					50
6	24.5	6																
7	24.2	7	20					7.2					8.2					50
8	24.4	8																
9	24.3	9	21					8.0					8.3					50
10	24.3	10																
11	24.2	11																
12	24.3	12	21					7.3					7.9					50
13	24.6	13																
14	24.1	14	21					7.1					8.0					50

New England Bioassay - *Sediment Toxicity Data* Sample ID: **GZ - LC 1 T** **Page 2**

Client / Source: **GZA GeoEnvironmental, Inc. / Everett, MA (~~16~~.171521.02 Task 6)** Test start date: 8-28-13

Description / I.D. #'s: Marine sediment NEB C.O.C #: **C33-3580** *Page 2* entries started: 9-12-13

End date / Time: 9-25-13 / 1505

Day	Temp. (°C)	Rep	Salinity (ppt.) A	B	C	D	E	Dissolved Oxygen (mg/L) A	B	C	D	E	pH (S.U.) A	B	C	D	E	Water Renewal (appx. %)
15	24.1	15																
16	24.6	16	20					6.7					8.0					50
17	24.3	17																
18	24.4	18																
19	24.6	19	20					7.1					8.1					50
20	24.4	20																
21	24.5	21	21					7.2					8.3					50
22	24.4	22																
23	24.5	23	20					7.0					8.2					50
24	24.4	24																
25	24.4	25																
26	24.6	26	22 (A)					7.0					8.0					50
27	24.5	27																
28	24.5	28	20	20	20	20	20	6.9	6.7	6.8	6.8	6.7	7.9	7.9	7.9	7.9	7.9	

	A	B	C	D	E
Day 28 Survival: (Qty. per Replicate)	17	6	20	20	20

Overall Survival: 83 %

(A) Salinity adjusted during water change.

New England Bioassay - *Sediment Toxicity Data*

Sample ID: **GZ - LC 2 T**

Start date / time: 8-28-13, 1105

Client / Source: **GZA GeoEnvironmental, Inc. / Everett, MA (~~18~~ 01.171521.02 Task 6)**

End date / time:

Description / I.D. #'s: Marine sediment NEB C.O.C #: **C33-3581**

Technicians: LC, AH, KB

Test organism: *Leptocheirus plumulosus*

Org. lot #: Lp13 (8-28) MC

Salt water- Date prep: (see attachment)

Quantity of organisms added per replicate: 20

Source: NEB Neonates, 1-2 mm

Salinity / Alkalinity: (see attachment)

Day	Temp. (°C)	Salinity (ppt.) (Add D.I. to maintain volume & salinity.) Rep: A	B	C	D	E	Dissolved Oxygen (mg/L) A	B	C	D	E	pH (S.U.) A	B	C	D	E	Water Renewal (appx. %)
0	24.2	20	20	20	20	20	6.3	6.4	6.6	6.7	6.9	7.7	7.7	7.7	7.7	7.8	
1	24.9																
2	24.6	20	20	20	20	20	6.8					8.0					50
3	24.3																
4	24.5																
5	24.2	21					7.1					8.5					50
6	24.6																
7	24.2	20					7.2					8.2					50
8	24.5																
9	24.2	21					8.1					8.2					50
10	24.7																
11	24.7																
12	24.3	21					7.3					8.2					50
13	24.5																
14	24.7	21					7.2					8.1					50

New England Bioassay - *Sediment Toxicity Data* Sample ID: **GZ - LC 2 T** **Page 2**

Client / Source: **GZA GeoEnvironmental, Inc. / Everett, MA (~~18~~.171521.02 Task 6)**

Description / I.D. #'s: Marine sediment NEB C.O.C #: **C33-3581**

Test start date: 8-28-13

Page 2 entries started: 9-12-13

End date / Time: 9-25-13 / 1530

Day	Temp. (°C)	Salinity (ppt.) Rep: A	B	C	D	E	Dissolved Oxygen (mg/L) A	B	C	D	E	pH (S.U.) A	B	C	D	E	Water Renewal (appx. %)
15	24.2																
16	24.6	21					6.9					8.0					50
17	24.7																
18	24.8																
19	24.7	20					6.8					8.1					50
20	24.5																
21	24.9	20					7.1					8.2					50
22	24.6																
23	24.6	20					6.7					8.1					50
24	24.8																
25	24.6																
26	24.5	21					6.8					8.0					50
27	24.4																
28	24.5	20	20	20	20	20	6.9	6.8	6.8	6.7	6.7	7.9	7.9	7.9	7.9	7.9	

	A	B	C	D	E
Day 28 Survival: (Qty. per Replicate)	0	0	0	0	0

Overall Survival: 0 %

New England Bioassay - *Sediment Toxicity Data*

Sample ID: **GZ - LC 3 T**

Start date / time: 8-28-13, 1105

Client / Source: **GZA GeoEnvironmental, Inc. / Everett, MA (~~18~~01.171521.02 Task 6)**

End date / time:

Description / I.D. #'s: Marine sediment NEB C.O.C #: **C33-3582**

Technicians: LC, AH, KB

Test organism: *Leptocheirus plumulosus*

Org. lot #: Lp13 (8-28)

Salt water- Date prep: (see attachment)

Quantity of organisms added per replicate: 20

Source: NEB
Neonates, 1-2 mm

Salinity / Alkalinity: (see attachment)

Day	Temp. (°C)	Salinity (ppt.) (Add D.I. to maintain volume & salinity.) Rep: A	B	C	D	E	Dissolved Oxygen (mg/L) A	B	C	D	E	pH (S.U.) A	B	C	D	E	Water Renewal (appx. %)
0	24.3	20	20	20	20	20	6.6	6.4	6.7	6.7	6.9	7.7	7.7	7.7	7.7	7.7	
1	25.2																
2	25.2	22(A)	20	20	20	21	6.9					7.8					50
3	24.9																
4	25.2																
5	24.6	21					7.0					8.6					50
6	24.9																
7	24.2	20					7.1					8.4					50
8	25.2																
9	25.1	21					8.0					8.4					50
10	25.3																
11	25.2																
12	24.7	21					7.1					8.1					50
13	25.0																
14	25.1	21					7.1					8.1					50

(A) D.I. added to replicate; 8-30-13

New England Bioassay - *Sediment Toxicity Data* Sample ID: **GZ - LC 3 T** **Page 2**

Client / Source: **GZA GeoEnvironmental, Inc. / Everett, MA (~~18~~.171521.02 Task 6)** Test start date: 8-28-13

Description / I.D. #'s: Marine sediment NEB C.O.C #: **C33-3582** *Page 2* entries started: 9-12-13

End date / Time: 9-25-13 / 1545

Day	Temp. (°C)	Salinity (ppt.) Rep	A	B	C	D	E	Dissolved Oxygen (mg/L)	A	B	C	D	E	pH (S.U.)	A	B	C	D	E	Water Renewal (appx. %)
15	25.3	15						15						15						
16	25.2	16	21					16	7.0					16	8.0					50
17	25.2	17						17						17						
18	25.1	18						18						18						
19	25.1	19	20					19	7.1					19	8.0					50
20	25.1	20						20						20						
21	25.1	21	20					21	6.9					21	8.1					50
22	25.2	22						22						22						
23	25.0	23	20					23	6.8					23	8.0					50
24	25.0	24						24						24						
25	24.9	25						25						25						
26	24.7	26	21					26	6.7					26	7.7					50
27	24.7	27						27						27						
28	24.6	28	20	20	20	20	20	28	6.8	6.7	6.7	6.6	6.6	28	7.7	7.8	7.8	7.8	7.7	

	A	B	C	D	E
Day 28 Survival: (Qty. per Replicate)	18	10	16	16	17

Overall Survival: 77 %

New England Bioassay **_Final 28-Day Dry-Weight Data_** *Leptocheirus plumulosus*

Client: **GZA GeoEnvironmental, Inc.** Test set-up date: 8-28-13

Project: Everett, MA (01.171521.02 Task 6) Test ending date: 9-25-13

Sample I.D. **Artificial Control** Tare weight- Date / Tech: 9-23-13 LC

Final weight- Date / Tech: 9-27-13 NV

	A	B	C	D	E
Pan + organisms:	964.13 mg	968.84 mg	968.98 mg	947.75 mg	937.39 mg
Pan (tare):	937.38 mg	936.07 mg	937.72 mg	915.89 mg	920.51 mg
Qty. org. per pan:	19	16	18	20	18

Reviewed by: _____ Date: 10/16/13

New England Bioassay **_Final 28-Day Dry-Weight Data_** *Leptocheirus plumulosus*

Client: **GZA GeoEnvironmental, Inc.**
Project: Everett, MA (~~18~~ 01.171521.02 Task 6)

Test set-up date: 8-28-13
Test ending date: 9-25-13

Sample I.D. **GZ-104T**

Tare weight- Date / Tech: 9-23-13, LC
Final weight- Date / Tech: 9-27-13, MV

	A	B	C	D	E
Pan + organisms:	921.88 mg	940.66 mg	939.97 mg	948.68 mg	935.93 mg
Pan (tare):	921.04 mg	934.58 mg	933.20 mg	931.50 mg	934.18 mg
Qty. org. per pan:	1	15	15	17	6

Sample I.D. **GZ-114T**

Tare weight- Date / Tech: 9-23-13, LC
Final weight- Date / Tech: 9-27-13, MV

	A	B	C	D	E
Pan + organisms:	939.53 mg	944.82 mg	953.91 mg	944.43 mg	944.76 mg
Pan (tare):	938.09 mg	939.29 mg	938.16 mg	938.73 mg	937.68 mg
Qty. org. per pan:	4	12	18	17	13

Reviewed by: [signature] Date: 10/16/13

New England Bioassay **Final 28-Day Dry-Weight Data** *Leptocheirus plumulosus*

Client: **GZA GeoEnvironmental, Inc.**

Project: Everett, MA (~~18~~ 8).171521.02 Task 6)

Test set-up date: 8-28-13

Test ending date: 9-25-13

Sample I.D. **GZ-116T**

Tare weight- Date / Tech: 9-23-13, LC

Final weight- Date / Tech: 9-27-13, MV

	A	B	C	D	E
Pan + organisms:	961.92 mg	948.57 mg	947.30 mg	963.68 mg	945.13 mg
Pan (tare):	935.92 mg	936.72 mg	935.53 mg	935.61 mg	934.53 mg
Qty. org. per pan:	18	16	15	19	18

Sample I.D. **GZ-126T**

Tare weight- Date / Tech: 9-23-13, LC

Final weight- Date / Tech: 9-27-13, MV

	A	B	C	D	E
Pan + organisms:	947.24 mg	949.20 mg	949.11 mg	946.09 mg	947.10 mg
Pan (tare):	940.04 mg	941.32 mg	942.50 mg	937.98 mg	943.17 mg
Qty. org. per pan:	20	17	18	18	11

Reviewed by: _____ Date: 10/16/13

New England Bioassay **Final 28-Day Dry-Weight Data** *Leptocheirus plumulosus*

Client: **GZA GeoEnvironmental, Inc.** Test set-up date: 8-28-13

Project: Everett, MA (~~18~~.171521.02 Task 6) Test ending date: 9-25-13

Sample I.D. **GZ-135T** Tare weight- Date / Tech: 9-23-13, LC

Final weight- Date / Tech: 9-27-13, mv

	A	B	C	D	E
Pan + organisms:	944.99 mg	955.68 mg	964.16 mg	967.88 mg	945.63 mg
Pan (tare):	933.84 mg	944.06 mg	942.39 mg	934.08 mg	936.46 mg
Qty. org. per pan:	17	18	20	20	19

Sample I.D. **GZ-137T** Tare weight- Date / Tech: 9-23-13, LC

Final weight- Date / Tech: 9-27-13, mv

	A	B	C	D	E
Pan + organisms:	944.22 mg	945.63 mg	953.17 mg	946.32 mg	946.39 mg
Pan (tare):	940.83 mg	938.98 mg	937.01 mg	936.86 mg	937.06 mg
Qty. org. per pan:	12	15	19	19	17

Reviewed by: _____ Date: 10/10/13

New England Bioassay **_Final 28-Day Dry-Weight Data_** *Leptocheirus plumulosus*

Client: **GZA GeoEnvironmental, Inc.** Test set-up date: 8-28-13

Project: Everett, MA (~~18~~ 21.171521.02 Task 6) Test ending date: 9-25-13

Sample I.D. **GZ-LC1T** Tare weight- Date / Tech: 9-23-13, LC

Final weight- Date / Tech: 9-27-13, MV

	A	B	C	D	E
Pan + organisms:	954.52 mg	944.56 mg	967.09 mg	962.25 mg	969.95 mg
Pan (tare):	940.32 mg	941.01 mg	942.85 mg	942.76 mg	941.56 mg
Qty. org. per pan:	17	6	20	20	20

Sample I.D. **GZ-LC2T** Tare weight- Date / Tech: 9-23-13, LC

Final weight- Date / Tech:

	A	B	C	D	E
Pan + organisms:	— mg	— mg	— mg	— mg	— mg
Pan (tare):	941.76 mg	940.67 mg	941.05 mg	943.10 mg	941.64 mg
Qty. org. per pan:	0	0	0	0	0

Reviewed by: _____ Date: 10/16/13

New England Bioassay **_Final 28-Day Dry-Weight Data_** *Leptocheirus plumulosus*

Client: **GZA GeoEnvironmental, Inc.**

Project: Everett, MA (~~18~~ D1.171521.02 Task 6)

Test set-up date: 8-28-13

Test ending date: 9-25-13

Sample I.D. **GZ-LC3T**

Tare weight- Date / Tech: 9-23-13 LC

Final weight- Date / Tech: 9-27-13, MV

	A	B	C	D	E
Pan + organisms:	959.23 mg	944.49 mg	956.38 mg	952.68 mg	950.90 mg
Pan (tare):	938.67 mg	938.74 mg	943.20 mg	942.05 mg	943.31 mg
Qty. org. per pan:	18	10	16	16	17

Reviewed by: _____ Date: 10/16/13

Leptocheirus plumulosus- Sediment Test Breakdown, Day 28 - **Young Counted**

Client: **GZA GeoEnvironmental, Inc.** Test set-up date: 8-28-13

Project: **Everett, MA (~~18~~01.171521.02 Task 6)** Test ending date: 9-25-13

		Qty.	Observations of Young
Artificial Control	A.	113	Greater range in size, larger organisms compared to all other samples
	B.	60	
	C.	105	
	D.	61	
	E.	43	
Sed. GZ-104 T	A.	0	
	B.	11	Uniform smaller in size
	C.	7	
	D.	26	Uniform, but 1 larger one found
	E.	4	
Sed. GZ-114 T	A.	5	Small
	B.	8	
	C.	37	
	D.	5	
	E.	0	

Leptocheirus plumulosus- Sediment Test Breakdown, Day 28 - **Young Counted**

Client: **GZA GeoEnvironmental, Inc.** Test set-up date: 8-28-13

Project: **Everett, MA (~~18~~ 21.171521.02 Task 6)** Test ending date: 9-25-13

GZ-116 T — **Sed.**

	Qty.	Observations of Young
A.	49	Range in sizes across all reps
B.	3	
C.	11	
D.	18	
E.	34	

GZ-126 T — **Sed.**

	Qty.	Observations of Young
A.	0	
B.	0	
C.	0	
D.	0	
E.		

GZ-135 T — **Sed.**

	Qty.	Observations of Young
A.	24	Range in size across all reps
B.	12	
C.	79	
D.	24	
E.	9	

Leptocheirus plumulosus- Sediment Test Breakdown, Day 28 - **Young Counted**

Client: **GZA GeoEnvironmental, Inc.** Test set-up date: 8-28-13

Project: **Everett, MA (~~18~~.171521.02 Task 6)** Test ending date: 9-25-13

		Qty.	***Observations of Young***
Sed. **GZ-137 T**	A.	0	
	B.	7	small across all reps
	C.	9	
	D.	5	
	E.	5	
Sed. **GZ-LC 1 T**	A.	30	range in size across all reps
	B.	3	
	C.	36	
	D.	29	
	E.	50	
Sed. **GZ-LC 2 T**	A.	0	
	B.	0	
	C.	0	
	D.	0	
	E.	0	

Leptocheirus plumulosus- Sediment Test Breakdown, Day 28 - **Young Counted**

Client: **GZA GeoEnvironmental, Inc.** Test set-up date: 8-28-13

Project: **Everett, MA (18.171521.02 Task 6)** Test ending date: 9-25-13

		Qty.	***Observations of Young***
Sed.	A.	29	Small
	B.	1	
GZ-LC 3 T	C.	0	
	D.	4	
	E.	4	

Leptocheirus 28-d Survival, Growth and Reproduction Sediment Test — **New England Bioassay**

Analysis ID:	20-5011-4794	**Endpoint:**	Survival Rate	**CETIS Version:**	CETISv1.8.7
Analyzed:	27 Sep-13 14:46	**Analysis:**	Nonparametric-Control vs Treatments	**Official Results:**	Yes
Batch ID:	02-5993-2028	**Test Type:**	Leptocheirus (28-d)	**Analyst:**	
Start Date:	28 Aug-13	**Protocol:**	EPA/600/R-01/020 (2001)	**Diluent:**	
Ending Date:	25 Sep-13	**Species:**	Leptocheirus plumulosus	**Brine:**	
Duration:	28d 0h	**Source:**	In-House Culture	**Age:**	

Sample Code	Sample ID	Sample Date	Receive Date	Sample Age	Client Name	Project
Art Control	00-9271-0330	28 Aug-13	28 Aug-13	NA	GZA GeoEnvironmental	
GZ-104T	05-0294-9077	06 Aug-13	22 Aug-13	22d 0h		
GZ-114T	20-8741-3134	06 Aug-13	22 Aug-13	22d 0h		
GZ-116T	18-5487-8325	06 Aug-13	22 Aug-13	22d 0h		
GZ-126T	13-7568-5139	06 Aug-13	22 Aug-13	22d 0h		
GZ-135T	13-1371-0218	06 Aug-13	22 Aug-13	22d 0h		
GZ-137T	18-7679-2931	06 Aug-13	22 Aug-13	22d 0h		
GZ-LC1T	10-4515-9435	06 Aug-13	22 Aug-13	22d 0h		
GZ-LC2T	10-4258-7121	06 Aug-13	22 Aug-13	22d 0h		
GZ-LC3T	06-8712-0134	06 Aug-13	22 Aug-13	22d 0h		

Sample Code	Material Type	Sample Source	Station Location	Latitude	Longitude
Art Control	Not Applicable	Wynn - Everett MA			
GZ-104T	Ambient Sample	Wynn - Everett MA			
GZ-114T	Ambient Sample	Wynn - Everett MA			
GZ-116T	Ambient Sample	Wynn - Everett MA			
GZ-126T	Ambient Sample	Wynn - Everett MA			
GZ-135T	Ambient Sample	Wynn - Everett MA			
GZ-137T	Ambient Sample	Wynn - Everett MA			
GZ-LC1T	Ambient Sample	Wynn - Everett MA			
GZ-LC2T	Ambient Sample	Wynn - Everett MA			
GZ-LC3T	Ambient Sample	Wynn - Everett MA			

Data Transform	Zeta	Alt Hyp	Trials	Seed	PMSD	Test Result
Angular (Corrected)	NA	C > T	NA	NA	32.2%	

Steel Many-One Rank Sum Test

Sample Code	vs	Sample Code	Test Stat	Critical	Ties	DF	P-Value	P-Type	Decision(α:5%)
Art Control		GZ-104T	16	15	0	8	0.0518	Asymp	Non-Significant Effect
		GZ-114T	18	15	1	8	0.1285	Asymp	Non-Significant Effect
		GZ-116T	23	15	3	8	0.5498	Asymp	Non-Significant Effect
		GZ-126T	24.5	15	2	8	0.6944	Asymp	Non-Significant Effect
		GZ-135T	30.5	15	3	8	0.9804	Asymp	Non-Significant Effect
		GZ-137T	23	15	1	8	0.5498	Asymp	Non-Significant Effect
		GZ-LC1T	29.5	15	1	8	0.9642	Asymp	Non-Significant Effect
		GZ-LC2T	15	15	0	8	0.0306	Asymp	Significant Effect
		GZ-LC3T	19	15	2	8	0.1883	Asymp	Non-Significant Effect

Leptocheirus 28-d Survival, Growth and Reproduction Sediment Test — **New England Bioassay**

Analysis ID: 20-5011-4794 **Endpoint:** Survival Rate **CETIS Version:** CETISv1.8.7
Analyzed: 27 Sep-13 14:46 **Analysis:** Nonparametric-Control vs Treatments **Official Results:** Yes

Test Acceptability Criteria

Attribute	Test Stat	TAC Limits	Overlap	Decision
Control Resp	0.91	0.8 - NL	Yes	Passes Acceptability Criteria

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	5.838233	0.6486925	9	11.39	<0.0001	Significant Effect
Error	2.279036	0.0569759	40			
Total	8.117269		49			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Mod Levene Equality of Variance	1.053	3.067	0.4235	Equal Variances
Variances	Levene Equality of Variance	2.83	2.888	0.0113	Equal Variances
Distribution	Shapiro-Wilk W Normality	0.9235	0.9367	0.0032	Non-normal Distribution

Survival Rate Summary

Sample Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
Art Control	5	0.91	0.8179	1	0.9	0.8	1	0.03317	8.15%	0.0%
GZ-104T	5	0.54	0.109	0.971	0.75	0.05	0.85	0.1552	64.28%	40.66%
GZ-114T	5	0.64	0.296	0.984	0.65	0.2	0.9	0.1239	43.29%	29.67%
GZ-116T	5	0.86	0.758	0.962	0.9	0.75	0.95	0.03674	9.55%	5.5%
GZ-126T	5	0.84	0.6276	1	0.9	0.55	1	0.07649	20.36%	7.69%
GZ-135T	5	0.94	0.8591	1	0.95	0.85	1	0.02915	6.94%	-3.3%
GZ-137T	5	0.82	0.6358	1	0.85	0.6	0.95	0.06633	18.09%	9.89%
GZ-LC1T	5	0.83	0.4534	1	1	0.3	1	0.1356	36.54%	8.79%
GZ-LC2T	5	0	0	0	0	0	0	0		100.0%
GZ-LC3T	5	0.77	0.5756	0.9644	0.8	0.5	0.9	0.07	20.33%	15.38%

Angular (Corrected) Transformed Summary

Sample Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
Art Control	5	1.282	1.12	1.444	1.249	1.107	1.459	0.05831	10.17%	0.0%
GZ-104T	5	0.8145	0.3183	1.311	1.047	0.2255	1.173	0.1787	49.07%	36.46%
GZ-114T	5	0.9419	0.5594	1.324	0.9377	0.4636	1.249	0.1378	32.71%	26.52%
GZ-116T	5	1.2	1.05	1.349	1.249	1.047	1.345	0.0538	10.03%	6.42%
GZ-126T	5	1.193	0.9119	1.474	1.249	0.8355	1.459	0.1013	18.98%	6.93%
GZ-135T	5	1.337	1.18	1.494	1.345	1.173	1.459	0.05671	9.48%	-4.3%
GZ-137T	5	1.159	0.9137	1.405	1.173	0.8861	1.345	0.08848	17.07%	9.55%
GZ-LC1T	5	1.226	0.7517	1.7	1.459	0.5796	1.459	0.1707	31.15%	4.37%
GZ-LC2T	5	0.112	0.112	0.112	0.112	0.112	0.112	0	0.0%	91.26%
GZ-LC3T	5	1.084	0.8645	1.304	1.107	0.7854	1.249	0.07919	16.33%	15.41%

Survival Rate Detail

Sample Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
Art Control	0.95	0.8	0.9	1	0.9
GZ-104T	0.05	0.75	0.75	0.85	0.3
GZ-114T	0.2	0.6	0.9	0.85	0.65
GZ-116T	0.9	0.8	0.75	0.95	0.9
GZ-126T	1	0.85	0.9	0.9	0.55
GZ-135T	0.85	0.9	1	1	0.95
GZ-137T	0.6	0.75	0.95	0.95	0.85
GZ-LC1T	0.85	0.3	1	1	1
GZ-LC2T	0	0	0	0	0
GZ-LC3T	0.9	0.5	0.8	0.8	0.85

Leptocheirus 28-d Survival, Growth and Reproduction Sediment Test — **New England Bioassay**

Analysis ID:	20-5011-4794	**Endpoint:**	Survival Rate	**CETIS Version:**	CETISv1.8.7
Analyzed:	27 Sep-13 14:46	**Analysis:**	Nonparametric-Control vs Treatments	**Official Results:**	Yes

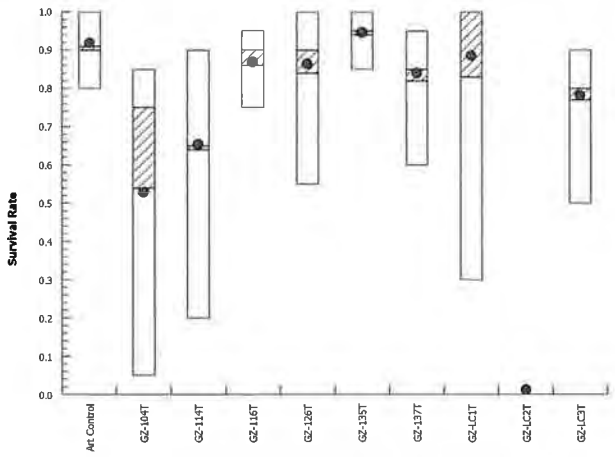
Angular (Corrected) Transformed Detail

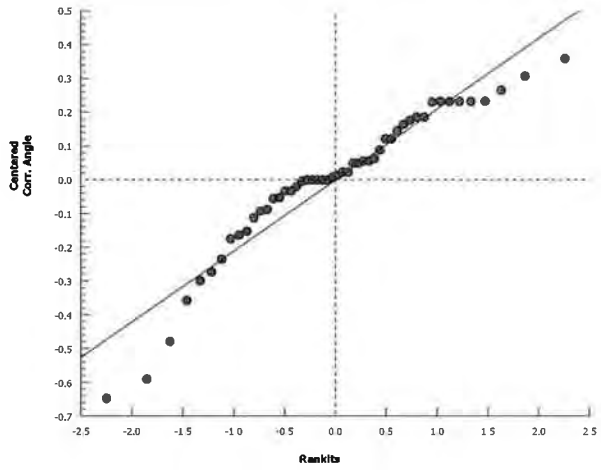
Sample Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
Art Control	1.345	1.107	1.249	1.459	1.249
GZ-104T	0.2255	1.047	1.047	1.173	0.5796
GZ-114T	0.4636	0.8861	1.249	1.173	0.9377
GZ-116T	1.249	1.107	1.047	1.345	1.249
GZ-126T	1.459	1.173	1.249	1.249	0.8355
GZ-135T	1.173	1.249	1.459	1.459	1.345
GZ-137T	0.8861	1.047	1.345	1.345	1.173
GZ-LC1T	1.173	0.5796	1.459	1.459	1.459
GZ-LC2T	0.112	0.112	0.112	0.112	0.112
GZ-LC3T	1.249	0.7854	1.107	1.107	1.173

Survival Rate Binomials

Sample Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
Art Control	19/20	16/20	18/20	20/20	18/20
GZ-104T	1/20	15/20	15/20	17/20	6/20
GZ-114T	4/20	12/20	18/20	17/20	13/20
GZ-116T	18/20	16/20	15/20	19/20	18/20
GZ-126T	20/20	17/20	18/20	18/20	11/20
GZ-135T	17/20	18/20	20/20	20/20	19/20
GZ-137T	12/20	15/20	19/20	19/20	17/20
GZ-LC1T	17/20	6/20	20/20	20/20	20/20
GZ-LC2T	0/20	0/20	0/20	0/20	0/20
GZ-LC3T	18/20	10/20	16/20	16/20	17/20

Graphics





Leptocheirus 28-d Survival, Growth and Reproduction Sediment Test — **New England Bioassay**

Analysis ID:	20-2891-0558	**Endpoint:**	Mean Dry Weight-mg	**CETIS Version:**	CETISv1.8.7
Analyzed:	27 Sep-13 14:46	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes
Batch ID:	02-5993-2028	**Test Type:**	Leptocheirus (28-d)	**Analyst:**	
Start Date:	28 Aug-13	**Protocol:**	EPA/600/R-01/020 (2001)	**Diluent:**	
Ending Date:	25 Sep-13	**Species:**	Leptocheirus plumulosus	**Brine:**	
Duration:	28d 0h	**Source:**	In-House Culture	**Age:**	

Sample Code	Sample ID	Sample Date	Receive Date	Sample Age	Client Name	Project
Art Control	00-9271-0330	28 Aug-13	28 Aug-13	NA	GZA GeoEnvironmental	
GZ-104T	05-0294-9077	06 Aug-13	22 Aug-13	22d 0h		
GZ-114T	20-8741-3134	06 Aug-13	22 Aug-13	22d 0h		
GZ-116T	18-5487-8325	06 Aug-13	22 Aug-13	22d 0h		
GZ-126T	13-7568-5139	06 Aug-13	22 Aug-13	22d 0h		
GZ-135T	13-1371-0218	06 Aug-13	22 Aug-13	22d 0h		
GZ-137T	18-7679-2931	06 Aug-13	22 Aug-13	22d 0h		
GZ-LC1T	10-4515-9435	06 Aug-13	22 Aug-13	22d 0h		
GZ-LC2T	10-4258-7121	06 Aug-13	22 Aug-13	22d 0h		
GZ-LC3T	06-8712-0134	06 Aug-13	22 Aug-13	22d 0h		

Sample Code	Material Type	Sample Source	Station Location	Latitude	Longitude
Art Control	Not Applicable	Wynn - Everett MA			
GZ-104T	Ambient Sample	Wynn - Everett MA			
GZ-114T	Ambient Sample	Wynn - Everett MA			
GZ-116T	Ambient Sample	Wynn - Everett MA			
GZ-126T	Ambient Sample	Wynn - Everett MA			
GZ-135T	Ambient Sample	Wynn - Everett MA			
GZ-137T	Ambient Sample	Wynn - Everett MA			
GZ-LC1T	Ambient Sample	Wynn - Everett MA			
GZ-LC2T	Ambient Sample	Wynn - Everett MA			
GZ-LC3T	Ambient Sample	Wynn - Everett MA			

Data Transform	Zeta	Alt Hyp	Trials	Seed	PMSD	Test Result
Untransformed	NA	C > T	NA	NA	37.9%	

Dunnett Multiple Comparison Test

Sample Code	vs	Sample Code	Test Stat	Critical	MSD	DF	P-Value	P-Type	Decision(α:5%)
Art Control		GZ-104T	5.061	2.506	0.529	8	<0.0001	CDF	Significant Effect
		GZ-114T	4.925	2.506	0.529	8	<0.0001	CDF	Significant Effect
		GZ-116T	2.426	2.506	0.529	8	0.0594	CDF	Non-Significant Effect
		GZ-126T	5.009	2.506	0.529	8	<0.0001	CDF	Significant Effect
		GZ-135T	2.463	2.506	0.529	8	0.0549	CDF	Non-Significant Effect
		GZ-137T	4.476	2.506	0.529	8	0.0003	CDF	Significant Effect
		GZ-LC1T	2.351	2.506	0.529	8	0.0694	CDF	Non-Significant Effect
		GZ-LC2T	6.606	2.506	0.529	8	<0.0001	CDF	Significant Effect
		GZ-LC3T	3.873	2.506	0.529	8	0.0015	CDF	Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	7.316926	0.8129919	9	7.29	<0.0001	Significant Effect
Error	4.460754	0.1115189	40			
Total	11.77768		49			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Mod Levene Equality of Variance	1.17	3.067	0.3488	Equal Variances
Variances	Levene Equality of Variance	3.018	2.888	0.0076	Unequal Variances
Distribution	Shapiro-Wilk W Normality	0.9707	0.9367	0.2482	Normal Distribution

Leptocheirus 28-d Survival, Growth and Reproduction Sediment Test — **New England Bioassay**

Analysis ID:	20-2891-0558	**Endpoint:**	Mean Dry Weight-mg	**CETIS Version:**	CETISv1.8.7
Analyzed:	27 Sep-13 14:46	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes

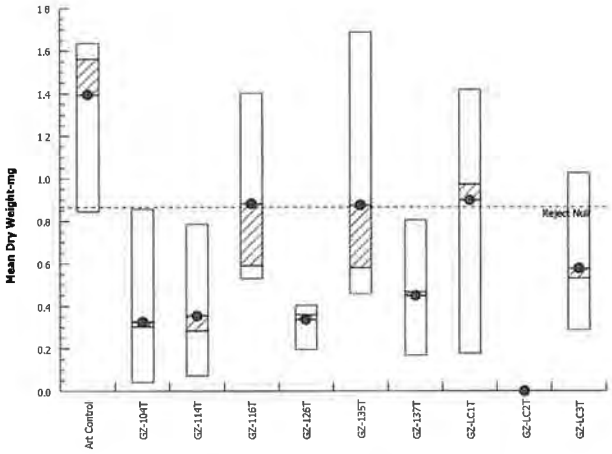
Mean Dry Weight-mg Summary

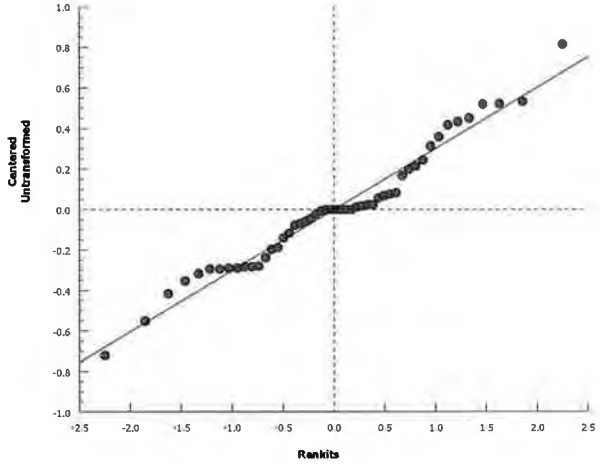
Sample Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
Art Control	5	1.395	0.9864	1.804	1.563	0.844	1.639	0.1472	23.6%	0.0%
GZ-104T	5	0.3262	-0.07723	0.7296	0.304	0.042	0.859	0.1453	99.6%	76.62%
GZ-114T	5	0.355	0.02754	0.6825	0.285	0.072	0.7875	0.1179	74.29%	74.56%
GZ-116T	5	0.8829	0.3486	1.417	0.5925	0.53	1.404	0.1924	48.73%	36.72%
GZ-126T	5	0.3373	0.2329	0.4417	0.36	0.1965	0.4055	0.03759	24.92%	75.82%
GZ-135T	5	0.8751	0.2327	1.517	0.581	0.4585	1.69	0.2314	59.12%	37.28%
GZ-137T	5	0.4499	0.1577	0.7421	0.4665	0.1695	0.808	0.1052	52.3%	67.75%
GZ-LC1T	5	0.8987	0.2997	1.498	0.9745	0.1775	1.42	0.2157	53.68%	35.59%
GZ-LC2T	5	0	0	0	0	0	0	0		100.0%
GZ-LC3T	5	0.5771	0.2178	0.9364	0.5315	0.2875	1.028	0.1294	50.15%	58.64%

Mean Dry Weight-mg Detail

Sample Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
Art Control	1.337	1.639	1.563	1.593	0.844
GZ-104T	0.042	0.304	0.3385	0.859	0.0875
GZ-114T	0.072	0.2765	0.7875	0.285	0.354
GZ-116T	1.3	0.5925	0.5885	1.404	0.53
GZ-126T	0.36	0.394	0.3305	0.4055	0.1965
GZ-135T	0.5575	0.581	1.088	1.69	0.4585
GZ-137T	0.1695	0.3325	0.808	0.473	0.4665
GZ-LC1T	0.71	0.1775	1.212	0.9745	1.42
GZ-LC2T	0	0	0	0	0
GZ-LC3T	1.028	0.2875	0.659	0.5315	0.3795

Graphics





Leptocheirus 28-d Survival, Growth and Reproduction Sediment Test — **New England Bioassay**

Analysis ID:	01-3211-5413	**Endpoint:**	Reproduction	**CETIS Version:**	CETISv1.8.7
Analyzed:	03 Oct-13 16:23	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes
Batch ID:	02-5993-2028	**Test Type:**	Leptocheirus (28-d)	**Analyst:**	
Start Date:	28 Aug-13	**Protocol:**	EPA/600/R-01/020 (2001)	**Diluent:**	
Ending Date:	25 Sep-13	**Species:**	Leptocheirus plumulosus	**Brine:**	
Duration:	28d 0h	**Source:**	In-House Culture	**Age:**	

Sample Code	Sample ID	Sample Date	Receive Date	Sample Age	Client Name	Project
Art Control	00-9271-0330	28 Aug-13	28 Aug-13	NA	GZA GeoEnvironmental	
GZ-104T	05-0294-9077	06 Aug-13	22 Aug-13	22d 0h		
GZ-114T	20-8741-3134	06 Aug-13	22 Aug-13	22d 0h		
GZ-116T	18-5487-8325	06 Aug-13	22 Aug-13	22d 0h		
GZ-126T	13-7568-5139	06 Aug-13	22 Aug-13	22d 0h		
GZ-135T	13-1371-0218	06 Aug-13	22 Aug-13	22d 0h		
GZ-137T	18-7679-2931	06 Aug-13	22 Aug-13	22d 0h		
GZ-LC1T	10-4515-9435	06 Aug-13	22 Aug-13	22d 0h		
GZ-LC3T	06-8712-0134	06 Aug-13	22 Aug-13	22d 0h		

Sample Code	Material Type	Sample Source	Station Location	Latitude	Longitude
Art Control	Not Applicable	Wynn - Everett MA			
GZ-104T	Ambient Sample	Wynn - Everett MA			
GZ-114T	Ambient Sample	Wynn - Everett MA			
GZ-116T	Ambient Sample	Wynn - Everett MA			
GZ-126T	Ambient Sample	Wynn - Everett MA			
GZ-135T	Ambient Sample	Wynn - Everett MA			
GZ-137T	Ambient Sample	Wynn - Everett MA			
GZ-LC1T	Ambient Sample	Wynn - Everett MA			
GZ-LC3T	Ambient Sample	Wynn - Everett MA			

Data Transform	Zeta	Alt Hyp	Trials	Seed	PMSD	Test Result
Untransformed	NA	C > T	NA	NA	34.3%	

Dunnett Multiple Comparison Test

Sample Code	vs	Sample Code	Test Stat	Critical	MSD	DF	P-Value	P-Type	Decision(α:5%)
Art Control		GZ-104T	6.059	2.478	1.437	8	<0.0001	CDF	Significant Effect
		GZ-114T	5.759	2.478	1.437	8	<0.0001	CDF	Significant Effect
		GZ-116T	4.996	2.478	1.437	8	<0.0001	CDF	Significant Effect
		GZ-126T	7.23	2.478	1.437	8	<0.0001	CDF	Significant Effect
		GZ-135T	4.54	2.478	1.437	8	0.0002	CDF	Significant Effect
		GZ-137T	6.713	2.478	1.437	8	<0.0001	CDF	Significant Effect
		GZ-LC1T	4.466	2.478	1.437	8	0.0003	CDF	Significant Effect
		GZ-LC3T	6.472	2.478	1.437	8	<0.0001	CDF	Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	62.42134	7.802668	8	9.275	<0.0001	Significant Effect
Error	30.28683	0.8413008	36			
Total	92.70818		44			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Mod Levene Equality of Variance	2.657	3.256	0.0272	Equal Variances
Variances	Levene Equality of Variance	3.891	3.052	0.0022	Unequal Variances
Distribution	Shapiro-Wilk W Normality	0.9417	0.9308	0.0248	Normal Distribution

Leptocheirus 28-d Survival, Growth and Reproduction Sediment Test — **New England Bioassay**

Analysis ID: 01-3211-5413 **Endpoint:** Reproduction **CETIS Version:** CETISv1.8.7
Analyzed: 03 Oct-13 16:23 **Analysis:** Parametric-Control vs Treatments **Official Results:** Yes

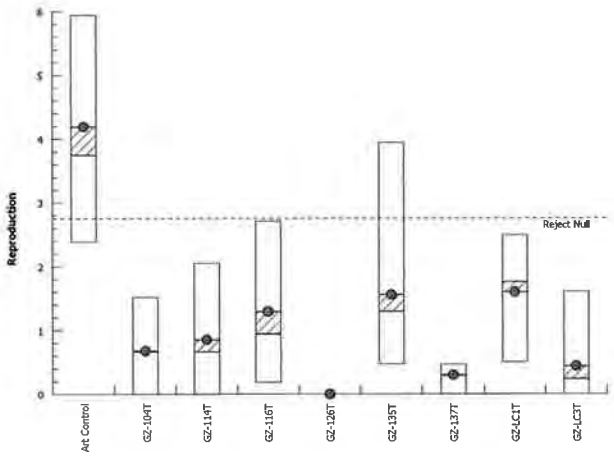
Reproduction Summary

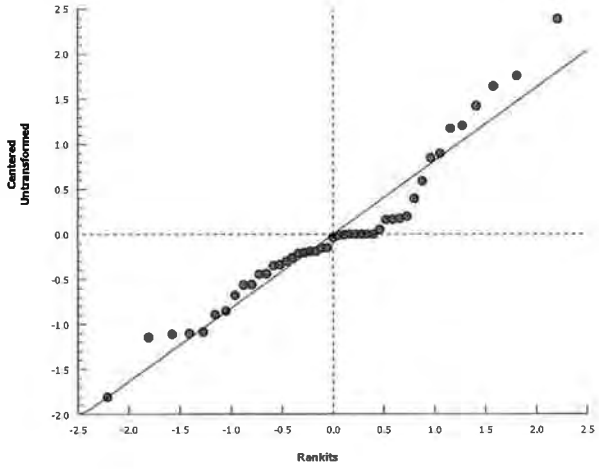
Sample Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
Art Control	5	4.194	2.18	6.208	3.75	2.389	5.947	0.7255	38.68%	0.0%
GZ-104T	5	0.6792	-0.01	1.368	0.6667	0	1.529	0.2482	81.72%	83.8%
GZ-114T	5	0.8533	-0.1628	1.869	0.6667	0	2.056	0.366	95.9%	79.65%
GZ-116T	5	1.296	0.04607	2.546	0.9474	0.1875	2.722	0.4501	77.67%	69.1%
GZ-126T	5	0	0	0	0	0	0	0		100.0%
GZ-135T	5	1.56	-0.1712	3.292	1.3	0.4737	3.95	0.6237	89.37%	62.79%
GZ-137T	5	0.2995	0.05961	0.5394	0.2941	0	0.4737	0.08641	64.51%	92.86%
GZ-LC1T	5	1.603	0.7012	2.505	1.765	0.5	2.5	0.3248	45.31%	61.78%
GZ-LC3T	5	0.4393	-0.384	1.263	0.2353	0	1.611	0.2965	150.9%	89.53%

Reproduction Detail

Sample Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
Art Control	5.947	3.75	5.833	3.05	2.389
GZ-104T	0	0.7333	0.4667	1.529	0.6667
GZ-114T	1.25	0.6667	2.056	0.2941	0
GZ-116T	2.722	0.1875	0.7333	0.9474	1.889
GZ-126T	0	0	0	0	0
GZ-135T	1.412	0.6667	3.95	1.3	0.4737
GZ-137T	0	0.4667	0.4737	0.2632	0.2941
GZ-LC1T	1.765	0.5	1.8	1.45	2.5
GZ-LC3T	1.611	0.1	0	0.25	0.2353

Graphics





APPENDIX B

CHEMICAL ANLAYSIS

REFERENCE TOXICANT DATA

CHAIN OF CUSTODY DOCUMENTS

PHOENIX
Environmental Laboratories, Inc

Tuesday, September 10, 2013

Attn: Ms. Kim Wills
New England Bioassay
a Division of GZA GeoEnvironmental
77 Batson Drive
Manchester, CT 06040

Project ID: GZA EVERETT
Sample ID#s: BF34874 - BF34884

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext. 200.

Sincerely yours,

Phyllis Shiller

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #MA-CT-007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
VT Lab Registration #VT11301

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

September 10, 2013

FOR: Attn: Ms. Kim Wills
New England Bioassay
a Division of GZA GeoEnvironmental
77 Batson Drive
Manchester, CT 06040

Sample Information		Custody Information		Date	Time
Matrix:	WATER	Collected by:		08/28/13	9:30
Location Code:	NEB	Received by:	LB	09/05/13	15:33
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBF34874
Phoenix ID: BF34874

Project ID: GZA EVERETT
Client ID: C33-3660-0

Parameter	Result	RL/ PQL	Units	Date/Time	By	Reference
Ammonia as Nitrogen	3.03	0.02	mg/L	09/06/13	WHM	E350.1

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.
This report must not be reproduced except in full as defined by the attached chain of custody.

Phyllis Shiller, Laboratory Director
September 10, 2013
Reviewed and Released by: Deb Lawrie, Project Manager

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

September 10, 2013

FOR: Attn: Ms. Kim Wills
New England Bioassay
a Division of GZA GeoEnvironmental
77 Batson Drive
Manchester, CT 06040

Sample Information		Custody Information		Date	Time
Matrix:	WATER	Collected by:		08/28/13	9:30
Location Code:	NEB	Received by:	LB	09/05/13	15:33
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBF34874
Phoenix ID: BF34875

Project ID: GZA EVERETT
Client ID: C33-3661-0

Parameter	Result	RL/ PQL	Units	Date/Time	By	Reference
Ammonia as Nitrogen	0.65	0.02	mg/L	09/09/13	WHM	E350.1

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.
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Phyllis Shiller, Laboratory Director
September 10, 2013
Reviewed and Released by: Deb Lawrie, Project Manager

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

September 10, 2013

FOR: Attn: Ms. Kim Wills
New England Bioassay
a Division of GZA GeoEnvironmental
77 Batson Drive
Manchester, CT 06040

Sample Information		Custody Information		Date	Time
Matrix:	WATER	Collected by:		08/28/13	9:30
Location Code:	NEB	Received by:	LB	09/05/13	15:33
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBF34874
Phoenix ID: BF34876

Project ID: GZA EVERETT
Client ID: C33-3574-0

Parameter	Result	RL/ PQL	Units	Date/Time	By	Reference
Ammonia as Nitrogen	1.16	0.02	mg/L	09/09/13	WHM	E350.1

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller, Laboratory Director
September 10, 2013
Reviewed and Released by: Deb Lawrie, Project Manager

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

September 10, 2013

FOR: Attn: Ms. Kim Wills
New England Bioassay
a Division of GZA GeoEnvironmental
77 Batson Drive
Manchester, CT 06040

Sample Information		Custody Information		Date	Time
Matrix:	WATER	Collected by:		08/28/13	9:30
Location Code:	NEB	Received by:	LB	09/05/13	15:33
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBF34874
Phoenix ID: BF34877

Project ID: GZA EVERETT
Client ID: C33-3575-0

Parameter	Result	RL/ PQL	Units	Date/Time	By	Reference
Ammonia as Nitrogen	1.35	0.02	mg/L	09/09/13	WHM	E350.1

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.
This report must not be reproduced except in full as defined by the attached chain of custody.

Phyllis Shiller, Laboratory Director
September 10, 2013
Reviewed and Released by: Deb Lawrie, Project Manager

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

September 10, 2013

FOR: Attn: Ms. Kim Wills
New England Bioassay
a Division of GZA GeoEnvironmental
77 Batson Drive
Manchester, CT 06040

Sample Information		Custody Information		Date	Time
Matrix:	WATER	Collected by:		08/28/13	9:30
Location Code:	NEB	Received by:	LB	09/05/13	15:33
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBF34874
Phoenix ID: BF34878

Project ID: GZA EVERETT
Client ID: C33-3576-0

Parameter	Result	RL/ PQL	Units	Date/Time	By	Reference
Ammonia as Nitrogen	0.75	0.02	mg/L	09/09/13	WHM	E350.1

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.
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Phyllis Shiller, Laboratory Director
September 10, 2013
Reviewed and Released by: Deb Lawrie, Project Manager

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

September 10, 2013

FOR: Attn: Ms. Kim Wills
New England Bioassay
a Division of GZA GeoEnvironmental
77 Batson Drive
Manchester, CT 06040

Sample Information		Custody Information		Date	Time
Matrix:	WATER	Collected by:		08/28/13	9:30
Location Code:	NEB	Received by:	LB	09/05/13	15:33
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBF34874
Phoenix ID: BF34879

Project ID: GZA EVERETT
Client ID: C33-3577-0

Parameter	Result	RL/ PQL	Units	Date/Time	By	Reference
Ammonia as Nitrogen	0.92	0.02	mg/L	09/09/13	WHM	E350.1

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

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September 10, 2013
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Analysis Report

September 10, 2013

FOR: Attn: Ms. Kim Wills
New England Bioassay
a Division of GZA GeoEnvironmental
77 Batson Drive
Manchester, CT 06040

Sample Information		Custody Information		Date	Time
Matrix:	WATER	Collected by:		08/28/13	9:30
Location Code:	NEB	Received by:	LB	09/05/13	15:33
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBF34874
Phoenix ID: BF34880

Project ID: GZA EVERETT
Client ID: C33-3578-0

Parameter	Result	RL/ PQL	Units	Date/Time	By	Reference
Ammonia as Nitrogen	1.02	0.02	mg/L	09/09/13	WHM	E350.1

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

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Analysis Report

September 10, 2013

FOR: Attn: Ms. Kim Wills
New England Bioassay
a Division of GZA GeoEnvironmental
77 Batson Drive
Manchester, CT 06040

Sample Information		Custody Information		Date	Time
Matrix:	WATER	Collected by:		08/28/13	9:30
Location Code:	NEB	Received by:	LB	09/05/13	15:33
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBF34874
Phoenix ID: BF34881

Project ID: GZA EVERETT
Client ID: C33-3579-0

Parameter	Result	RL/ PQL	Units	Date/Time	By	Reference
Ammonia as Nitrogen	0.75	0.02	mg/L	09/09/13	WHM	E350.1

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

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September 10, 2013

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New England Bioassay
a Division of GZA GeoEnvironmental
77 Batson Drive
Manchester, CT 06040

Sample Information		Custody Information		Date	Time
Matrix:	WATER	Collected by:		08/28/13	9:30
Location Code:	NEB	Received by:	LB	09/05/13	15:33
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBF34874
Phoenix ID: BF34882

Project ID: GZA EVERETT
Client ID: C33-3580-0

Parameter	Result	RL/ PQL	Units	Date/Time	By	Reference
Ammonia as Nitrogen	1.03	0.02	mg/L	09/09/13	WHM	E350.1

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

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Analysis Report

September 10, 2013

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New England Bioassay
a Division of GZA GeoEnvironmental
77 Batson Drive
Manchester, CT 06040

Sample Information		Custody Information		Date	Time
Matrix:	WATER	Collected by:		08/28/13	9:30
Location Code:	NEB	Received by:	LB	09/05/13	15:33
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBF34874
Phoenix ID: BF34883

Project ID: GZA EVERETT
Client ID: C33-3581-0

Parameter	Result	RL/ PQL	Units	Date/Time	By	Reference
Ammonia as Nitrogen	0.80	0.02	mg/L	09/09/13	WHM	E350.1

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

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Analysis Report

September 10, 2013

FOR: Attn: Ms. Kim Wills
New England Bioassay
a Division of GZA GeoEnvironmental
77 Batson Drive
Manchester, CT 06040

Sample Information		Custody Information		Date	Time
Matrix:	WATER	Collected by:		08/28/13	9:30
Location Code:	NEB	Received by:	LB	09/05/13	15:33
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBF34874
Phoenix ID: BF34884

Project ID: GZA EVERETT
Client ID: C33-3582-0

Parameter	Result	RL/ PQL	Units	Date/Time	By	Reference
Ammonia as Nitrogen	1.03	0.02	mg/L	09/09/13	WHM	E350.1

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

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September 10, 2013
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587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

September 10, 2013

QA/QC Data

SDG I.D.: GBF34874

Parameter	Blank	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 250269, QC Sample No: BF34267 (BF34874)												
Ammonia as Nitrogen	BRL	0.30	0.30	NC	105			106			85 - 115	20
QA/QC Batch 250359, QC Sample No: BF35123 (BF34875, BF34876, BF34877, BF34878, BF34879, BF34880, BF34881, BF34882, BF34883, BF34884)												
Ammonia as Nitrogen	BRL	10.9	10.9	0	106			104			85 - 115	20

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller, Laboratory Director
September 10, 2013

Sample Criteria Exceedences Report

GBF34874 - NEB

Requested Criteria: None

State: MA

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units

*** No Data to Display ***

Phoenix Laboratories does not assume responsibility for the data contained in this report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

Cooler: Yes [X] No [ ]
Coolant: IPK [X] ICE [ ] No [ ]

CHAIN OF CUSTODY RECORD

Temp 4 °C Pg of

PHOENIX Environmental Laboratories, Inc.

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: info@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Contact Options:
[ ] Fax:
[ ] Phone:
[ ] Email:

Customer: New England Bioassay
Address: 77 Batson Drive
Manchester, CT 06042

Project: GZA, Everett, MA
Report to: Kim Wills
Invoice to: NEB

Project P.O:

This section MUST be completed with Bottle Quantities.

Client Sample - Information - Identification

Sampler's Signature: Jamie Coe Date: 8-28-13

Matrix Code:
DW=Drinking Water **GW**=Ground Water **SW**=Surface Water **WW**=Waste Water
RW=Raw Water **SE**=Sediment **SL**=Sludge **S**=Soil **SD**=Solid **W**=Wipe
OIL=Oil **B**=Bulk **L**=Liquid

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	Analysis Request: Ammonia	Soil VOA Vials [ ] methanol [ ] H2O	GL Soil container ( ) oz	GL Soil container ( ) oz	40 ml VOA Vial [ ] As is [ ] HCl	GL Amber 1000ml [ ] As is [ ] H2SO4	PL As is [ ] 250ml [ ] 500ml [ ] 1000ml	PL H2SO4 [ ] 250ml [ ] 500ml [ ] 1000ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria Bottle
34874	C33 -3660 -0	Water	8-28-13	0930	✓						1				
34875	C33 - 3661 -0	"	"	"	✓						1				
34876	C33 - 3574 -0	"	"	"	✓						1				
34877	C33 - 3575 - 0	"	"	"	✓						1				
34878	C33 - 3576 - 0	"	"	"	✓						1				
34879	C33 - 3577 - 0	"	"	"	✓						1				
34880	C33 - 3578 - 0	"	"	"	✓						1				
34881	C33 - 3579 - 0	"	"	"	✓						1				
34882	C33 - 3580 - 0	"	"	"	✓						1				
34883	C33 - 3581 -0	"	"	"	✓						1				
34884	C33 - 3582 -0	"	"	"	✓						1				

Relinquished by:	Accepted by:	Date:	Time:
Jamie Coe		9-5-13	1508
		9-5-13	15:33

Comments, Special Requirements or Regulations:

Turnaround:
[ ] 1 Day*
[ ] 2 Days*
[ ] 3 Days*
[ ] Standard
[ ] Other
* SURCHARGE APPLIES

RI
[ ] Direct Exposure (Residential)
[ ] GW
[ ] Other

CT
[ ] RCP Cert
[ ] GW Protection
[ ] SW Protection
[ ] GA Mobility
[ ] GB Mobility
[ ] Residential DEC
[ ] I/C DEC
[ ] Other

MA
[ ] MCP Certification
[ ] GW-1
[ ] GW-2
[ ] GW-3
[ ] S-1
[ ] S-2
[ ] S-3
[ ] MWRA eSMART
[ ] Other

State where samples were collected: _____

Data Format
[ ] Excel
[ ] PDF
[ ] GIS/Key
[ ] EQuIS
[ ] Other

Data Package
[ ] Tier II Checklist
[ ] Full Data Package*
[ ] Phoenix Std Report
[ ] Other

* SURCHARGE APPLIES

PHOENIX
Environmental Laboratories, Inc

Wednesday, October 02, 2013

Attn: Ms. Kim Wills
New England Bioassay
a Division of GZA GeoEnvironmental
77 Batson Drive
Manchester, CT 06040

Project ID: GZA-EVERETT, MA
Sample ID#s: BF46433 - BF46443

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext. 200.

Sincerely yours,

Phyllis Shiller

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #MA-CT-007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
VT Lab Registration #VT11301

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

October 02, 2013

FOR: Attn: Ms. Kim Wills
New England Bioassay
a Division of GZA GeoEnvironmental
77 Batson Drive
Manchester, CT 06040

Sample Information		Custody Information		Date	Time
Matrix:	WATER	Collected by:	KB	09/25/13	10:45
Location Code:	NEB	Received by:	LB	09/27/13	14:01
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBF46433
Phoenix ID: BF46433

Project ID: GZA-EVERETT, MA
Client ID: C33-3660-28

Parameter	Result	RL/ PQL	Units	Date/Time	By	Reference
Ammonia as Nitrogen	0.13	0.02	mg/L	10/01/13	WHM	E350.1

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller, Laboratory Director
October 02, 2013
Reviewed and Released by: Deb Lawrie, Project Manager

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

October 02, 2013

FOR: Attn: Ms. Kim Wills
New England Bioassay
a Division of GZA GeoEnvironmental
77 Batson Drive
Manchester, CT 06040

Sample Information		Custody Information		Date	Time
Matrix:	WATER	Collected by:	KB	09/25/13	10:47
Location Code:	NEB	Received by:	LB	09/27/13	14:01
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBF46433
Phoenix ID: BF46434

Project ID: GZA-EVERETT, MA
Client ID: C33-3661-28

Parameter	Result	RL/ PQL	Units	Date/Time	By	Reference
Ammonia as Nitrogen	0.17	0.02	mg/L	10/01/13	WHM	E350.1

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

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October 02, 2013
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Analysis Report

October 02, 2013

FOR: Attn: Ms. Kim Wills
New England Bioassay
a Division of GZA GeoEnvironmental
77 Batson Drive
Manchester, CT 06040

Sample Information		Custody Information		Date	Time
Matrix:	WATER	Collected by:	KB	09/25/13	10:49
Location Code:	NEB	Received by:	LB	09/27/13	14:01
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBF46433
Phoenix ID: BF46435

Project ID: GZA-EVERETT, MA
Client ID: C33-3574-28

Parameter	Result	RL/ PQL	Units	Date/Time	By	Reference
Ammonia as Nitrogen	0.11	0.02	mg/L	10/01/13	WHM	E350.1

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

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Analysis Report

October 02, 2013

FOR: Attn: Ms. Kim Wills
New England Bioassay
a Division of GZA GeoEnvironmental
77 Batson Drive
Manchester, CT 06040

Sample Information		Custody Information		Date	Time
Matrix:	WATER	Collected by:	KB	09/25/13	11:02
Location Code:	NEB	Received by:	LB	09/27/13	14:01
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBF46433
Phoenix ID: BF46436

Project ID: GZA-EVERETT, MA
Client ID: C33-3575-28

Parameter	Result	RL/ PQL	Units	Date/Time	By	Reference
Ammonia as Nitrogen	0.06	0.02	mg/L	10/01/13	WHM	E350.1

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

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Analysis Report

October 02, 2013

FOR: Attn: Ms. Kim Wills
New England Bioassay
a Division of GZA GeoEnvironmental
77 Batson Drive
Manchester, CT 06040

Sample Information		Custody Information		Date	Time
Matrix:	WATER	Collected by:	KB	09/25/13	12:15
Location Code:	NEB	Received by:	LB	09/27/13	14:01
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBF46433
Phoenix ID: BF46437

Project ID: GZA-EVERETT, MA
Client ID: C33-3576-28

Parameter	Result	RL/ PQL	Units	Date/Time	By	Reference
Ammonia as Nitrogen	0.15	0.02	mg/L	10/01/13	WHM	E350.1

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

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Analysis Report

October 02, 2013

FOR: Attn: Ms. Kim Wills
New England Bioassay
a Division of GZA GeoEnvironmental
77 Batson Drive
Manchester, CT 06040

Sample Information		Custody Information		Date	Time
Matrix:	WATER	Collected by:	KB	09/25/13	12:17
Location Code:	NEB	Received by:	LB	09/27/13	14:01
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBF46433
Phoenix ID: BF46438

Project ID: GZA-EVERETT, MA
Client ID: C33-3577-28

Parameter	Result	RL/ PQL	Units	Date/Time	By	Reference
Ammonia as Nitrogen	0.16	0.02	mg/L	10/01/13	WHM	E350.1

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Analysis Report

October 02, 2013

FOR: Attn: Ms. Kim Wills
New England Bioassay
a Division of GZA GeoEnvironmental
77 Batson Drive
Manchester, CT 06040

Sample Information		Custody Information		Date	Time
Matrix:	WATER	Collected by:	KB	09/25/13	12:19
Location Code:	NEB	Received by:	LB	09/27/13	14:01
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBF46433
Phoenix ID: BF46439

Project ID: GZA-EVERETT, MA
Client ID: C33-3578-28

Parameter	Result	RL/ PQL	Units	Date/Time	By	Reference
Ammonia as Nitrogen	0.19	0.02	mg/L	10/01/13	WHM	E350.1

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

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Analysis Report

October 02, 2013

FOR: Attn: Ms. Kim Wills
New England Bioassay
a Division of GZA GeoEnvironmental
77 Batson Drive
Manchester, CT 06040

Sample Information		Custody Information		Date	Time
Matrix:	WATER	Collected by:	KB	09/25/13	12:27
Location Code:	NEB	Received by:	LB	09/27/13	14:01
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBF46433
Phoenix ID: BF46440

Project ID: GZA-EVERETT, MA
Client ID: C33-3579-28

Parameter	Result	RL/ PQL	Units	Date/Time	By	Reference
Ammonia as Nitrogen	0.10	0.02	mg/L	10/01/13	WHM	E350.1

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

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Analysis Report

October 02, 2013

FOR: Attn: Ms. Kim Wills
New England Bioassay
a Division of GZA GeoEnvironmental
77 Batson Drive
Manchester, CT 06040

Sample Information		Custody Information		Date	Time
Matrix:	WATER	Collected by:	KB	09/25/13	14:15
Location Code:	NEB	Received by:	LB	09/27/13	14:01
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBF46433
Phoenix ID: BF46441

Project ID: GZA-EVERETT, MA
Client ID: C33-3580-28

Parameter	Result	RL/ PQL	Units	Date/Time	By	Reference
Ammonia as Nitrogen	0.04	0.02	mg/L	10/01/13	WHM	E350.1

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

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Phyllis Shiller, Laboratory Director
October 02, 2013
Reviewed and Released by: Deb Lawrie, Project Manager

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

October 02, 2013

FOR: Attn: Ms. Kim Wills
New England Bioassay
a Division of GZA GeoEnvironmental
77 Batson Drive
Manchester, CT 06040

Sample Information		Custody Information		Date	Time
Matrix:	WATER	Collected by:	KB	09/25/13	14:17
Location Code:	NEB	Received by:	LB	09/27/13	14:01
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBF46433
Phoenix ID: BF46442

Project ID: GZA-EVERETT, MA
Client ID: C33-3581-28

Parameter	Result	RL/ PQL	Units	Date/Time	By	Reference
Ammonia as Nitrogen	0.10	0.02	mg/L	10/01/13	WHM	E350.1

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.
This report must not be reproduced except in full as defined by the attached chain of custody.

Phyllis Shiller, Laboratory Director
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Analysis Report

October 02, 2013

FOR: Attn: Ms. Kim Wills
New England Bioassay
a Division of GZA GeoEnvironmental
77 Batson Drive
Manchester, CT 06040

Sample Information		Custody Information		Date	Time
Matrix:	WATER	Collected by:	KB	09/25/13	14:19
Location Code:	NEB	Received by:	LB	09/27/13	14:01
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBF46433
Phoenix ID: BF46443

Project ID: GZA-EVERETT, MA
Client ID: C33-3582-28

Parameter	Result	RL/ PQL	Units	Date/Time	By	Reference
Ammonia as Nitrogen	0.06	0.02	mg/L	10/01/13	WHM	E350.1

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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October 02, 2013
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Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

October 02, 2013

QA/QC Data

SDG I.D.: GBF46433

Parameter	Blank	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 255557, QC Sample No: BF46639 (BF46433, BF46434, BF46435, BF46436, BF46437, BF46438, BF46439)												
Ammonia as Nitrogen	BRL	0.09	0.09	NC	109			107			85 - 115	20
QA/QC Batch 255717, QC Sample No: BF46995 (BF46440, BF46441, BF46442, BF46443)												
Ammonia as Nitrogen	BRL	39.0	39.2	0.50	106			105			85 - 115	20

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller, Laboratory Director
October 02, 2013

Sample Criteria Exceedences Report

GBF46433 - NEB

Requested Criteria: None

State: MA

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units

*** No Data to Display ***

Phoenix Laboratories does not assume responsibility for the data contained in this report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

Cooler: Yes ☐ No ☐
Coolant: IPK ☒ ICE ☐ No ☐
Temp 1 °C Pg of

CHAIN OF CUSTODY RECORD

PHOENIX Environmental Laboratories, Inc.

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: info@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Contact Options:
☐ Fax:
☐ Phone:
☐ Email:

Customer: New England Bioassay
Address: 77 Batson Dr.
Manchester, CT 06042

Project: GZA – Everett, MA
Report to: Kim Wills
Invoice to: NEB

Project P.O:

This section MUST be completed with Bottle Quantities.

Client Sample - Information - Identification

Sampler's Signature: Kim Bergeron Date: 9-25-13

Matrix Code:
DW=Drinking Water **GW**=Ground Water **SW**=Surface Water **WW**=Waste Water
RW=Raw Water **SE**=Sediment **SL**=Sludge **S**=Soil **SD**=Solid **W**=Wipe
OIL=Oil **B**=Bulk **L**=Liquid

Analysis Request

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	Ammonia	Soil VOA Vials [ ]	GL Soil container ( )	GL Soil container ( )	40 ml VOA Vial [ ]	GL Amber 1000ml [ ]	PL As is [ ] 250ml	PL H2SO4 [V] 250ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria Bottle
46433	C33-3660-28	Water	9-25-13	1045	✓						1				
46434	C33-3661-28	↓	↓	1047	✓						1				
46435	C33-3574-28			1049	✓						1				
46436	C33-3575-28			1102	✓						1				
46437	C33-3576-28			1215	✓						1				
46438	C33-3577-28			1217	✓						1				
46439	C33-3578-28			1219	✓						1				
46440	C33-3579-28			1227	✓						1				
46441	C33-3580-28			1415	✓						1				
46442	C33-3581-28			1417	✓						1				
46443	C33-3582-28	↓	↓	1419	✓						1				

Relinquished by:	Accepted by:	Date:	Time:
		9-27-13	1330
		9-27-13	1401

Comments, Special Requirements or Regulations:

Turnaround:
☐ 1 Day*
☐ 2 Days*
☐ 3 Days*
☐ Standard
☐ Other
* SURCHARGE APPLIES

RI
☐ Direct Exposure (Residential)
☐ GW
☐ Other

CT
☐ RCP Cert
☐ GW Protection
☐ SW Protection
☐ GA Mobility
☐ GB Mobility
☐ Residential DEC
☐ I/C DEC
☐ Other

MA
☐ MCP Certification
☐ GW-1
☐ GW-2
☐ GW-3
☐ S-1
☐ S-2
☐ S-3
☐ MWRA eSMART
☐ Other

State where samples were collected: _____

Data Format
☐ Excel
☐ PDF
☐ GIS/Key
☐ EQuIS
☐ Other

Data Package
☐ Tier II Checklist
☐ Full Data Package*
☐ Phoenix Std Report
☐ Other
* SURCHARGE APPLIES

New England Bioassay, Inc. - Acute Reference Toxicity Data for ***Leptocheirus plumulosus***

Start date / time: 8-28-13/1400

End date / time: 9/1/13/1400

Ref. toxicant: SDS 13-1977 Org. lot #: Lp13(8.28) Salt water type / date prep: ASW/8-27-13

Source: NEB Salinity / Alkalinity: 20 ppt. / 95 (mg/L as $CaCO_3$) Tech. Att

		Number of organisms					Salinity ppt.					Temperature °C					D.O. mg/L					pH S.U.				
Day:		0	1	2	3	4	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4
Contr. ASW	A	10	10	10	10	10	20	–	–	–	20	23	25	25	25	25	6.9	–	–	–	6.8	8.1	–	–	–	8.0
	B	10	10	10	10	10	20	–	–	–	20	23	25	25	25	25	7.1	–	–	–	6.8	8.1	–	–	–	8.0
6.25 mg/L	A	10	10	10	10	10	20	–	–	–	20	23	25	25	25	25	7.3	–	–	–	5.5	8.1	–	–	–	7.9
	B	10	10	10	10	10	20	–	–	–	20	23	25	25	25	25	7.3	–	–	–	5.5	8.1	–	–	–	7.9
12.5 mg/L	A	10	10	10		3 7x	20	–	–	–	20	23	25	25	25	26	7.1	–	–	–	4.1	8.1	–	–	–	7.7
	B	10	10	10		6 4x	20	–	–	–	20	23	25	25	25	25	7.0	–	–	–	4.4	8.1	–	–	–	7.8
25 mg/L	A	10	10	6 4x		0 6x	20	–	–	–	20	23	25	25		25	7.2	–	–	–	2.9	8.1	–	–	–	7.6
	B	10	9 1x	5 4x		0 5x	20	–	–	–	20	23	25	25		25	7.2	–	–	–	3.3	8.1	–	–	–	7.7
50 mg/L	A	10	10	0 10x	–	–	20	–	20	–	–	23	25	25	–	–	7.4	–	5.4	–	–	8.1	–	7.8	–	–
	B	10	10	1 9x		0 1x	20	–	–	–	20	23	25	25	25	25	7.4	–	–	–	4.7	8.1	–	–	–	7.8
100 mg/L	A	10	0 10x	–	–	–	20	20	–	–	–	23	25	–	–	–	7.3	5.7	–	–	–	8.1	7.9	–	–	–
	B	10	0 10x	–	–	–	20	20	–	[illegible]		23	25	–	–	–	7.5	5.5	–	–	–	8.1	7.9	–	–	–

CT-TOX: BINOMIAL, MOVING AVERAGE, PROBIT, AND SPEARMAN METHODS

SPEARMAN-KARBER

TRIM:	.00%
LC50:	12.074
95% LOWER CONFIDENCE:	10.349
95% UPPER CONFIDENCE:	14.087

CONC. mg/L	NUMBER EXPOSED	NUMBER DEAD	PERCENT DEAD	BINOMIAL PROB.(%)
6.25	20.	0.	.00	.9537D-04
12.50	20.	11.	55.00	.4119D+02
25.00	20.	20.	100.00	.9537D-04
50.00	20.	20.	100.00	.9537D-04
100.00	20.	20.	100.00	.9537D-04

THE BINOMIAL TEST SHOWS THAT 6.25 AND 25.00 CAN BE USED AS STATISTICALLY SOUND CONSERVATIVE 95 PERCENT CONFIDENCE LIMITS SINCE THE ACTUAL CONFIDENCE LEVEL ASSOCIATED WITH THESE LIMITS IS 99.9998 PERCENT.
AN APPROXIMATE LC50 FOR THIS DATA SET IS 11.941

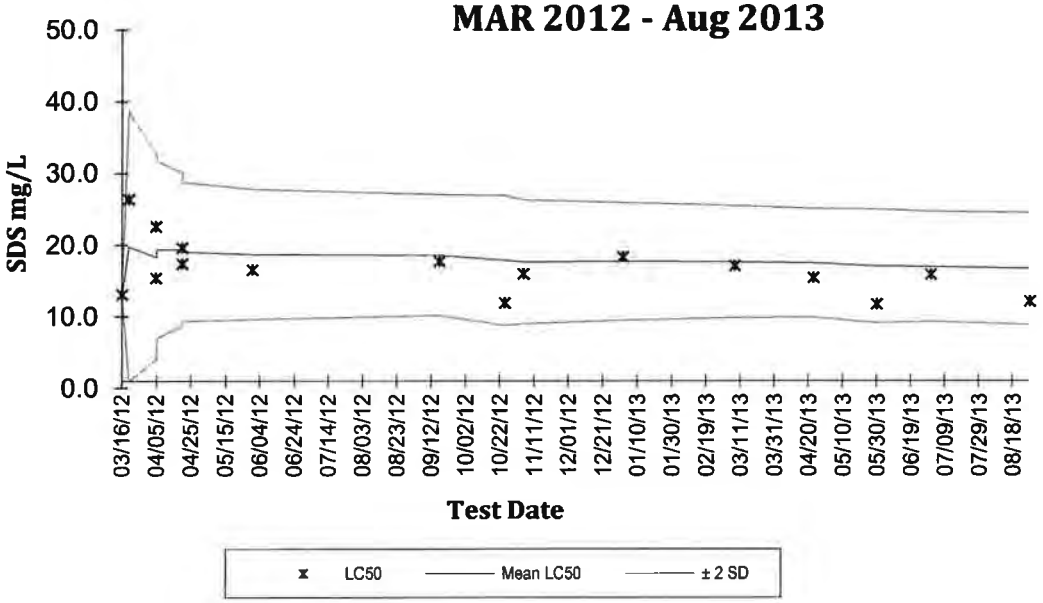
WHEN THERE ARE LESS THAN TWO CONCENTRATIONS AT WHICH THE PERCENT DEAD IS BETWEEN 0 AND 100, NEITHER THE MOVING AVERAGE NOR THE PROBIT METHOD CAN GIVE ANY STATISCALLY SOUND RESULTS.

DATE: 8-28-13 TEST NUMBER: 13-1977 DURATION: 96 h
SAMPLE: SDS SPECIES: L.plumulosus

METHOD	LC50	CONFIDENCE LIMITS LOWER	UPPER	SPAN
BINOMIAL	11.941	6.250	25.000	18.750
MAA	*******	*******	*******	*******
PROBIT	*******	*******	*******	*******
SPEARMAN	12.074	10.349	14.087	3.739

**** = LIMIT DOES NOT EXIST

Sodium Dodecyl Sulfate(SDS):
96-h LC50 for *Leptocheirus plumulosus*
MAR 2012 - Aug 2013



Test ID	Date	LC50	Mean LC50	STD	2STD	2STD	CV%
12-1566	3/16/2012	13.1	13.1		13.1	13.1	0.0
12-1567	3/20/2012	26.4	19.8	9.4	0.9	38.6	47.7
12-2337	4/5/2012	15.4	18.3	7.1	4.1	32.5	38.9
12-2338	4/5/2012	22.5	19.4	6.2	7.0	31.7	32.0
12-1568	4/20/2012	19.6	19.4	5.4	8.7	30.1	27.6
12-1569	4/20/2012	17.4	19.1	4.9	9.3	28.8	25.5
12-1570	5/31/2012	16.5	18.7	4.5	9.6	27.8	24.3
12-2336	9/17/2012	17.7	18.6	4.2	10.1	27.0	22.7
12-2334	10/25/2012	11.8	17.8	4.5	8.7	26.9	25.5
12-2355	11/5/2012	15.9	17.6	4.3	9.0	26.3	24.5
13-83	1/2/2013	18.3	17.7	4.1	9.5	25.9	23.2
13-686	3/8/2013	17.1	17.6	3.9	9.8	25.5	22.2
13-880	4/23/2013	15.4	17.5	3.8	9.9	25.1	21.8
13-1121	5/30/2013	11.7	17.1	4.0	9.1	25.0	23.3
13-1376	7/1/2013	15.9	17.0	3.8	9.3	24.7	22.6
13-1977	8/28/2013	12.1	16.7	3.9	8.9	24.5	23.5

New England Bioassay
A division of GZA GeoEnvironmental, Inc.
77 Batson Drive Manchester, CT 06042
Phone: 860-643-9560 Fax: 860-646-7169

Chain of Custody

Company Name: GZA
Project Name/#: 17/521.02 Tsk 6
Invoice To: David F. Lenz PO#:
Samples Collected By (Print): TJB

Report To: Tim Briggs
Address: 249 Vanderbilt, Norwood
Phone: ( ) Fax: ( )
Email: timothy.briggs@gza.com

#	SAMPLE IDENTIFICATIONS	Date Sampled	Time Sampled	Composite	Grab	Chemical Analysis - Attach Permit Specifications
1	GZ-104T C33-3574	8-6-13			X	
2	GZ-114T C33-3575	↓			X	
3	GZ-116T C33-3576				X	
4	GZ-126T C33-3577				X	

If you are uncertain of the following test parameters, please attach a copy of the appropriate pages from your permit

ANALYSIS	1	2	3	4
SAMPLE TYPE				
Stormwater (if yes, proceed to relinquish section)				
POTW Effluent				
Groundwater				
Non-Contact Cooling Water				
Industrial Effluent				
Other _____				
PROTOCOL TYPE				
Definitive LC50				
Pass/Fail (Screening or NOAEL)				
Chronic				
INVERTEBRATE TYPE & AGE				
Daphnia pulex (<24 hrs)				
Mysidopsis bahia (_____ hours/days)				
Ceriodaphnia dubia (<24 hrs)				

ANALYSIS	1	2	3	4
VERTEBRATE (FISH) TYPE & AGE (if applicable)				
Pimephales promelas (_____ hours/days)				
Cyprinodon variegatus (_____ hours/days)				
Menidia beryllina (_____ hours/days)				
VERTEBRATE (FISH) TEST DURATION (if applicable)				
24 hours				
48 hours				
96 hours				
7 days				
TEMPERATURE (if specified)				
20°C				
25°C				
MISCELLANEOUS (if applicable)				
SALINITY (if saltwater testing) _____ ppt				
Dilution water HARDNESS (_____ mg/L as $CaCO_3$)				

✓ 28 Day Whole Sediment Leptocheirus plumulosus Surv. + Growth

Relinquished by:	Date: 8-20-13 Time: 18:30	Accepted by: Custody Seal	Date: Time:
Relinquished by:	Date: Time:	Accepted by:	Date: 8-22-13 Time: 11:37 AM
Relinquished by:	Date: 8-22-13 Time: 2:00 PM	Accepted by:	Date: 8/22/13 Time: 1400

REMARKS/NOTES:

New England Bioassay
A division of GZA GeoEnvironmental, Inc.
77 Batson Drive Manchester, CT 06042
Phone: 860-643-9560 Fax: 860-646-7169

Chain of Custody

Company Name: GZA
Project Name/#: 171521.02 Task 6
Invoice To: David F. Lear PO#:
Samples Collected By (Print): TLB

Report To: Tim Briggs
Address: "
Phone: ( ) Fax: ( )
Email: "

#	SAMPLE IDENTIFICATIONS	Date Sampled	Time Sampled	Composite	Grab	Chemical Analysis - Attach Permit Specifications
1	• G2-135T C33-3578	8-6-13			X	
2	• G2-137T C33-3579	↓			X	
3	• G2-LC1T C33-3580				X	
4	• G2-LC2T C33-3581				X	

If you are uncertain of the following test parameters, please attach a copy of the appropriate pages from your permit

ANALYSIS	1	2	3	4
SAMPLE TYPE				
Stormwater (if yes, proceed to relinquish section)				
POTW Effluent				
Groundwater				
Non-Contact Cooling Water				
Industrial Effluent				
Other _____				
PROTOCOL TYPE				
Definitive LC50				
Pass/Fail (Screening or NOAEL)				
Chronic				
INVERTEBRATE TYPE & AGE				
Daphnia pulex (<24 hrs)				
Mysidopsis bahia (_____ hours/days)				
Ceriodaphnia dubia (<24 hrs)				

ANALYSIS	1	2	3	4
VERTEBRATE (FISH) TYPE & AGE (if applicable)				
Pimephales promelas (_____ hours/days)				
Cyprinodon variegatus (_____ hours/days)				
Menidia beryllina (_____ hours/days)				
VERTEBRATE (FISH) TEST DURATION (if applicable)				
24 hours				
48 hours				
96 hours				
7 days				
TEMPERATURE (if specified)				
20°C				
25°C				
MISCELLANEOUS (if applicable)				
SALINITY (if saltwater testing) _____ ppt				
Dilution water HARDNESS (_____ mg/L as $CaCO_3$)				

28 Day Whole Sediment Leptocheirus plumulosus Survival + Growth

Relinquished by: [signature]	Date: 8-20-13 Time: 18:30	Accepted by: Custody Seal	Date: Time:
Relinquished by:	Date: Time:	Accepted by: [signature]	Date: 8-22-13 Time: 11:37AM
Relinquished by: [signature]	Date: 8-22-13 Time: 2:00 PM	Accepted by: Meghan Magner	Date: 8/22/13 Time: 1400

REMARKS/NOTES:

New England Bioassay
A division of GZA GeoEnvironmental, Inc.
77 Batson Drive Manchester, CT 06042
Phone: 860-643-9560 Fax: 860-646-7169

Chain of Custody

Company Name: GZA
Project Name/#: 171521.02 Tsk 6
Invoice To: David F. Lane PO#:
Samples Collected By (Print): TLB

Report To: Tim Briggs
Address: "
Phone: ( ) Fax: ( )
Email: "

#	SAMPLE IDENTIFICATIONS	Date Sampled	Time Sampled	Composite	Grab	Chemical Analysis - Attach Permit Specifications
1	GZ-LC3T C33:3582	8-6-13			X	
2		↓				
3						
4						

If you are uncertain of the following test parameters, please attach a copy of the appropriate pages from your permit

ANALYSIS	1	2	3	4
SAMPLE TYPE				
Stormwater (if yes, proceed to relinquish section)				
POTW Effluent				
Groundwater				
Non-Contact Cooling Water				
Industrial Effluent				
Other _____				
PROTOCOL TYPE				
Definitive LC50				
Pass/Fail (Screening or NOAEL)				
Chronic				
INVERTEBRATE TYPE & AGE				
Daphnia pulex (<24 hrs)				
Mysidopsis bahia (_____ hours/days)				
Ceriodaphnia dubia (<24 hrs)				

ANALYSIS	1	2	3	4
VERTEBRATE (FISH) TYPE & AGE (if applicable)				
Pimephales promelas (_____ hours/days)				
Cyprinodon variegatus (_____ hours/days)				
Menidia beryllina (_____ hours/days)				
VERTEBRATE (FISH) TEST DURATION (if applicable)				
24 hours				
48 hours				
96 hours				
7 days				
TEMPERATURE (if specified)				
20°C				
25°C				
MISCELLANEOUS (if applicable)				
SALINITY (if saltwater testing) _____ ppt				
Dilution water HARDNESS (_____ mg/L as $CaCO_3$)				

Relinquished by: Tim Briggs	Date: 8-20-13 Time: 18:30	Accepted by: Custody Seal	Date: Time:
Relinquished by:	Date: Time:	Accepted by: David F. Lane	Date: 8-22-13 Time: 11:37AM
Relinquished by: David F. Lane	Date: 8-22-13 Time: 2:00 PM	Accepted by: Meghan Dagnon	Date: 8/22/13 Time: 1400

REMARKS/NOTES:



New England Bioassay
a Division of GZA GeoEnvironmental, Inc.

77 Batson Drive
Manchester, CT
06042
860-643-9560
FAX 860-646-7169

28-DAY TOXICITY TESTS WITH THE AMPHIPOD, LEPTOCHEIRUS PLUMULOSUS, USING WHOLE-SEDIMENT SAMPLES COLLECTED MARCH 24-30, 2015 FROM THE WYNN MA, LLC EVERETT STAGING YARD IN EVERETT, MA

June 16, 2015

Performed For:

GZA GeoEnvironmental, Inc.
249 Vanderbilt Ave
Norwood, MA 02062

Performed by:

New England Bioassay
77 Batson Drive
Manchester, Connecticut 06042

SUMMARY

Client:	GZA GeoEnvironmental, Inc.
Site:	Wynn Casino Site in Everett, MA
GZA Job Number:	01.171521.13 Task 1
Test Materials:	Whole Sediment Samples (Estuarine)
Sample Date:	March 24-30, 2015 (12 Whole Sediment Samples)
Delivery Date:	April 21, 2015
Test Type:	28-day Single Concentration Survival & Growth Toxicity Tests with the Amphipod, *Leptocheirus plumulosus*
Test Endpoint:	28-day survival, growth & reproduction
Test Dates:	April 30, 2015 – May 28, 2015

28-DAY TOXICITY TESTS WITH THE AMPHIPOD, LEPTOCHEIRUS PLUMULOSUS, USING WHOLE-SEDIMENT SAMPLES COLLECTED MARCH 24-30, 2015 FROM THE WYNN MA, LLC EVERETT STAGING YARD IN EVERETT, MA

June 16, 2015

INTRODUCTION

This report contains the results of toxicity tests performed using grab samples of twelve estuarine sediments collected between March 24th and March 30th, 2015 from the Wynn Casino site in Everett, MA. Toxicity tests with the whole sediment samples were conducted by exposing the saltwater amphipod, *Leptocheirus plumulosus*, to each of the twelve sediment samples for 28 days in a static-renewal test system. All toxicity test work reported here was performed at New England Bioassay (NEB) in Manchester, CT.

MATERIALS AND METHODS

Sample Collection and Handling

Grab samples of twelve estuarine sediments for toxicity screening were collected March 24-30, 2015 from the Wynn Casino site in Everett, MA. The samples were picked up from the GZA office in Norwood, MA and delivered to NEB by NEB courier on April 21, 2015 at 1220 h; the whole sediment samples were then stored refrigerated in their original containers until test set-up. Copies of chain of custody documentation are found in Appendix B.

Upon receipt at NEB, the sediment samples (1-gallon HDPE plastic containers) were logged into the laboratory (Table 1). The sediment samples were then stored in the dark in a cold room (4° ± 2°C) until testing. Free-standing water found in the original sample containers was used to represent pore water; the pore water was collected and then analyzed for salinity and total ammonia (Appendix A). Before testing, the twelve sediment samples were removed from the cold room and then manually stirred in their original containers to ensure homogeneity.

TABLE 1. DESCRIPTION OF ESTUARINE WHOLE SEDIMENT SAMPLES COLLECTED FROM EVERETT, MA

Sample Description	Sample Date	Sample Type	NEB COC Nos.
	Whole Sediments		
LC-102	3/26/15	Grab	C35-1873
LC-105	3/26/15	Grab	C33-1874
LC-112	3/27/15	Grab	C33-1875
GZ-203	3/24/15	Grab	C33-1876
GZ-207	3/25/15	Grab	C33-1877
GZ-209	3/25/15	Grab	C33-1878
GZ-213	3/25/15	Grab	C33-1879
GZ-214	3/30/15	Grab	C33-1880
GZ-217	3/24/15	Grab	C33-1881
GZ-223	3/30/15	Grab	C33-1882
GZ-224	3/30/15	Grab	C33-1883
GZ-225	3/27/15	Grab	C33-1884

Observations on gross physical characteristics of sediment samples were then made. A description of each sample before test set-up can be found in Appendix A.

In addition to testing site sediment samples, an artificial control sediment and a natural control sediment were evaluated as quality-control checks to determine adequacy of organisms and test system. The artificial control sediment was created based on EPA recommendations and consisted of natural sand, sterilized natural marine sediment and redart clay (Appendix A). Control sediments were handled similarly to the site sediments. Performance criteria established for this test includes the average survival of amphipods in the control treatment must be greater than or equal to 80% and there must be measurable growth and reproduction in all replicates. Both the artificial and natural controls did have measurable growth and reproduction in all replicates, however neither had 80% survival at test termination. The artificial control survival was 62% and the natural control survival was 71%. According to "Method for Assessing the Chronic Toxicity of Marine and Estuarine Sediment-associated Contaminants with the Amphipod *Leptocheirus plumulosus*" EPA600/R-01/020 "*Test failures usually can be attributed to a failure to maintain one or more test requirements described in Tables 11.1 and 11.3; however, tests sometimes fail inexplicably.*" Salinity, pH, sediment grain size, ammonia and temperature conditions as recommended in the aforementioned tables were consistently met in both the artificial and natural controls. Additionally, the *L.plumulosus* reference toxicant tests set in April and May, 2015 were both within the acceptable range. We are considering this test to be conditionally valid because three reference site sediments were also

included, and all three reference sites passed the survival, growth and reproduction performance criteria for test controls. These reference sites can provide a site-specific basis for evaluating toxicity.

After homogenization and characterization, between 2 cm and 5 cm of wet sediment was measured into 1L Pyrex glass beakers; a total of five beakers were prepared in this manner for each site sediment and the control sediment. Remaining sediment from each site was then stored in a cold room at 4° ± 2°.

Overlying water was added to each replicate beaker; gentle aeration of the overlying water was then initiated in all test and control beakers. After settling for about 4 h at the test temperature, aliquots of overlying water were removed from each sediment for total ammonia analysis; about 75% of the test solution was then removed and replaced with fresh overlying water. After test solution renewal, initial water quality measurements were performed; beakers containing the sediment and overlying water were then ready for introduction of test organisms.

Test Organisms

Leptocheirus plumulosus

Leptocheirus plumulosus, (Crustacea, Amphipoda) is an infaunal sediment-burrowing amphipod recommended as a test species for sediment tests (COE/EPA, 1994a, 1994b, 1995, 1998). This species is widely distributed in the estuarine and mesohaline portions of the Atlantic coast. Amphipods required for testing were obtained from in-house cultures. The amphipods were sorted by size on April 30th to obtain the appropriate age/size needed for the sediment tests. The tests were initiated by loading 20 amphipods into each of the test and control beakers. A subsample of 40 amphipods was set aside for length measurements (Appendix A).

Test Water

Overlying water used in the whole-sediment toxicity tests was artificial saltwater (ASW) prepared using deionized water and Instant Ocean sea salts to a salinity of 20 ppt ± 2. The water preparation log can be found in Attachment 4.

Test Systems

L. plumulosus Whole-Sediment 28-Day Toxicity Tests

The amphipod toxicity test procedures are primarily based on recommendations in EPA/COE Inland Testing Manual (ITM) guidance documents (1994a; updated 1998); additional EPA guidance was also consulted (1994b, 2001). Immature amphipods were continuously exposed for 28 days under static-renewal conditions to sediment samples from each site. An artificial control sediment was evaluated similarly to the twelve site sediments. Immature amphipods were exposed in groups of 20 animals in 1L Pyrex glass beakers containing 2-5 cm of sediment and filled with approximately 825 mls overlying laboratory-prepared saltwater, with five beakers per concentration (100 animals per sediment).

The test beakers for each sediment were placed in an environmentally controlled room under the ITM specified test conditions (temperature 25° ± 2°C; photoperiod 16 h light and 8 h dark). After adding amphipods to the test chambers, the chambers were covered with a plastic board to reduce evaporation. The board contained an aeration apparatus and small holes for venting.

All replicates received a change of the overlying water every Monday, Wednesday and Friday until test termination. Beakers were fed 2mls of crushed Tetramin flake three times a week after water renewal. To maintain adequate dissolved oxygen levels in the overlying water during testing, test and control beakers were continuously aerated (single bubble aeration) throughout the 28-day tests. At regular intervals, temperature, dissolved oxygen, pH, and salinity were measured in each sample and control (Appendix B). Samples of overlying water were taken on days 0 and 28 and sent to Phoenix Environmental Laboratories to monitor ammonia levels (Appendix C). Ammonia levels were also monitored on day 2 to ensure they were not above the acceptable range (Appendix A).

At test termination, the contents of each test chamber are sieved to isolate the test organisms. The mesh sizes for sieving the contents of the test chambers are 0.5 – 0.6 mm for adults and 0.25 mm for offspring. The sieved material from the large mesh sieve, which will include the adult amphipods, is rinsed into plexi-glass sorting trays and survival counts are performed. Amphipods and residual sediment retained on the 0.25mm sieve are rinsed into a labeled sample container using 91% isopropyl alcohol and a funnel supported by a ring stand. Approximately 3 ml of rose bengal solution is added to stain the organisms. If any young are observed while counting the adults in the sorting tray, the contents of the sorting tray are sieved again and added to the alcohol preserved container. The preserved young are counted within 2 weeks of test termination.

All live adult amphipods within a replicate were placed in pre-weighed drying pans and kept in a drying oven (100°C) for a minimum of six hours. After six hours, the weigh pans containing the dried amphipods were removed from the drying oven and placed in a desiccator. Amphipods were subsequently reweighed as a group using a 5-place balance. Total dry weight per replicate was then divided by number of amphipods loaded at test initiation (20 per replicate) to obtain an average biomass.

Reference Toxicant Test

An acute reference toxicant test (potassium chloride; KCl) was conducted with the same group of *L. plumulosus* collected for use in the sediment tests. The 96-h survival data were used to calculate an LC_{50} for *L. plumulosus*. The KCl test consisted of six nominal concentrations (125, 250, 500, 1000, 1500, and 2000 mg/L KCl) and a dilution-water control (ASW). The reference toxicant data can be found in Appendix C.

Statistical Analysis

Toxicity data from the amphipod tests were used to determine if the sediment samples exhibited significant effects on survival, growth and reproduction when compared with the test endpoints in laboratory control sediment (EPA, 1993, 1994c). Statistical analyses were run using the Comprehensive Environmental Toxicity Information System (CETIS v1.8.8.0), which uses an automated decision tree based on the EPA's flowchart for statistical analysis. Survival was calculated by the ratio of the number of living adults at test termination out of the initial organism count of 20 at test initiation. Biomass was calculated as the average growth in mg per site divided by the initial organism count of 20 at test initiation. Reproduction was calculated by taking the number of neonates per surviving adult in each replicate, then averaging that across all 5 replicates. Copies of data sheets and statistical summary printouts for the *L. plumulosus* toxicity tests are located in Appendix B.

RESULTS

Leptocheirus plumulosus 28-Day Toxicity Tests

Results of the *L. plumulosus* 28-day screening toxicity tests (test dates: April 30, 2015 – May 28, 2015) are summarized in Tables 2-6. Survival, biomass and reproduction in the site sediment samples GZ-203, GZ-207, GZ-209, GZ-213, GZ-214, GZ-217, GZ-223, GZ-224, GZ-225 were compared with three reference sites LC-102, LC-105, LC-112 and with the laboratory artificial and natural controls.

Survival and biomass of the *L.plumulosus* in the NEB artificial control sediment was 62% and 0.8779 mg, respectively, after 28 days. None of the site or reference sediments exhibited a statically significant decrease in survival or biomass when compared with the artificial control. Average number of young per surviving adult was 1.73, site sediments GZ-213, GZ-217 and GZ-224 had statistically reduced number of young when compared to the artificial control.

Survival of the *L.plumulosus* in the NEB natural control sediment was 71% after 28 days. None of the site or reference sediments exhibited a statistically significant decrease in survival when compared with the natural control. Average biomass was 1.035 mg in the natural control, GZ-217 with a biomass of 0.538, exhibited a significant decrease in biomass compared to the natural control. Average reproduction was 1.352 in the natural control, GZ-217 with reproduction of 0.1511 and GZ-224 with reproduction of 0.1184, exhibited significant decreases in reproduction compared to the natural control.

Survival of the reference site LC-102 was 83% after 28 days. GZ-217, with a survival of 57%, was significantly lower than LC-102. Average biomass was 1.586 mg in LC-102. GZ-217 with a biomass of 0.538, GZ-224 with a biomass of 0.9412 and GZ-225 with a biomass of 1.021 showed a significate reduction compared with LC-102. Average reproduction was 2.366 in LC-102. GZ-213 with reproduction of 0.3294, GZ-214 with reproduction of 0.8542, GZ-217 with reproduction of 0.1511 and GZ-224 with reproduction of 0.1184 showed a significant decrease when compared with LC-102.

Survival of the reference site LC-105 was 87% after 28 days. GZ-217, with a survival of 57%, was significantly lower than LC-105. Average biomass was 1.772 mg in LC-105. LC-112 with a biomass of 1.42, GZ-207 with a biomass of 1.272, GZ-213 with a biomass of 1.167, GZ-217 with a biomass of 0.538, GZ-224 with a biomass of 0.9412 and GZ-225 with a biomass of 1.021 showed a significant reduction in biomass when compared with LC-105. Average reproduction was 1.519 young per surviving adult in LC-105. GZ-217 with reproduction of 0.1511 and GZ-224 with reproduction of 0.1184 showed a significant decrease when compared with LC-105.

Survival of the reference site LC-112 was 85% after 28 days. GZ-217, with a survival of 57%, was significantly lower than LC-112. Average biomass was 1.42 mg in LC-112. GZ-217 with a biomass of 0.538 and GZ-224 with a biomass of 0.9412 showed a significant reduction in biomass when compared with LC-112. Average reproduction was 2.081 young per surviving adult in LC-112. GZ-213 with reproduction of 0.3294, GZ-217 with reproduction of 0.1511 and GZ-224 with reproduction of 0.1184 showed a significant decrease when compared with LC-112.

Amphipods exposed to the artificial and natural control sediment increased in biomass by approximately 13.1-fold and 15.4-fold, respectively, during the 28-day exposure. For the twelve site sediments, biomass increases over initial biomass ranged from 8.03-fold for sample GZ-217 to 26.4-fold for LC-105. Fold change for each sample can be found in Table 7.

TABLE 2
SUMMARY OF TEST RESULTS
28-DAY L.PLUMULOSUS TOXICITY TESTS
WYNN-EVERETT (Test Dates 4/30/15 – 5/28/15)
ARTIFICIAL CONTROL COMPARISION

Sample	28-day Survival (%)		Biomass (mg)		Reproduction (number of young)	
	Mean	Sig[a]	Mean	Sig[a]	Mean[b]	Sig[a]
Artificial Control	62	--	0.8779	--	1.73	--
Natural Control	71	NS	1.035	NS	1.352	NS
LC-102	83	NS	1.586	NS	2.366	NS
LC-105	87	NS	1.772	NS	1.519	NS
LC-112	85	NS	1.42	NS	2.081	NS
GZ-203	77	NS	1.418	NS	1.475	NS
GZ-207	69	NS	1.272	NS	1.183	NS
GZ-209	73	NS	1.473	NS	3.029	NS
GZ-213	82	NS	1.167	NS	0.3294	*
GZ-214	70	NS	1.213	NS	0.8542	NS
GZ-217	57	NS	0.538	NS	0.1511	*
GZ-223	85	NS	1.46	NS	1.613	NS
GZ-224	71	NS	0.9412	NS	0.1184	*
GZ-225	73	NS	1.021	NS	1.357	NS

[a]NS: Not significantly reduced at P = 0.05; *: significant at P = 0.05 when compared with artficial control

[b] Reproduction as the average of [young per rep/surviving adults per rep]

TABLE 3
SUMMARY OF TEST RESULTS
28-DAY L.PLUMULOSUS TOXICITY TESTS
WYNN-EVERETT (Test Dates 4/30/15 – 5/28/15)
NATURAL CONTROL COMPARISION

Sample	28-day Survival (%)		Biomass (mg)		Reproduction (number of young)	
	Mean	Sig[a]	Mean	Sig[a]	Mean[b]	Sig[a]
Natural Control	71	--	1.035	--	1.352	--
Artificial Control	62	NS	0.8779	NS	1.73	NS
LC-102	83	NS	1.586	NS	2.366	NS
LC-105	87	NS	1.772	NS	1.519	NS
LC-112	85	NS	1.42	NS	2.081	NS
GZ-203	77	NS	1.418	NS	1.475	NS
GZ-207	69	NS	1.272	NS	1.183	NS
GZ-209	73	NS	1.473	NS	3.029	NS
GZ-213	82	NS	1.167	NS	0.3294	NS
GZ-214	70	NS	1.213	NS	0.8542	NS
GZ-217	57	NS	0.538	*	0.1511	*
GZ-223	85	NS	1.46	NS	1.613	NS
GZ-224	71	NS	0.9412	NS	0.1184	*
GZ-225	73	NS	1.021	NS	1.357	NS

[a]NS: Not significantly reduced at P = 0.05; *: significant at P = 0.05.
when compared with natural control

[b] Reproduction as the average of [young per rep/surviving adults per rep]

TABLE 4
SUMMARY OF TEST RESULTS
28-DAY L.PLUMULOSUS TOXICITY TESTS
WYNN-EVERETT (Test Dates 4/30/15 – 5/28/15)
LC-102 REFERENCE SITE COMPARISION

Sample	28-day Survival (%)		Biomass (mg)		Reproduction (number of young)	
	Mean	Sig[a]	Mean	Sig[a]	Mean[b]	Sig[a]
LC-102	83	--	1.586	--	2.366	--
Artificial Control	62	*	0.8779	*	1.73	NS
Natural Control	71	NS	1.035	*	1.352	NS
LC-105	87	NS	1.772	NS	1.519	NS
LC-112	85	NS	1.42	NS	2.081	NS
GZ-203	77	NS	1.418	NS	1.475	NS
GZ-207	69	NS	1.272	NS	1.183	NS
GZ-209	73	NS	1.473	NS	3.029	NS
GZ-213	82	NS	1.167	NS	0.3294	*
GZ-214	70	NS	1.213	NS	0.8542	*
GZ-217	57	*	0.538	*	0.1511	*
GZ-223	85	NS	1.46	NS	1.613	NS
GZ-224	71	NS	0.9412	*	0.1184	*
GZ-225	73	NS	1.021	*	1.357	NS

[a]NS: Not significantly reduced at P = 0.05; *: significant at P = 0.05.
when compared with LC-102 reference site

[b] Reproduction as the average of [young per rep/surviving adults per rep]

TABLE 5
SUMMARY OF TEST RESULTS
28-DAY L.PLUMULOSUS TOXICITY TESTS
WYNN-EVERETT (Test Dates 4/30/15 – 5/28/15)
LC-105 REFERENCE SITE COMPARISION

Sample	28-day Survival (%)		Biomass (mg)		Reproduction (number of young)	
	Mean	Sig[a]	Mean	Sig[a]	Mean[b]	Sig[a]
LC-105	87	--	1.772	--	1.519	--
Artificial Control	62	*	0.8779	*	1.73	NS
Natural Control	71	NS	1.035	*	1.352	NS
LC-102	83	NS	1.586	NS	2.366	NS
LC-112	85	NS	1.42	*	2.081	NS
GZ-203	77	NS	1.418	NS	1.475	NS
GZ-207	69	NS	1.272	*	1.183	NS
GZ-209	73	NS	1.473	NS	3.029	NS
GZ-213	82	NS	1.167	*	0.3294	NS
GZ-214	70	NS	1.213	*	0.8542	NS
GZ-217	57	*	0.538	*	0.1511	*
GZ-223	85	NS	1.46	NS	1.613	NS
GZ-224	71	NS	0.9412	*	0.1184	*
GZ-225	73	NS	1.021	*	1.357	NS

[a]NS: Not significantly reduced at P = 0.05; *: significant at P = 0.05.
when compared with LC-105 reference site

[b] Reproduction as the average of [young per rep/surviving adults per rep]

TABLE 6
SUMMARY OF TEST RESULTS
28-DAY L.PLUMULOSUS TOXICITY TESTS
WYNN-EVERETT (Test Dates 4/30/15 – 5/28/15)
LC-112 REFERENCE SITE COMPARISION

Sample	28-day Survival (%)		Biomass (mg)		Reproduction (number of young)	
	Mean	Sig[a]	Mean	Sig[a]	Mean[b]	Sig[a]
LC-112	85	--	1.42	--	2.081	--
Artificial Control	62	*	0.8779	*	1.73	NS
Natural Control	71	NS	1.035	*	1.352	NS
LC-102	83	NS	1.586	NS	2.366	NS
LC-105	87	NS	1.772	NS	1.519	NS
GZ-203	77	NS	1.418	NS	1.475	NS
GZ-207	69	NS	1.272	NS	1.183	NS
GZ-209	73	NS	1.473	NS	3.029	NS
GZ-213	82	NS	1.167	NS	0.3294	*
GZ-214	70	NS	1.213	NS	0.8542	NS
GZ-217	57	*	0.538	*	0.1511	*
GZ-223	85	NS	1.46	NS	1.613	NS
GZ-224	71	NS	0.9412	*	0.1184	*
GZ-225	73	NS	1.021	NS	1.357	NS

[a]NS: Not significantly reduced at P = 0.05; *: significant at P = 0.05.
when compared with LC-112 reference site

[b] Reproduction as the average of [young per rep/surviving adults per rep]

TABLE 7
L.PLUMULOSUS BIOMASS FOLD CHANGE OVER 28-DAYS

Sample	Average Biomass (mg)	Fold Increase over 28-days[a]
Artificial Control	0.8779	13.1
Natural Control	1.035	15.4
LC-102	1.586	23.7
LC-105	1.772	26.4
LC-112	1.42	21.2
GZ-203	1.418	21.2
GZ-207	1.272	19.0
GZ-209	1.473	22.0
GZ-213	1.167	17.4
GZ-214	1.213	18.1
GZ-217	0.538	8.02
GZ-223	1.46	21.8
GZ-224	0.9412	14.0
GZ-225	1.021	15.2

[a]Fold change as Final Average Biomass/Initial Average Biomass. Initial average biomass calculated from a group of 40 surrogates set aside at test initiation from the same group of *L.plumulosus* loaded into the test replicates.

TABLE 8.WATER QUALITY MEASUREMENTS FOR *L.PLUMULOSUS*
28-DAY TOXICITY TESTS
Test Dates: 4/30/15 – 5/28/15

Sample	D.O. (mg/L)	Temperature (°C)	pH (SU)	Salinity (ppt)	Ammonia[a] (mg/L)	TOC[b] (mg/kg)
NEB LAB CONTROL SEDIMENT						
Artificial Control	6.6-7.3	24.2-25.2	7.6-7.9	18-21	0.22-0.23	2,684
Natural Control	5.7-7.3	24.0-25.0	7.6-7.9	18-21	0.20-1.85	4,016
SITE SEDIMENTS						
LC-102	6.2-7.3	24.0-25.0	7.2-8.2	20-21	0.24-0.95	76,630
LC-105	4.5-7.2	24.1-25.1	7.1-8.4	20-21	0.27-1.10	72,860
LC-112	4.2-7.4	24.1-24.9	7.2-8.3	20-21	0.28-0.47	57,480
GZ-203	4.0-7.4	24.1-25.0	7.4-8.3	20-21	0.20-0.82	55,480
GZ-207	4.1-7.5	24.1-24.9	7.4-8.4	20-21	0.20-1.15	59,800
GZ-209	5.2-7.4	24.3-25.1	7.4-8.4	20-21	0.18-1.06	67,070
GZ-213	6.6-7.4	24.4-25.7	7.6-8.1	19-21	0.11-0.84	39,090
GZ-214	5.1-7.5	24.3-25.4	7.5-8.0	18-21	0.11-1.87	46,330
GZ-217	6.6-7.6	24.2-24.9	7.3-7.8	20-21	0.20-0.76	42,940
GZ-223	6.6-7.9	24.3-25.0	7.7-8.3	20-21	0.11-0.75	55,880
GZ-224	6.4-7.8	24.0-25.0	7.6-8.0	20-21	0.09-1.33	33,040
GZ-225	5.0-7.6	24.1-25.1	7.6-8.0	20-21	0.10-0.81	48,350

[a] Ammonia analyzed by Phoenix Environmental Laboratories
[b] TOC taken at test initiation, analyzed by Sterling Analytical Laboratory

Reference Toxicant Testing

The SDS 96-h LC_{50} was estimated for *L. plumulosus* using survival data generated from an acute reference toxicant test with the same cohort of amphipods used in sediment testing (test dates: 4/23/15 – 4/27/15). The 96-h LC_{50} for *L. plumulosus* was estimated at 17.08 mg/L SDS (Spearman method; confidence limits of 15.96 to 18.27 mg/L SDS). Survival of control amphipods was 100% at test completion (96 h). A reference toxicant chart can be found in Appendix C.

CONCLUSION

All three reference sites collected showed a similar performance with survival ranging from 83-87%, biomass ranging from 1.42-1.772 and reproduction ranging from 1.519-2.366. The consistency of the results produced by these three sites gives a good indication of the performance of ambient/naturally occurring sediment located specifically in the geographic area the site samples were taken in Everett, MA. Using these reference sites as a baseline for comparison, site sample GZ-217 showed the most toxicity. GZ-217 showed statistically significant reductions in survival, biomass and reproduction when compared with all three reference sites. GZ-217 was the only site sample that showed a statistically significant reduction in survival when compared with the reference sites. GZ-224 also exhibited toxicity in the sublethal endpoints, having statistically significant reductions in biomass and reproduction when compared with all three reference sites. GZ-207, GZ-213, GZ-214 and GZ-225 showed some moderate toxicity in biomass and reproduction against various reference sites. GZ-203, GZ-209 and GZ-223 were the only three site sediments that showed no reductions in survival, biomass or reproduction when compared with the three site sediments.

CERTIFICATION

I certify that the toxicity test data presented in this report were obtained under my direction or supervision in accordance with protocols of the U.S. Environmental Protection Agency, where applicable. The information is, to the best of my knowledge and belief, true, accurate, and complete.

Kimberly Wills
Laboratory Manager
New England Bioassay

Date

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APPENDIX A

SEDIMENT CHARACTERIZATIONS

PREPARATION OF ARTIFICIAL CONTROL

PORE & OVERLYING WATER CHEMICAL MEASUREMENTS

WATER PREPARATION LOG

INITIAL LENGTH & WEIGHT DATA

DAILY CHECKLISTS

New England Bioassay

Sediment Sample Descriptions and Test Observations

Client: GZA GeoEnvironmental, Inc.

Project: Wynn Casino Site, Everett, MA

Test start date: 4-30-15

LC-102 / C35-1873

At pre-set:
Wet, with standing water at the top of the sample container. Black in color. Fine-grained with a soupy, lose consistency. Leaves present.

Test Observations:
At test initiation, the test organisms behaved normally, entering the sediment and creating small holes visible on the surface. As the test period proceeded, it became more common to see organisms roaming on the surface. The test organisms also appeared to grow, becoming visibly larger than they were at test initiation.

LC-105 / C35-1874

At pre-set:
Wet, with standing water at the top of the sample container. Black in color. Fine-grained with a soupy, lose consistency.

Test Observations:
At test initiation, the test organisms behaved normally, entering the sediment and creating small holes visible on the surface. As the test period proceeded, it became more common to see organisms roaming on the surface. The test organisms also appeared to grow, becoming visibly larger than they were at test initiation.

LC-112 / C35-1875

At pre-set:
Small amount of standing water at the top of the sample container. Dark brown in color. Fine-grained, with clam and mussel shells. Faint odor of petroleum.

Test Observations:
At test initiation, the test organisms behaved normally, entering the sediment and creating small holes visible on the surface. As the test period proceeded, it became more common to see organisms roaming on the surface. The test organisms also appeared to grow, becoming visibly larger than they were at test initiation.

GZ-203 / C35-1876

At pre-set:
Wet, with standing water at the top of the sample container. Black in color. Fine-grained with a soupy, lose consistency. Clam shells present. Faint odor of petroleum.

Test Observations:
At test initiation, the test organisms behaved normally, entering the sediment and creating small holes visible on the surface. As the test period proceeded, it became more common to see organisms roaming on the surface. The test organisms also appeared to grow, becoming visibly larger than they were at test initiation.

GZ-207 / C35-1877

At pre-set:
Wet, with standing water at the top of the sample container. Black in color. Fine-grained with a soupy, but thick consistency. Leaves, razor clam shells and mussel shells present.

Test Observations:
At test initiation, the test organisms behaved normally, entering the sediment and creating small holes visible on the surface. As the test period proceeded, it became more common to see organisms roaming on the surface. The test organisms also appeared to grow, becoming visibly larger than they were at test initiation.

GZ-209 / C35-1878

At pre-set:
Wet, with standing water at the top of the sample container. Black in color. Fine-grained with a soupy, lose consistency. Clam and mussel shells present. Faint odor of petroleum.

Test Observations:
At test initiation, the test organisms behaved normally, entering the sediment and creating small holes visible on the surface. As the test period proceeded, it became more common to see organisms roaming on the surface. The test organisms also appeared to grow, becoming visibly larger than they were at test initiation.

GZ-213 / C35-1879

At pre-set:
Wet, with standing water at the top of the sample container. Very dark gray color. Gritty, but with noticeable chunks of clay. Mussel shells present. Faint odor of petroleum.

Test Observations:
At test initiation, the test organisms behaved normally, entering the sediment and creating small holes visible on the surface. As the test period proceeded, it became more common to see organisms roaming on the surface. The test organisms also appeared to grow, becoming visibly larger than they were at test initiation.

GZ-214 / C35-1880

At pre-set:
Wet, with standing water at the top of the sample container. Dark brown, almost black in color. Fine-grained, but also with sand/grit. One small, intact clam seen. Fishy odor.

Test Observations:
At test initiation, the test organisms behaved normally, entering the sediment and creating small holes visible on the surface. As the test period proceeded, it became more common to see organisms roaming on the surface. The test organisms also appeared to grow, becoming visibly larger than they were at test initiation.

GZ-217 / C35-1881

At pre-set:
Very thick, not as wet looking, with only a slight amount of standing water at the top of the sample container. Gray in color. Odor of petroleum. Fine grained, like clay, but also somewhat gritty.

Test Observations:
This particular sample appeared noticeably different from all others. At test initiation, several test organisms were seen swimming around in the water column, even after 24 hours. Not all test organisms entered the sediment immediately. (For all other samples and control sediments, the test organisms did enter the sediment immediately.) Eventually, the test organisms were no longer as visible, apparently entering the sediment (as shown by the appearance of small holes on the surface). The holes created by the organisms appeared smaller than the holes seen in the other samples and controls. Molted exoskeletons were less frequently observed in the test chambers for this sample.

GZ-223 / C35-1882

At pre-set:
Wet, with standing water at the top of the sample container. Black in color. Fine-grained with a soupy, lose consistency. Snail shells and other shells present. Faint odor of petroleum.

Test Observations:
At test initiation, the test organisms behaved normally, entering the sediment and creating small holes visible on the surface. One large, live, snail was removed from replicate C. A tube-like marine organism was seen in replicate B, although it did not survive until the end of the test period. This organisms was not identified, but was brown/orange in color, sessile, oriented vertically, and somewhat similar in appearance to an anemone. It was approximately 1 cm tall.

GZ-224 / C35-1883

At pre-set:
Wet, with standing water at the top of the sample container. Dark, blackish brown in color. Fine-grained with a soupy, lose consistency. Shell fragments present. Odor of petroleum present.

Test Observations:
At test initiation, the test organisms behaved normally, entering the sediment and creating small holes visible on the surface. At test initiation, the test organisms behaved normally, entering the sediment and creating small holes visible on the surface. As the test period proceeded, it became more common to see organisms roaming on the surface. The test organisms also appeared to grow, becoming visibly larger than they were at test initiation.

GZ-225 / C35-1884

At pre-set:
Wet, with standing water at the top of the sample container. Black in color. Sandy/gritty in consistency, with many small stones, shells, and shell fragments. Odor of petroleum present.

Test Observations:
At test initiation, the test organisms behaved normally, entering the sediment and creating small holes visible on the surface. At test initiation, the test organisms behaved normally, entering the sediment and creating small holes visible on the surface. As the test period proceeded, it became more common to see organisms roaming on the surface. The test organisms also appeared to grow, becoming visibly larger than they were at test initiation.

In Replicate A, a noticeable network of tunnels appeared against the glass within the sediment. These tunnels appeared much more developed than the less-noticeable tubes normally built by the test organisms. At test breakdown, a large, live, marine sand worm (4 – 8 cm, depending on its elongation) was found in this test replicate.

Preparation of Artificial Control Sediment

(Saltwater version for *Leptocheirus plumulosus*)

Client: GZA GeoEnvironmental, Inc.

Project: Wynn, Everett
01.0171521.13 Task 1

Date prepared: 4-29-15

Test pre-set date: 4-29-15

Test setup date: 4-30-15

Ingredients: Natural sand, sterilized natural marine sediment, and redart clay.
Artificial salt water (Instant Ocean™) used to increase pore water salinity.

Clean fine-grain sand was collected from a natural deposit in Salem, CT. Portions of this sand were rinsed through a 300 micron mesh. Also, separate portions were rinsed through a 75 micron mesh. Sand grains small enough to pass through each mesh were placed in separate containers and further rinsed. The rinsed sand was stirred into artificial salt water, to provide the final product with increased pore-water salinity. The sand was allowed to settle, and the excess salt water was decanted.

Natural marine sediment was collected (10-9-14) from the Barn Island Wildlife Management Area in Stonington, CT (and stored cold). A portion of this sediment was sieved (4-24-15), then frozen for 48 hours. It was later defrosted, and sterilized by microwaves in order to remove and/or destroy indigenous organisms. The sterilized sediment was allowed to cool.

Redart clay was obtained from Sheffield Pottery, Inc., in Sheffield, MA.

All ingredients were thoroughly blended together, and re-homogenized before use.

Amounts added:

Natural sand, ≤ 300 µm: 540 (45% by volume)

Natural sand, ≤ 75 µm: 120 ml (10% by volume)

Sterilized natural marine sediment: 480 ml (40% by volume)

Redart clay: 60 ml (5% by volume)

New England Bioassay

28-Day Saltwater Sediment Testing - Additional Chemical Measurements

Client: **GZA GeoEnvironmental, Inc.**

Project: **Wynn - Everett (01.0171521.13 Task 1)**

Test pre-set date: **4-29-15**

Test set-up date: **4-30-15** *(Day 0)*

Pore water chemistry is measured on the test pre-set day.

Pore water salinity & pH: * **(ppt. / S.U.)**

4-29-15

Artificial control:	25 / 7.2	GZ-209:	32 / 7.1
Natural control:	24 / 6.9	GZ-213:	28 / 7.3
LC-102:	31 / 7.4	GZ-214:	24 / 7.2
LC-105:	31 / 7.2	GZ-217:	30 / 6.9
LC-112:	31 / 7.1	GZ-223:	25 / 7.0
GZ-203:	32 / 7.3	GZ-224:	24 / 7.2
GZ-207:	31 / 7.3	GZ-225:	25 / 7.3

Pore water ammonia: * **(mg/L)**

4-29-15 (by salicylate-based color indicator)

Artificial control:	≤ 16	GZ-209:	≤ 16
Natural control:	≤ 16	GZ-213:	≤ 8
LC-102:	≤ 8	GZ-214:	≤ 16
LC-105:	≤ 16	GZ-217:	≤ 4
LC-112:	≤ 4	GZ-223:	≤ 4
GZ-203:	≤ 4	GZ-224:	≤ 8
GZ-207:	≤ 8	GZ-225:	≤ 8

* Free-standing water found in the original sample containers was used to represent "pore water."

Overlying Test Water Ammonia:

In order to determine the ammonia levels within the overlying water of each sediment test, samples of overlying water were collected on days 0 and 28, and sent to Phoenix Environmental Laboratories, Inc., in Manchester, CT.

Additional ammonia measurements were conducted at NEB using a salicylate-based color indicator. This was done to insure that the ammonia levels within the test chambers were not above the acceptable range. Otherwise, water changes would have been performed to reduce these ammonia levels (not found to be necessary in this case). See below:

Total Ammonia: (In **mg/L**, using a salicylate-based color indicator.)

	Day 2	Day 14
Date:	5-2-15	5-14-15
Artificial Control	≤ 1.0	NA
Natural Control	≤ 3.0	↓
LC-102	≤ 3.0	↓
LC-105	≤ 3.0	↓
LC-112	≤ 1.0	↓
GZ-203	≤ 3.0	↓
GZ-207	≤ 3.0	↓

	Day 2	Day 14
Date:	5-2-15	5-14-15
GZ-209	≤ 3.0	NA
GZ-213	≤ 1.0	↓
GZ-214	≤ 6.0	↓
GZ-217	≤ 1.0	↓
GZ-223	≤ 1.0	↓
GZ-224	≤ 3.0	↓
GZ-225	≤ 3.0	↓

Water Preparation for Marine Sediment Testing

Client: GZA GeoEnvironmental, Inc.
Testing start date: 4/30/15

Project: Wynn, Everett (01.0171521.13 Task 1)
Test type: 28-day, whole sediment

Marine sediment
Test species: *Leptocheirus plumulosus*

Preparation	Dates Used	Type	Salinity (ppt.)	pH (S.U.)	Alkalinity (mg/L as $CaCO_3$)
Date: 4-29-15 Volume: 190 L Salt 4351 g	started: 4-29-15 last used: 5-8-15	D.I. w/ Instant Ocean™	18	7.8	85
Date: 5-11-15 Volume: 190 L Mass: 4700 g	started: 5-11-15 Last used: 5-25-15	D.I. w/ Instant Ocean™	19	7.8	85
Date: 5-26-15 Volume: 18 L Mass: 414 g	started: 5-27-15 (last water renewal was 5-27-15)	D.I. w/ Instant Ocean™	20	8.2	90
Date: Volume: L Mass: g		D.I. w/ Instant Ocean™			
Date: Volume: L Mass: g		D.I. w/ Instant Ocean™			
Date: Volume: L Mass: g		D.I. w/ Instant Ocean™			
Date: Volume: L Mass: g		D.I. w/ Instant Ocean™			
Date: Volume: L Mass: g		D.I. w/ Instant Ocean™			
Date: Volume: L Mass: g		D.I. w/ Instant Ocean™			
Date: Volume: L Mass: g		D.I. w/ Instant Ocean™			

Initial Length and Weight Data - *Leptocheirus plumulosus*

Client: GZA GeoEnvironmental, Inc.

Project: Wynn - Everett (01.0171521.13 Task 1)

Organism Lot #: Lp15 (4-30) MC

Source: NEB

Date sampled / preserved: 4-30-15

Date of length measurement: 5-1-15

Four groups of ten organisms, selected randomly:

Length (mm):

	A	B	C	D
	1.5	1.2	1.9	1.2
	1.7	1.5	1.1	1.1
	1.9	1.3	1.7	1.1
	1.0	1.5	1.2	1.0
	1.8	2.1	1.4	1.4
	1.6	1.7	1.2	0.9
	1.3	1.8	0.9	1.4
	1.2	1.0	1.0	1.0
	2.0	1.4	1.2	1.1
	1.0	1.7	1.0	1.0
Mean Length:	1.5 mm	1.52 mm	1.26 mm	1.12 mm

Dry Weight:

	A	B	C	D
Pan + organisms:	931.29 mg	932.80 mg	929.98 mg	927.01 mg
- Pan (tare):	930.53 mg	931.71 mg	929.49 mg	926.67 mg
= organism weight	0.76 mg	1.09 mg	0.49 mg	0.34 mg
Qty. org. per pan:	10	10	10	10
Mean Weight:	0.076 mg	0.109 mg	0.049 mg	0.034 mg

Reviewed by: _____ Date: 6/16/15

New England Bioassay

DAILY CHECKLIST

28-DAY WHOLE SEDIMENT TOXICITY TESTS

Test Species: *Leptocheirus plumulosus*

CLIENT: GZA GeoEnvironmental, Inc.

PROJECT: Wynn Everett PROJECT # 01.0171521.13 Task 1

TEST START DATE 4/30/15 TEST END DATE: 5/28/15

PRESET DATE: 4/29/15

PLACE CHECK MARK AFTER COMPLETE TASK (✓)

TEST DATE	TECH INITIALS	FEEDING	CHECK AERATION (ALL REPLICATES)
START DAY 0 4/30/15	LC	—	✓
DAY 1 5/1/15	LC	✓	✓
DAY 2 5/2/15	MV	—	✓
DAY 3 5/3/15	LC	—	✓
DAY 4 5/4/15	AH	✓	✓
DAY 5 5/5/15	AH	—	✓
DAY 6 5/6/15	AH	✓	✓
DAY 7 5/7/15	SJP	—	✓
DAY 8 5/8/15	AH	✓	✓
DAY 9 5/9/15		—	
DAY 10 5/10/15	SJP	—	✓
DAY 11 5/11/15	AH	✓	✓
DAY 12 5/12/15	AH	—	✓
DAY 13 5/13/15	LC	✓	✓
DAY 14 5/14/15	LC	—	✓

DAILY CHECKLIST

28-DAY WHOLE SEDIMENT TOXICITY TESTS

Test Species: *Leptocheirus plumulosus*

CLIENT: GZA GeoEnvironmental, Inc.

PROJECT: Wynn Everett PROJECT # 01.0171521.13 Task 1

TEST START DATE 4/30/15 TEST END DATE: 5/28/15

PRESET DATE: 4/29/15

PLACE CHECK MARK AFTER COMPLETE TASK (✓)

TEST DATE	TECH INITIALS	FEEDING	CHECK AERATION (ALL REPLICATES)
DAY 15 5/15/15	SJP	✓	✓
DAY 16 5/16/15	KO	—	✓
DAY 17 5/17/15	AH	—	✓
DAY 18 5/18/15	AH	✓	✓
DAY 19 5/19/15	AH	—	✓
DAY 20 5/20/15	AH	✓	✓
DAY 21 5/21/15	LC	—	✓
DAY 22 5/22/15	LC	✓	✓
DAY 23 5/23/15	MV	—	✓
DAY 24 5/24/15	SJP	—	✓
DAY 25 5/25/15	LC/DLS	—(✓)	✓
DAY 26 5/26/15	AH	—	✓
DAY 27 5/27/15	LC	✓	✓
END DAY 28 5/28/15	LC	—	✓

APPENDIX B

28-DAY TOXICITY DATA SHEETS

STATISTICAL ANALYSES PRINTOUTS

New England Bioassay - *Sediment Toxicity Data*

Sample ID: **Artificial Control Sediment (Lab prepared)**

Page 1

Start date / time: 4/30/15 / 1715

End date / time: 5/28/15 / 1420

Client / Source: **GZA GeoEnvironmental, Inc. / Wynn Everett (01.0171521.13 Task 1)**

Description / I.D. #'s: Saltwater Control Sediment NEB COC #: C35-1871

Technicians: LC, AH, MG, SJP

Test organism: *Leptocheirus plumulosus*

Org. lot #: Lp15 (4-30) MC

Overlying salt water: (see attached)

Quantity of organisms added per replicate: 20

Source: NEB

Day	Temp. (°C)	Salinity (ppt.) Rep	A	B	C	D	E	Dissolved Oxygen (mg/L)	A	B	C	D	E	pH (S.U.)	A	B	C	D	E	Water Renewal (appx. %)
0	24.8	0	18	18	18	18	18	0	6.8	7.1	6.6	6.6	7.0	0	7.8	7.7	7.7	7.7	7.7	0	40%
1	24.6	1	20	20	20	20	20	1	7.0					1	7.7					1	40%
2	24.6	2						2						2						2	
3	24.8	3						3						3						3	
4	24.7	4	20					4	7.2					4	7.7					4	40%
5	24.7	5						5						5						5	
6	24.6	6	20					6	7.3					6	7.9					6	40%
7	24.6	7						7						7						7	
8	24.9	8	20					8	7.0					8	7.8					8	40%
9	24.8	9						9						9						9	
10	25.1	10						10						10						10	
11	25.2	11	20					11	6.9					11	7.8					11	40%
12	25.1	12						12						12						12	
13	24.5	13	20					13	7.2					13	7.9					13	40%
14	24.4	14						14						14						14	

New England Bioassay - *Sediment Toxicity Data*

Sample ID: **Artificial Control Sediment (Lab prepared)**

Page 2

Start date: 4/30/15

Client / Source: **GZA GeoEnvironmental, Inc. / Wynn Everett (01.0171521.13 Task 1)**

Page 2 entries started: 5/15/15

Description / I.D. #'s: Saltwater Control Sediment NEB COC #: C35-1871

End date / Time: 5/28/15 / 1420

Day	Temp. (°C)	Salinity (ppt.) (Add D.I. to maintain volume & salinity.) Rep: A	B	C	D	E	Dissolved Oxygen (mg/L) A	B	C	D	E	pH (S.U.) A	B	C	D	E	Water Renewal (appx. %)
15	24.5	20					6.6					7.7					40
16	24.9																
17	25.1																
18	25.0	20					6.9					7.7					40
19	24.9																
20	24.6	20					7.0					7.7					40
21	24.2																
22	24.3	21					7.0					7.9					40
23	24.6																
24	24.5																
25	24.5	20					7.2					7.9					40
26	24.4																
27	24.7	21					6.9					7.8					40
28	24.9	20	20	20	20	20	6.7	7.0	7.0	7.0	6.8	7.7	7.6	7.7	7.7	7.6	

Day 28 Survival: (Qty per Replicate)	A	B	C	D	E	Overall Survival:
	11	11	11	14	15	62 %

New England Bioassay - *Sediment Toxicity Data*

Sample ID: **Natural Control Sediment**

Start date / time: 4/30/15 / 1715

End date / time: 5/28/15 / 1440

Client / Source: **GZA GeoEnvironmental, Inc. / Wynn Everett (01.0171521.13 Task 1)**

Description / I.D. #'s: Saltwater Control Sediment NEB COC #: C35-1872

Technicians: LC, AH, MG, SJP

Test organism: *Leptocheirus plumulosus*

Org. lot #: Lp 15 (4-30) MC

Overlying salt water: (see attached)

Quantity of organisms added per replicate: 20

Source: NEB

Day	Temp. (°C)	Salinity (ppt.) (Add D.I. to maintain volume & salinity.) Rep: A	B	C	D	E	Dissolved Oxygen (mg/L) A	B	C	D	E	pH (S.U.) A	B	C	D	E	Water Renewal (appx. %)
0	24.6	18	18	18	18	18	5.9	5.7	6.2	6.2	6.3	7.6	7.6	7.6	7.6	7.6	40 %
1	24.5	20	20	20	20	20	6.2					7.7					40 %
2	24.5																
3	24.6																
4	24.6	20					6.2					7.7					40 %
5	24.6																
6	24.5	20					7.3					7.9					40 %
7	24.5																
8	24.8	20					7.1					7.8					40 %
9	24.6																
10	25.0																
11	25.0	20					7.0					7.8					40 %
12	25.0																
13	24.5	19					7.2					7.9					40 %
14	24.4																

New England Bioassay - *Sediment Toxicity Data*

Sample ID: **Natural Control Sediment**

Page 2

Start date: 4/30/15

Client / Source: **GZA GeoEnvironmental, Inc. / Wynn Everett (01.0171521.13 Task 1)**

Page 2 entries started: 5/15/15

Description / I.D. #'s: Saltwater Control Sediment NEB COC #: C35-1872

End date / Time: 5/28/15 / 1440

Day	Temp. (°C)	Salinity (ppt.) (Add D.I. to maintain volume & salinity.) Rep: A	B	C	D	E	Dissolved Oxygen (mg/L) A	B	C	D	E	pH (S.U.) A	B	C	D	E	Water Renewal (appx. %)
15	24.4	20					6.9					7.7					40
16	24.7																
17	24.9																
18	24.9	20					6.7					7.7					40
19	24.8																
20	24.0	20					6.9					7.7					40
21	24.1																
22	24.2	21					7.0					7.9					40
23	24.4																
24	24.3																
25	24.5	20					7.1					7.9					40
26	24.4																
27	24.7	21					7.0					7.9					40
28	24.9	20	20	20	20	20	6.6	7.0	7.0	7.2	7.1	7.7	7.7	7.7	7.7	7.7	

Day 28 Survival: (Qty per Replicate)	A	B	C	D	E
	13	18	14	12	14

Overall Survival: 71 %

New England Bioassay - *Sediment Toxicity Data*

Sample ID: **LC-102**

Start date / time: 4/30/15 / 1715

End date / time: 5/28/15 / 1510

Client / Source: **GZA GeoEnvironmental, Inc. / Wynn Everett (01.0171521.13 Task 1)**

Description / I.D. #'s: LC-102 NEB COC #: C35-1873

Technicians: LC, AH, MG, SJB

Test organism: *Leptocheirus plumulosus*

Org. lot #: Lp15(4-30)

Overlying salt water: (see attached)

Quantity of organisms added per replicate: 20

Source: NEB

Day	Temp. (°C)	Salinity (ppt.) (Add D.I. to maintain volume & salinity.) Rep: A	B	C	D	E	Dissolved Oxygen (mg/L) A	B	C	D	E	pH (S.U.) A	B	C	D	E	Water Renewal (appx. %)
0	24.6	20	20	20	20	20	6.5	6.4	6.5	6.2	6.3	7.9	7.9	7.9	7.9	7.9	40%
1	24.4	20	20	20	20	20	6.6					7.9					40%
2	24.5																
3	24.5																
4	24.6	20					7.1					8.0					40%
5	24.6																
6	24.6	20					7.3					8.2					40%
7	24.5																
8	24.7	20					7.1					7.9					40%
9	24.6																
10	24.9																
11	24.9	20					7.0					7.7					40%
12	25.0																
13	24.5	20					7.3					7.7					40%
14	24.4																

New England Bioassay - *Sediment Toxicity Data*

Sample ID: **LC-102**

Page 2

Start date: 4/30/15

Client / Source: **GZA GeoEnvironmental, Inc. / Wynn Everett (01.0171521.13 Task 1)**

Page 2 entries started: 5/15/15

Description / I.D. #'s: LC-102 NEB COC #: C35-1873

End date / Time: 5/28/15 / 1510

Day	Temp. (°C)	Salinity (ppt.) (Add D.I. to maintain volume & salinity.) Rep: A	B	C	D	E	Dissolved Oxygen (mg/L) A	B	C	D	E	pH (S.U.) A	B	C	D	E	Water Renewal (appx. %)
15	24.4	20					6.8					7.5					40
16	24.7																
17	24.9																
18	24.9	20					6.8					7.5					40
19	24.9																
20	24.4	20					6.9					7.5					40
21	24.0																
22	24.2	21					7.1					7.7					40
23	24.2																
24	24.3																
25	24.5	20					7.1					7.6					40
26	24.4																
27	24.8	20					7.0					7.6					40
28	24.8	20	20	20	20	20	6.3	~~6.2~~ 6.2	6.6	6.6	6.7	7.2	7.3	7.3	7.3	7.3	

Day 28 Survival: (Qty per Replicate)	A	B	C	D	E
	18	20	11	19	15

Overall Survival: 83 %

New England Bioassay - *Sediment Toxicity Data*

Sample ID: **LC-105**

Start date / time: 4/30/15 / 1715

End date / time: 5/28/15 / 1545

Client / Source: **GZA GeoEnvironmental, Inc. / Wynn Everett (01.0171521.13 Task 1)**

Description / I.D. #'s: LC-105 NEB COC #: C35-1874

Technicians: LE, MG, AH, SSP

Test organism: *Leptocheirus plumulosus*

Org. lot #: Lp15(4-30)MC

Overlying salt water: (see attached)

Quantity of organisms added per replicate: 20

Source: NEB

Day	Temp. (°C)	Salinity (ppt.) Rep	A	B	C	D	E	Dissolved Oxygen (mg/L)	A	B	C	D	E	pH (S.U.)	A	B	C	D	E	Water Renewal (appx. %)
0	24.6	0	20	20	20	20	20	0	6.5	6.6	6.6	6.6	6.5	0	7.9	7.9	7.9	7.9	7.9	0 40%
1	24.4	1	21	21	21	21	21	1	6.8					1	7.8					1 40%
2	24.4	2						2						2						2
3	24.4	3						3						3						3
4	24.6	4	20					4	7.2					4	8.1					4 40%
5	24.5	5						5						5						5
6	24.5	6	20					6	7.2					6	8.4					6 40%
7	24.4	7						7						7						7
8	24.7	8	20					8	6.9					8	8.2					8 40%
9	24.6	9						9						9						9
10	24.9	10						10						10						10
11	25.1	11	20					11	7.1					11	8.0					11 40%
12	24.8	12						12						12						12
13	24.3	13	20					13	7.1					13	7.9					13 40%
14	24.2	14						14						14						14

New England Bioassay - *Sediment Toxicity Data* Sample ID: **LC-105** **Page 2**

Start date: 4/30/15

Client / Source: **GZA GeoEnvironmental, Inc. / Wynn Everett (01.0171521.13 Task 1)** Page 2 entries started: 5/15/15

Description / I.D. #'s: LC-105 NEB COC #: C35-1874 End date / Time: 5/28/15 / 1545

Day	Temp. (°C)	Salinity (ppt.) (Add D.I. to maintain volume & salinity.) Rep: A	B	C	D	E	Dissolved Oxygen (mg/L) A	B	C	D	E	pH (S.U.) A	B	C	D	E	Water Renewal (appx. %)
15	24.2	20					6.9					7.7					40
16	24.0																
17	24.8																
18	24.8	20					6.7					7.7					40
19	24.6																
20	24.4	21					7.0					7.7					40
21	24.1																
22	24.1	21					7.1					7.8					40
23	24.1																
24	24.2																
25	24.4	20					7.0					7.7					40
26	24.3																
27	24.5	20					7.1					7.6					40
28	24.8	20	20	20	20	20	4.5	5.2	5.5	5.6	5.5	7.1	7.4	7.3	7.4	7.4	

	A	B	C	D	E
Day 28 Survival: (Qty per Replicate)	19	18	16	17	17

Overall Survival: 87 %

New England Bioassay - *Sediment Toxicity Data*

Sample ID: **LC-112**

Start date / time: 4/30/15 / 1715

End date / time: 5/28/15 / 1605

Client / Source: **GZA GeoEnvironmental, Inc. / Wynn Everett (01.0171521.13 Task 1)**

Description / I.D. #'s: LC-112 NEB COC #: C35-1875

Technicians: CC, AH, MG, SJP

Test organism: *Leptocheirus plumulosus*

Org. lot #: Lp15 (4-30) MC

Overlying salt water: (see attached)

Quantity of organisms added per replicate: 20

Source: NEB

Day	Temp. (°C)	Salinity (ppt.) Rep: A	B	C	D	E	Dissolved Oxygen (mg/L) A	B	C	D	E	pH (S.U.) A	B	C	D	E	Water Renewal (appx. %)
0	24.5	20	20	20	20	20	6.7	6.9	7.1	7.1	4.2 Ⓐ	7.9	7.9	7.9	7.9	7.9	40%
1	24.3	20	20	20	20	20	7.0					7.9					40%
2	24.3																
3	24.3																
4	24.4	20					7.3					8.0					40%
5	24.4																
6	24.3	20					7.1					8.3					40%
7	24.3																
8	24.4	20					7.1					8.1					40%
9	24.5																
10	24.8																
11	24.9	20					6.9					8.0					40%
12	24.9																
13	24.3	20					7.4					8.1					40%
14	24.2																

Ⓐ aeration increased, Rep E, Day 0. LC

New England Bioassay - *Sediment Toxicity Data* Sample ID: **LC-112** **Page 2**

Start date: 4/30/15

Client / Source: **GZA GeoEnvironmental, Inc. / Wynn Everett (01.0171521.13 Task 1)** Page 2 entries started: 5/15/15

Description / I.D. #'s: LC-112 NEB COC #: C35-1875 End date / Time: 5/28/15 / 1605

Day	Temp. (°C)	Salinity (ppt.) (Add D.I. to maintain volume & salinity.) Rep: A	B	C	D	E	Dissolved Oxygen (mg/L) A	B	C	D	E	pH (S.U.) A	B	C	D	E	Water Renewal (appx. %)
15	24.2	20					6.9					7.8					40
16	24.4																
17	24.7																
18	24.7	20					6.8					7.8					40
19	24.7																
20	24.4	20					7.0					7.8					40
21	24.1																
22	24.2	21					7.3					7.9					40
23	24.2																
24	24.2																
25	24.3	20					7.1					7.8					40
26	24.3																
27	24.5	21					7.1					7.7					40
28	24.7	20	20	20	20	20	4.7	6.6	6.6	6.7	6.7	7.2	7.5	7.5	7.5	7.6	

Day 28 Survival: (Qty per Replicate)

A	B	C	D	E
16	18	17	17	17

Overall Survival: 85 %

New England Bioassay - *Sediment Toxicity Data*

Sample ID: **GZ-203**

Start date / time: 4/30/15 / 1715

End date / time: 5/28/15 / 1630

Client / Source: **GZA GeoEnvironmental, Inc. / Wynn Everett (01.0171521.13 Task 1)**

Description / I.D. #'s: GZ-203 NEB COC #: C35-1876

Technicians: LC, AH, MG, SJP

Test organism: *Leptocheirus plumulosus*

Org. lot #: Lp15(4-30)MC

Overlying salt water: (see attached)

Quantity of organisms added per replicate: 20

Source: NEB

Day	Temp. (°C)	Salinity (ppt.) (Add D.I. to maintain volume & salinity.) Rep: A	B	C	D	E	Dissolved Oxygen (mg/L) A	B	C	D	E	pH (S.U.) A	B	C	D	E	Water Renewal (appx. %)
0	24.6	20	20	20	20	20	4.0	4.1	4.1	4.2	4.4	(A) 7.9	7.9	7.9	7.9	7.9	40%
1	24.4	20	20	20	20	20	7.1					7.8					40%
2	24.3																
3	24.4																
4	24.5	20					6.9					8.0					40%
5	24.5																
6	24.4	20					7.3					8.3					40%
7	24.3																
8	24.5	20					7.0					8.1					40%
9	24.6																
10	24.8																
11	24.9	20					6.8					8.0					40%
12	24.9																
13	24.4	20					7.4					8.0					40%
14	24.3																

(A) aeration increased, Day 0, LC.

New England Bioassay - *Sediment Toxicity Data*

Sample ID: **GZ-203**

Page 2

Start date: 4/30/15

Client / Source: **GZA GeoEnvironmental, Inc. / Wynn Everett (01.0171521.13 Task 1)**

Page 2 entries started: 5/15/15

Description / I.D. #'s: GZ-203 NEB COC #: C35-1876

End date / Time: 5/28/15 / 1630

Day	Temp. (°C)	Salinity (ppt.) Rep: A	B	C	D	E	Dissolved Oxygen (mg/L) A	B	C	D	E	pH (S.U.) A	B	C	D	E	Water Renewal (appx. %)
15	24.2	20					6.8					7.8					40
16	24.6																
17	25.0																
18	24.9	20					7.1					7.8					40
19	24.8																
20	24.5	20					7.1					7.8					40
21	24.1																
22	24.3	21					7.3					7.9					40
23	24.2																
24	24.1																
25	24.3	20					7.0					7.8					40
26	24.3																
27	24.6	21					7.0					7.7					40
28	24.7	20	20	20	20	20	4.6	5.5	5.6	5.6	5.6	7.4	7.4	7.5	7.5	7.5	

Day 28 Survival: (Qty per Replicate)

A	B	C	D	E
17	16	17	12	15

Overall Survival: 77 %

New England Bioassay - *Sediment Toxicity Data*

Sample ID: **GZ-207**

Start date / time: 4/30/15 / 1715

End date / time: 5/28/15 / 1650

Client / Source: **GZA GeoEnvironmental, Inc. / Wynn Everett (01.0171521.13 Task 1)**

Description / I.D. #'s: GZ-207 NEB COC #: C35-1877

Technicians: LC, AH, MG, SJP

Test organism: *Leptocheirus plumulosus* Org. lot #: Lp15 (4-30) MC

Overlying salt water: (see attached)

Quantity of organisms added per replicate: 20 Source: NEB

Day	Temp. (°C)	Salinity (ppt.) (Add D.I. to maintain volume & salinity.) Rep: A	B	C	D	E	Dissolved Oxygen (mg/L) A	B	C	D	E	pH (S.U.) A	B	C	D	E	Water Renewal (appx. %)
0	24.2	20	20	20	20	20	4.1	4.1	4.1	4.1	4.2 Ⓐ	7.9	7.9	7.9	7.9	7.9	40%
1	24.5	21	20	21	21	21	7.0					7.7					40%
2	24.4																
3	24.5																
4	24.7	20					7.4					8.1					40%
5	24.7																
6	24.5	20					7.3					8.4					40%
7	24.5																
8	24.5	20					7.0					8.1					40%
9	24.6																
10	24.9																
11	24.9	20					6.9					8.0					40%
12	24.9																
13	24.3	20					7.5					8.0					40%
14	24.4																

Ⓐ aeration increased, Day 0, LC.

New England Bioassay - *Sediment Toxicity Data* Sample ID: **GZ-207** **Page 2**

Start date: 4/30/15

Client / Source: **GZA GeoEnvironmental, Inc. / Wynn Everett (01.0171521.13 Task 1)** Page 2 entries started: 5/15/15

Description / I.D. #'s: GZ-207 NEB COC #: C35-1877 End date / Time: 5/28/15 / 1650

Day	Temp. (°C)	Salinity (ppt.) (Add D.I. to maintain volume & salinity.) Rep: A	B	C	D	E	Dissolved Oxygen (mg/L) A	B	C	D	E	pH (S.U.) A	B	C	D	E	Water Renewal (appx. %)
15	24.3	20					6.9					7.8					40
16	24.7																
17	24.9																
18	24.9	20					6.8					7.8					40
19	24.8																
20	24.5	21					7.1					7.8					40
21	24.1																
22	24.4	21					7.3					7.9					40
23	24.2																
24	24.2																
25	24.4	20					7.3					7.8					40
26	24.3																
27	24.4	20					7.0					7.8					40
28	24.8	20	20	20	20	20	4.4	5.1	5.3	5.7	5.4	7.4	7.6	7.6	7.6	7.6	

Day 28 Survival: (Qty per Replicate)	A	B	C	D	E	**Overall Survival:**	%
	15	12	15	14	13	69	

New England Bioassay - *Sediment Toxicity Data*

Sample ID: **GZ-209**

Page 1

Start date / time: 4/30/15 / 1715

End date / time: 5/28/15 / 1710

Client / Source: **GZA GeoEnvironmental, Inc. / Wynn Everett (01.0171521.13 Task 1)**

Description / I.D. #'s: GZ-209 NEB COC #: C35-1878

Technicians: LC, AH, MG, SJP

Test organism: *Leptocheirus plumulosus*

Org. lot #: Lp15 (4-30) MC

Overlying salt water: (see attached)

Quantity of organisms added per replicate: 20

Source: NEB

Day	Temp. (°C)	Salinity (ppt.) (Add D.I. to maintain volume & salinity.) Rep: A	B	C	D	E	Dissolved Oxygen (mg/L) A	B	C	D	E	pH (S.U.) A	B	C	D	E	Water Renewal (appx. %)
0	24.4	20	20	20	20	20	7.1	7.4	6.6	6.9	6.7	7.9	7.9	7.9	7.9		40 %
1	25.0	21	21	21	21	21	7.4					7.9					40 %
2	24.9																
3	24.6																
4	25.1	20					7.4					8.1					40%
5	24.7																
6	24.6	20					7.2					8.4					40%
7	24.9																
8	24.7	20					7.0					8.1					40%
9	24.8																
10	24.9																
11	25.0	20					6.8					7.9					40%
12	25.0																
13	24.4	20					7.2					7.9					40 %
14	24.7																

New England Bioassay - *Sediment Toxicity Data*

Sample ID: **GZ-209**

Page 2

Start date: 4/30/15

Client / Source: **GZA GeoEnvironmental, Inc. / Wynn Everett (01.0171521.13 Task 1)**

Page 2 entries started: 5/15/15

Description / I.D. #'s: GZ-209 NEB COC #: C35-1878

End date / Time: 5/28/15 / 1710

Day	Temp. (°C)	Salinity (ppt.) (Add D.I. to maintain volume & salinity.) Rep: A	B	C	D	E	Dissolved Oxygen (mg/L) A	B	C	D	E	pH (S.U.) A	B	C	D	E	Water Renewal (appx. %)
15	24.8	21					6.9					7.6					40
16	24.7																
17	25.0																
18	24.9	20					6.8					7.6					40%
19	24.8																
20	24.6	21					7.2					7.6					40
21	24.3																
22	24.4	21					7.3					7.7					40
23	24.3																
24	24.4																
25	24.5	20					7.0					7.7					40
26	24.4																
27	24.5	20					7.0					7.8					40
28	24.8	20	20	20	20	20	5.6	5.2	5.4	5.6	5.7	7.4	7.5	7.6	7.6	7.6	

Day 28 Survival: (Qty per Replicate)	A	B	C	D	E
	19	12	15	13	14

Overall Survival: 73 %

New England Bioassay - *Sediment Toxicity Data*

Sample ID: **GZ-213**

Start date / time: 4/30/15 / 1715

End date / time: 5/28/15 / 1725

Client / Source: **GZA GeoEnvironmental, Inc. / Wynn Everett (01.0171521.13 Task 1)**

Description / I.D. #'s: GZ-213 NEB COC #: C35-1879

Technicians: LC, AH, MG, STP

Test organism: *Leptocheirus plumulosus*

Org. lot #: Lp15(4-30)MC

Overlying salt water: (see attached)

Quantity of organisms added per replicate: 20

Source: NEB

Day	Temp. (°C)	Salinity (ppt.) (Add D.I. to maintain volume & salinity.) Rep: A	B	C	D	E	Dissolved Oxygen (mg/L) A	B	C	D	E	pH (S.U.) A	B	C	D	E	Water Renewal (appx. %)
0	25.0	20	20	20	19	19	7.0	7.0	6.9	6.7	6.8	7.8	7.9	7.9	7.9	7.9	40%
1	25.5	21	21	21	21	21	6.9					7.9					40%
2	25.6																
3	25.1																
4	25.2	20					7.4					7.9					40%
5	24.8																
6	24.6	20					7.3					8.0					40%
7	25.2																
8	25.1	20					7.2					7.9					40%
9	25.0																
10	25.0																
11	25.0	20					6.9					8.0					40%
12	24.9																
13	24.6	20					7.3					8.1					40%
14	25.1																

New England Bioassay - *Sediment Toxicity Data*

Sample ID: **GZ-213**

Start date: 4/30/15

Client / Source: **GZA GeoEnvironmental, Inc. / Wynn Everett (01.0171521.13 Task 1)**

Page 2 entries started: 5/15/15

Description / I.D. #'s: GZ-213 NEB COC #: C35-1879

End date / Time: 5/28/15 / 1725

Day	Temp. (°C)	Salinity (ppt.) (Add D.I. to maintain volume & salinity.) Rep: A	B	C	D	E	Dissolved Oxygen (mg/L) A	B	C	D	E	pH (S.U.) A	B	C	D	E	Water Renewal (appx. %)
15	25.7	20					6.9					7.9					40
16	25.0																
17	25.1																
18	25.0	20					6.9					8.0					40%
19	24.8																
20	24.9	20					7.2					7.9					40
21	24.4																
22	24.5	21					7.2					8.0					40
23	24.4																
24	25.0																
25	24.6	20					7.0					8.0					40
26	24.7																
27	24.6	20					7.1					8.0					40
28	24.8	20	20	20	20	20	6.6	6.7	6.7	6.7	6.7	7.6	7.7	7.7	7.8	7.7	

Day 28 Survival: (Qty per Replicate)	A	B	C	D	E	**Overall Survival:**	%
	18	17	14	17	16	82	

New England Bioassay - *Sediment Toxicity Data*

Sample ID: **GZ-214**

Start date / time: 4/30/15 / 1715

End date / time: 5/28/15 / 1740

Client / Source: **GZA GeoEnvironmental, Inc. / Wynn Everett (01.0171521.13 Task 1)**

Description / I.D. #'s: GZ-214 NEB COC #: C35-1880

Technicians: LC, AH, MG, SJP

Test organism: *Leptocheirus plumulosus* Org. lot #: Lp15 (4-30) MC

Overlying salt water: (see attached)

Quantity of organisms added per replicate: 20 Source: NEB

Day	Temp. (°C)	Salinity (ppt.) (Add D.I. to maintain volume & salinity.) Rep: A	B	C	D	E	Dissolved Oxygen (mg/L) A	B	C	D	E	pH (S.U.) A	B	C	D	E	Water Renewal (appx. %)
0	25.0	18	18	18	18	18	6.6	6.3	6.8	6.3	6.0	7.9	7.9	7.9	7.9	7.9	40%
1	25.2	21	21	22	21	21	7.1					7.9					40%
2	25.4																
3	24.9																
4	25.4	20					7.5					7.9					40%
5	24.7																
6	24.6	20					7.4					8.0					40%
7	25.2																
8	24.9	20					7.1					7.9					40%
9	24.8																
10	24.9																
11	24.9	20					6.9					7.9					40%
12	24.8																
13	24.3	20					7.4					7.9					40%
14	24.8																

New England Bioassay - *Sediment Toxicity Data*

Sample ID: **GZ-214**

Page 2

Start date: 4/30/15

Client / Source: **GZA GeoEnvironmental, Inc. / Wynn Everett (01.0171521.13 Task 1)**

Page 2 entries started: 5/15/15

Description / I.D. #'s: GZ-214 NEB COC #: C35-1880

End date / Time: 5/28/15 / 1740

Day	Temp. (°C)	Salinity (ppt.) (Add D.I. to maintain volume & salinity.) Rep: A	B	C	D	E	Dissolved Oxygen (mg/L) A	B	C	D	E	pH (S.U.) A	B	C	D	E	Water Renewal (appx. %)
15	25.4	20					7.1					7.8					40
16	24.8																
17	25.1																
18	24.9	20					6.9					7.8					40
19	24.7																
20	24.7	20					7.2					7.8					40
21	24.4																
22	24.3	21					7.0					7.9					40
23	24.4																
24	24.9																
25	24.4	20					7.1					7.9					40
26	24.6																
27	24.6	21					7.1					7.8					40
28	24.8	20	20	20	20	20	5.1	6.3	6.2	6.4	6.6	7.5	7.6	7.6	7.6	7.7	

Day 28 Survival: (Qty per Replicate)	A	B	C	D	E	**Overall Survival:**	%
	12	16	16	15	11	70	

New England Bioassay - *Sediment Toxicity Data*

Sample ID: **GZ-217**

Start date / time: 4/30/15 / 1715

End date / time: 5/28/15 / 1800

Client / Source: **GZA GeoEnvironmental, Inc. / Wynn Everett (01.0171521.13 Task 1)**

Description / I.D. #'s: GZ-217 NEB COC #: C35-1881

Technicians: LC, AH, MG, SJP

Test organism: *Leptocheirus plumulosus* Org. lot #: Lp 15 (4-30) MC

Overlying salt water: (see attached)

Quantity of organisms added per replicate: 20 Source: NEB

Day	Temp. (°C)	Salinity (ppt.) Rep: A	B	C	D	E	Dissolved Oxygen (mg/L) A	B	C	D	E	pH (S.U.) A	B	C	D	E	Water Renewal (appx. %)
0	24.6	20	20	20	20	20	7.2	6.9	7.2	6.9	6.6	7.8	7.8	7.8	7.8	7.8	40%
1	24.8	20	21	21	21	21	7.0					7.7					40%
2	24.8																
3	24.6																
4	24.9	20					7.6					7.7					40%
5	24.5																
6	24.4	20					7.1					7.8					40%
7	24.5																
8	24.7	20					7.1					7.7					40%
9	24.6																
10	24.8																
11	24.9	20					6.9					7.7					40%
12	24.8																
13	24.4	20					7.3					7.8					40%
14	24.5																

New England Bioassay - *Sediment Toxicity Data*

Sample ID: **GZ-217**

Page 2

Start date: 4/30/15

Client / Source: **GZA GeoEnvironmental, Inc. / Wynn Everett (01.0171521.13 Task 1)**

Page 2 entries started: 5/15/15

Description / I.D. #'s: GZ-217 NEB COC #: C35-1881

End date / Time: 5/28/15 / 1800

Day	Temp. (°C)	Rep	Salinity (ppt.) (Add D.I. to maintain volume & salinity.) A	B	C	D	E	Dissolved Oxygen (mg/L) A	B	C	D	E	pH (S.U.) A	B	C	D	E	Water Renewal (appx. %)
15	24.6	15	20					7.2					7.6					40
16	24.6	16																
17	24.8	17																
18	24.8	18	20					6.8					7.6					40
19	24.6	19																
20	24.4	20	21					7.3					7.6					40
21	24.2	21																
22	24.2	22	21					7.1					7.8					40
23	24.3	23																
24	24.6	24																
25	24.3	25	20					7.3					7.8					40
26	24.4	26																
27	24.5	27	21					7.2					7.7					40
28	24.8	28	20	20	20	20	20	6.6	6.8	6.8	6.8	6.8	7.3	7.5	7.5	7.5	7.5	

Day 28 Survival: (Qty per Replicate)	A	B	C	D	E
	9	6	10	17	15

Overall Survival: 57 %

New England Bioassay - *Sediment Toxicity Data*

Sample ID: **GZ-223**

Start date / time: 4/30/15 / 1715

End date / time: 5/28/15 / 1815

Client / Source: **GZA GeoEnvironmental, Inc. / Wynn Everett (01.0171521.13 Task 1)**

Description / I.D. #'s: GZ-223 NEB COC #: C35-1882

Technicians: LC, AH, MG, SJP

Test organism: *Leptocheirus plumulosus*

Org. lot #: Lp15 (4-30) MC

Overlying salt water: (see attached)

Quantity of organisms added per replicate: 20

Source: NEB

Day	Temp. (°C)	Rep	Salinity (ppt.) (Add D.I. to maintain volume & salinity.) A	B	C	D	E	Dissolved Oxygen (mg/L) A	B	C	D	E	pH (S.U.) A	B	C	D	E	Water Renewal (appx. %)
0	24.6	0	20	20	20	20	20	7.1	6.7	7.0	6.9	6.9	7.8	7.8	7.8	7.7	7.8	40%
1	24.6	1	20	20	20	20	20	7.2					7.8					40%
2	24.4	2																
3	24.5	3																
4	24.7	4	20					7.9					8.0					40%
5	24.4	5																
6	24.4	6	20					7.3					8.3					40%
7	24.4	7																
8	24.6	8	20					7.2					8.1					40%
9	24.6	9																
10	24.9	10																
11	25.0	11	20					7.1					8.1					40%
12	24.9	12																
13	24.4	13	20					7.3					8.2					40%
14	~~24.3~~ 24.3	14																

New England Bioassay - *Sediment Toxicity Data*

Sample ID: **GZ-223**

Page 2

Start date: 4/30/15

Client / Source: **GZA GeoEnvironmental, Inc. / Wynn Everett (01.0171521.13 Task 1)**

Page 2 entries started: 5/15/15

Description / I.D. #'s: GZ-223 NEB COC #: C35-1882

End date / Time: 5/28/15 / 1815

Day	Temp. (°C)	Salinity (ppt.) (Add D.I. to maintain volume & salinity.) Rep: A	B	C	D	E	Dissolved Oxygen (mg/L) A	B	C	D	E	pH (S.U.) A	B	C	D	E	Water Renewal (appx. %)
15	24.4	21					7.0					8.0					40
16	24.7																
17	24.9																
18	24.9	20					6.8					8.1					40
19	24.8																
20	24.6	21					7.3					8.0					40
21	24.3																
22	24.4	21					7.2					8.1					40
23	24.4																
24	24.5																
25	24.5	20					7.1					8.0					40
26	24.5																
27	24.7	20					7.2					8.0					40
28	24.8	20	20	20	20	20	7.0	6.6	6.7	6.7	6.6	7.7	7.8	7.8	7.8	7.8	

Day 28 Survival: (Qty per Replicate)

A	B	C	D	E
15	16	19	18	17

Overall Survival: 85 %

New England Bioassay - *Sediment Toxicity Data*

Sample ID: **GZ-224**

Start date / time: 4/30/15 / 1715

End date / time: 5/28/15 / 1830

Client / Source: **GZA GeoEnvironmental, Inc. / Wynn Everett (01.0171521.13 Task 1)**

Description / I.D. #'s: GZ-224 NEB COC #: C35-1883

Technicians: LC, AH, MG, SJP

Test organism: *Leptocheirus plumulosus*

Org. lot #: Lp15(4-30)MC

Overlying salt water: (see attached)

Quantity of organisms added per replicate: 20

Source: NEB

Day	Temp. (°C)	Salinity (ppt.) (Add D.I. to maintain volume & salinity.) Rep: A	B	C	D	E	Dissolved Oxygen (mg/L) A	B	C	D	E	pH (S.U.) A	B	C	D	E	Water Renewal (appx. %)
0	24.2	20	20	20	20	20	6.9	7.1	7.1	7.1	7.1	7.8	7.9	7.9	7.8	7.9	40%
1	24.3	20	20	20	20	20	7.0					7.9					40%
2	24.2																
3	24.3																
4	24.6	20					7.8					7.9					40%
5	24.4																
6	24.3	20					7.3					8.0					40%
7	24.3																
8	24.6	20					7.2					7.9					40%
9	24.6																
10	24.8																
11	25.0	20					6.9					7.9					40%
12	24.9																
13	24.5	20					7.3					8.0					40%
14	24.2																

New England Bioassay - *Sediment Toxicity Data*

Sample ID: **GZ-224**

Page 2

Start date: 4/30/15

Client / Source: **GZA GeoEnvironmental, Inc. / Wynn Everett (01.0171521.13 Task 1)**

Page 2 entries started: 5/15/15

Description / I.D. #'s: GZ-224 NEB COC #: C35-1883

End date / Time: 5/28/15 / 1830

Day	Temp. (°C)	Salinity (ppt.) (Add D.I. to maintain volume & salinity.) Rep: A	B	C	D	E	Dissolved Oxygen (mg/L) A	B	C	D	E	pH (S.U.) A	B	C	D	E	Water Renewal (appx. %)
15	24.3	20					6.9					7.8					40
16	24.6																
17	24.8																
18	24.9	20					7.1					7.9					40
19	24.8																
20	24.4	20					7.3					7.9					40
21	24.0																
22	24.4	21					7.2					8.0					40
23	24.2																
24	24.4																
25	24.3	20					7.1					8.0					40
26	24.3																
27	24.5	20					7.1					8.0					40
28	24.8	20	20	20	20	20	6.4	6.6	6.6	6.6	6.7	7.6	7.7	7.7	7.7	7.7	

Day 28 Survival: (Qty per Replicate)	A	B	C	D	E	**Overall Survival:**	%
	17	15	13	15	11	71	

New England Bioassay - *Sediment Toxicity Data*

Sample ID: **GZ-225**

Start date / time: 4/30/15 / 1715

End date / time: 5/28/15 / 1845

Client / Source: **GZA GeoEnvironmental, Inc. / Wynn Everett (01.0171521.13 Task 1)**

Description / I.D. #'s: GZ-225 NEB COC #: C35-1884

Technicians: LC, AH, MG, SJP

Test organism: *Leptocheirus plumulosus*

Org. lot #: Lp15 (4-30) MC

Overlying salt water: (see attached)

Quantity of organisms added per replicate: 20

Source: NEB

Day	Temp. (°C)	Salinity (ppt.) (Add D.I. to maintain volume & salinity.) Rep: A	B	C	D	E	Dissolved Oxygen (mg/L) A	B	C	D	E	pH (S.U.) A	B	C	D	E	Water Renewal (appx. %)
0	24.5	20	20	20	20	20	6.5	6.5	6.6	6.8	6.8	7.9	7.8	7.8	7.9	7.8	40%
1	24.5	21	21	21	21	21	7.1					7.8					40%
2	24.2																
3	24.3																
4	24.6	20					7.6					7.9					40%
5	24.5																
6	24.4	20					7.2					8.0					40%
7	24.4																
8	24.7	20					7.1					7.9					40%
9	24.6																
10	24.9																
11	25.1	20					6.8					7.9					40%
12	24.9																
13	24.3	20					7.3					8.0					40%
14	24.1																

New England Bioassay - *Sediment Toxicity Data*

Sample ID: **GZ-225**

Page 2

Start date: 4/30/15

Client / Source: **GZA GeoEnvironmental, Inc. / Wynn Everett (01.0171521.13 Task 1)**

Page 2 entries started: 5/15/15

Description / I.D. #'s: GZ-225 NEB COC #: C35-1884

End date / Time: 5/28/15 / 1845

Day	Temp. (°C)	Salinity (ppt.) (Add D.I. to maintain volume & salinity.) Rep: A	B	C	D	E	Dissolved Oxygen (mg/L) A	B	C	D	E	pH (S.U.) A	B	C	D	E	Water Renewal (appx. %)
15	24.3	20					6.8					7.8					40
16	24.7																
17	24.9																
18	24.9	20					7.0					7.9					40
19	24.8																
20	24.6	20					7.4					7.8					40
21	24.1																
22	24.4	21					7.1					8.0					40
23	24.2																
24	24.5																
25	24.3	20					7.2					7.9					40
26	24.6																
27	24.7	20					7.1					7.9					40
28	24.9	20	20	20	20	20	5.0	5.8	5.5	5.6	5.5	7.7	7.6	7.6	7.6	7.6	

	A	B	C	D	E
Day 28 Survival: (Qty per Replicate)	9	18	15	17	14

Overall Survival: 73 %

New England Bioassay **_Final 28-Day Dry-Weight Data_** _Leptocheirus plumulosus_

Client: **GZA GeoEnvironmental, Inc.** Test set-up date: 4/30/15

Project: Wynn-Everett (01.0171521.13 Task 1)

Test ending date: 5/28/15

Sample I.D. **Artificial Control**

Tare weight- Date / Tech: 5-27-15 LC

Final weight- Date / Tech. 5/29/15 MG

	A	B	C	D	E
Pan + organisms:	944.30 mg	950.85 mg	944.22 mg	947.94 mg	952.60 mg
- Pan (tare):	929.47 mg	936.76 mg	927.74 mg	927.09 mg	931.06 mg
Qty. org. per pan:	11	11	11	14	15

Sample I.D. **Natural Control**

Tare weight- Date / Tech: 5-27-15 LC

Final weight- Date / Tech. 5/29/15 MG

	A	B	C	D	E
Pan + organisms:	950.72 mg	962.43 mg	954.97 mg	954.44 mg	949.40 mg
- Pan (tare):	932.88 mg	936.58 mg	935.51 mg	936.44 mg	927.04 mg
Qty. org. per pan:	13	18	14	12	14

Sample I.D. **LC-102**

Tare weight- Date / Tech: 5-27-15 LC

Final weight- Date / Tech. 5/29/15 MG

	A	B	C	D	E
Pan + organisms:	974.60 mg	964.52 mg	958.32 mg	972.41 mg	963.00 mg
- Pan (tare):	937.37 mg	928.88 mg	937.60 mg	935.51 mg	934.91 mg
Qty. org. per pan:	18	20	11	19	15

New England Bioassay **_Final 28-Day Dry-Weight Data_** *Leptocheirus plumulosus*

Client: **GZA GeoEnvironmental, Inc.** Test set-up date: 4/30/15

Project: Wynn-Everett (01.0171521.13 Task 1)

Test ending date: 5/28/15

Sample I.D. **LC-105** Tare weight- Date / Tech: 5/27/15, LC

Final weight- Date / Tech 5/29/15, MG

	A	B	C	D	E
Pan + organisms:	974.76 mg	969.32 mg	965.10 mg	970.83 mg	973.31 mg
- Pan (tare):	938.25 mg	934.31 mg	933.96 mg	933.50 mg	936.07 mg
Qty. org. per pan:	19	18	16	17	17

Sample I.D. **LC-112** Tare weight- Date / Tech: 5/27/15, LC

Final weight- Date / Tech. 5/29/15, MG

	A	B	C	D	E
Pan + organisms:	960.50 mg	960.39 mg	955.54 mg	968.18 mg	960.41 mg
- Pan (tare):	936.23 mg	934.37 mg	934.61 mg	941.71 mg	928.07 mg
Qty. org. per pan:	16	18	17	17	17

Sample I.D. **GZ-203** Tare weight- Date / Tech: 5/27/15, LC

Final weight- Date / Tech. 5/29/15, MG

	A	B	C	D	E
Pan + organisms:	971.38 mg	960.89 mg	958.82 mg	955.35 mg	959.71 mg
- Pan (tare):	936.33 mg	930.76 mg	935.22 mg	934.62 mg	927.41 mg
Qty. org. per pan:	17	16	17	12	15

New England Bioassay **_Final 28-Day Dry-Weight Data_** *Leptocheirus plumulosus*

Client: **GZA GeoEnvironmental, Inc.** Test set-up date: 4/30/15

Project: Wynn-Everett (01.0171521.13 Task 1)

Test ending date: 5/28/15

Sample I.D. **GZ-207**

Tare weight- Date / Tech: 5/27/15, LC

Final weight- Date / Tech. 5/29/15, MG

	A	B	C	D	E
Pan + organisms:	957.26 mg	954.59 mg	907.15 mg	953.12 mg	961.24 mg
- Pan (tare):	932.03 mg	932.30 mg	935.51 mg	930.70 mg	935.60 mg
Qty. org. per pan:	15	12	15	14	13

Sample I.D. **GZ-209**

Tare weight- Date / Tech: 5/27/15, LC

Final weight- Date / Tech. 5/29/15, MG

	A	B	C	D	E
Pan + organisms:	978.13 mg	958.72 mg	961.95 mg	962.31 mg	956.91 mg
- Pan (tare):	935.10 mg	932.20 mg	934.37 mg	936.04 mg	931.99 mg
Qty. org. per pan:	19	12	15	13	14

Sample I.D. **GZ-213**

Tare weight- Date / Tech: 5/27/15, LC

Final weight- Date / Tech. 5/29/15, MG

	A	B	C	D	E
Pan + organisms:	961.55 mg	954.81 mg	949.72 mg	959.44 mg	961.72 mg
- Pan (tare):	935.84 mg	930.34 mg	930.45 mg	925.20 mg	938.62 mg
Qty. org. per pan:	18	17	14	17	16

New England Bioassay **_Final 28-Day Dry-Weight Data_** *Leptocheirus plumulosus*

Client: **GZA GeoEnvironmental, Inc.** Test set-up date: 4/30/15

Project: Wynn-Everett (01.0171521.13 Task 1)

Test ending date: 5/28/15

Sample I.D. **GZ-214**

Tare weight- Date / Tech: 5-27-15, LC

Final weight- Date / Tech. 5/29/15 MG

	A	B	C	D	E
Pan + organisms:	957.80 mg	960.87 mg	962.41 mg	962.45 mg	955.22 mg
- Pan (tare):	938.08 mg	932.80 mg	933.55 mg	938.65 mg	934.41 mg
Qty. org. per pan:	12	16	16	15	11

Sample I.D. **GZ-217**

Tare weight- Date / Tech: 5-27-15, LC

Final weight- Date / Tech. 5/29/15 MG

	A	B	C	D	E
Pan + organisms:	941.89 mg	936.19 mg	942.45 mg	951.62 mg	949.40 mg
- Pan (tare):	934.26 mg	931.97 mg	932.15 mg	934.84 mg	934.53 mg
Qty. org. per pan:	9	6	10	17	15

Sample I.D. **GZ-223**

Tare weight- Date / Tech: 5-27-15, LC

Final weight- Date / Tech. 5/29/15 MG

	A	B	C	D	E
Pan + organisms:	958.59 mg	961.30 mg	965.03 mg	963.85 mg	960.39 mg
- Pan (tare):	931.83 mg	932.64 mg	933.07 mg	931.89 mg	933.75 mg
Qty. org. per pan:	15	16	19	18	17

New England Bioassay **_Final 28-Day Dry-Weight Data_** *Leptocheirus plumulosus*

Client: **GZA GeoEnvironmental, Inc.** Test set-up date: 4/30/15

Project: Wynn-Everett (01.0171521.13 Task 1)

Test ending date: 5/28/15

Sample I.D. **GZ-224**

Tare weight- Date / Tech: 5/27/15 LL

Final weight- Date / Tech. 5/29/15, MG

	A	B	C	D	E
Pan + organisms:	957.90 mg	951.00 mg	961.37 mg	945.97 mg	946.02 mg
- Pan (tare):	934.91 mg	922.56 mg	938.30 mg	929.94 mg	932.43 mg
Qty. org. per pan:	17	15	13	15	11

Sample I.D. **GZ-225**

Tare weight- Date / Tech: 5/27/15, LL

Final weight- Date / Tech. 5/29/15, MG

	A	B	C	D	E
Pan + organisms:	944.10 mg	957.81 mg	962.43 mg	957.53 mg	945.28 mg
- Pan (tare):	932.82 mg	930.86 mg	933.18 mg	934.00 mg	934.24 mg
Qty. org. per pan:	9	18	15	17	14

Leptocheirus plumulosus- Sediment Test Breakdown, Day 28 - **Young Counted**

Client: **GZA GeoEnvironmental, Inc.** Test set-up date: 4/30/15

Project: **Wynn-Everett (01.0171521.13 Task 1)** Test ending date: 5/28/15

		Qty.	Observations of Young
Artificial Control	A.	11	mostly small
	B.	22	mostly small
	C.	13	mostly small
	D.	42	mixed sizes, many large
	E.	22	mixed sizes
Natural Control	A.	11	mostly small
	B.	37	mostly small
	C.	17	mostly small
	D.	24	"medium" sized
	E.	9	mostly small
LC-102	A.	23	mixed sizes / some worms present
	B.	41	mixed sizes / many tiny worms present
	C.	42	mixed sizes
	D.	32	mostly small
	E.	45	mixed sizes

Leptocheirus plumulosus- Sediment Test Breakdown, Day 28 - **Young Counted**

Client: **GZA GeoEnvironmental, Inc.** Test set-up date: 4/30/15

Project: **Wynn-Everett (01.0171521.13 Task 1)** Test ending date: 5/28/15

LC-105

	Qty.	Observations of Young
A.	19	many tiny worms
B.	43	mixed sizes
C.	24	small to medium sized
D.	14	mostly small / many tiny worms
E.	32	mixed sizes

LC-112

A.	69	mixed sizes / many small worms
B.	43	mixed sizes / many small worms
C.	20	mostly small / many small worms
D.	16	mixed sizes
E.	27	mixed sizes / small worms present

GZ-203

A.	65	mixed sizes / some small worms
B.	8	mostly small / tiny worms
C.	0	worms present
D.	19	mixed sizes / worms present
E.	22	mixed sizes

Leptocheirus plumulosus- Sediment Test Breakdown, Day 28 - **Young Counted**

Client: **GZA GeoEnvironmental, Inc.** Test set-up date: 4/30/15

Project: **Wynn-Everett (01.0171521.13 Task 1)** Test ending date: 5/28/15

GZ-207

	Qty.	Observations of Young
A.	34	mixed sizes
B.	39	mixed sizes
C.	0	small
D.	0	3 larger worms w/legs found
E.	0	

GZ-209

	Qty.	Observations of Young
A.	134	mixed sizes
B.	21	
C.	28	
D.	35	
E.	25	

GZ-213

	Qty.	Observations of Young
A.	0	
B.	13	mixed sizes
C.	0	
D.	15	mixed sizes
E.	0	

Leptocheirus plumulosus- Sediment Test Breakdown, Day 28 - **Young Counted**

Client: **GZA GeoEnvironmental, Inc.** Test set-up date: 4/30/15

Project: **Wynn-Everett (01.0171521.13 Task 1)** Test ending date: 5/28/15

GZ-214

	Qty.	Observations of Young
A.	14	small - med.
B.	8	all small
C.	15	all small
D.	10	all small
E.	11	all small

GZ-217

	Qty.	Observations of Young
A.	2	small
B.	0	
C.	2	small
D.	0	
E.	5	small

GZ-223

	Qty.	Observations of Young
A.	25	mixed sizes
B.	25	
C.	28	
D.	51	2 red worms - midge larvae?
E.	9	

Leptocheirus plumulosus- Sediment Test Breakdown, Day 28 - **Young Counted**

Client: **GZA GeoEnvironmental, Inc.** Test set-up date: 4/30/15

Project: **Wynn-Everett (01.0171521.13 Task 1)** Test ending date: 5/28/15

GZ-224

	Qty.	Observations of Young
A.	1	~~mixed sizes~~ sm. medium sized
B.	4	mixed sizes
C.	0	✓
D.	4	mixed sizes
E.	0	

GZ-225

	Qty.	Observations of Young
A.	5	mixed sizes / large sandworm 4-6" approx.
B.	13	mixed sizes
C.	40	mixed sizes
D.	41	mixed sizes
E.	6	mixed sizes

SUMMARY OF TEST RESULTS
28-DAY L.PLUMULOSUS TOXICITY TESTS
WYNN-EVERETT (Test Dates 4/30/15 – 5/28/15)
ARTIFICIAL CONTROL COMPARISION

Sample	28-day Survival (%)		Biomass (mg)		Reproduction (number of young)	
	Mean	Sig[a]	Mean	Sig[a]	Mean[b]	Sig[a]
Artificial Control	62	--	0.8779	--	1.73	--
Natural Control	71	NS	1.035	NS	1.352	NS
LC-102	83	NS	1.586	NS	2.366	NS
LC-105	87	NS	1.772	NS	1.519	NS
LC-112	85	NS	1.42	NS	2.081	NS
GZ-203	77	NS	1.418	NS	1.475	NS
GZ-207	69	NS	1.272	NS	1.183	NS
GZ-209	73	NS	1.473	NS	3.029	NS
GZ-213	82	NS	1.167	NS	0.3294	*
GZ-214	70	NS	1.213	NS	0.8542	NS
GZ-217	57	NS	0.538	NS	0.1511	*
GZ-223	85	NS	1.46	NS	1.613	NS
GZ-224	71	NS	0.9412	NS	0.1184	*
GZ-225	73	NS	1.021	NS	1.357	NS

[a]NS: Not significantly reduced at P = 0.05; *: significant at P = 0.05.
when compared with artificial control

[b] Reproduction as the average of [young per rep/surviving adults per rep]

Leptocheirus 28-d Survival, Growth and Reproduction Sediment Test — **New England Bioassay**

Analysis ID:	10-7463-6629	**Endpoint:**	Survival Rate	**CETIS Version:**	CETISv1.8.8
Analyzed:	03 Jun-15 9:31	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes
Batch ID:	01-5466-7590	**Test Type:**	Leptocheirus (28-d)	**Analyst:**	
Start Date:	30 Apr-15	**Protocol:**	EPA/600/R-01/020 (2001)	**Diluent:**	Not Applicable
Ending Date:	28 May-15	**Species:**	Leptocheirus plumulosus	**Brine:**	Instant Ocean
Duration:	28d 0h	**Source:**	In-House Culture	**Age:**	

Sample Code	Sample ID	Sample Date	Receive Date	Sample Age	Client Name	Project
Art Control	04-5032-5421	25 Mar-15		36d 0h	GZA GeoEnvironmental	
Nat Control	11-3861-7478	24 Mar-15	21 Apr-15	37d 0h		
LC-102	14-0824-4221	26 Mar-15	21 Apr-15	35d 0h		
LC-105	19-8730-7911	26 Mar-15	21 Apr-15	35d 0h		
LC-112	09-5123-6710	27 Mar-15	21 Apr-15	34d 0h		

Sample Code	Material Type	Sample Source	Station Location	Latitude	Longitude
Art Control	Not Applicable	Wynn - Everett MA	Art Control		
Nat Control	Not Applicable	Wynn - Everett MA	Nat Control		
LC-102	Reference sediment	Wynn - Everett MA	LC-102		
LC-105	Reference sediment	Wynn - Everett MA	LC-105		
LC-112	Reference sediment	Wynn - Everett MA	LC-112		

Data Transform	Zeta	Alt Hyp	Trials	Seed	PMSD	Test Result
Angular (Corrected)	NA	C > T	NA	NA	33.0%	

Dunnett Multiple Comparison Test

Sample Code	vs	Sample Code	Test Stat	Critical	MSD	DF	P-Value	P-Type	Decision(α:5%)
Art Control		Nat Control	-1.128	2.305	0.209	8	0.9828	CDF	Non-Significant Effect
		LC-102	-3.074	2.305	0.209	8	1.0000	CDF	Non-Significant Effect
		LC-105	-3.321	2.305	0.209	8	1.0000	CDF	Non-Significant Effect
		LC-112	-2.941	2.305	0.209	8	0.9999	CDF	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.348152	0.08703799	4	4.25	0.0119	Significant Effect
Error	0.4095784	0.02047892	20			
Total	0.7577303		24			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance	9.49	13.28	0.0500	Equal Variances
Distribution	Shapiro-Wilk W Normality	0.9527	0.8877	0.2887	Normal Distribution

Survival Rate Summary

Sample Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
Art Control	5	0.62	0.499	0.741	0.55	0.55	0.75	0.04359	15.72%	0.0%
Nat Control	5	0.71	0.5684	0.8516	0.7	0.6	0.9	0.05099	16.06%	-14.52%
LC-102	5	0.83	0.6036	1	0.9	0.55	1	0.08155	21.97%	-33.87%
LC-105	5	0.87	0.7992	0.9408	0.85	0.8	0.95	0.0255	6.55%	-40.32%
LC-112	5	0.85	0.8061	0.8939	0.85	0.8	0.9	0.01581	4.16%	-37.1%

Angular (Corrected) Transformed Summary

Sample Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
Art Control	5	0.909	0.7816	1.036	0.8355	0.8355	1.047	0.04586	11.28%	0.0%
Nat Control	5	1.011	0.8372	1.185	0.9912	0.8861	1.249	0.06262	13.85%	-11.23%
LC-102	5	1.187	0.8793	1.495	1.249	0.8355	1.459	0.1109	20.88%	-30.61%
LC-105	5	1.21	1.097	1.323	1.173	1.107	1.345	0.0407	7.52%	-33.07%
LC-112	5	1.175	1.113	1.237	1.173	1.107	1.249	0.02247	4.28%	-29.28%

Leptocheirus 28-d Survival, Growth and Reproduction Sediment Test — **New England Bioassay**

Analysis ID:	10-7463-6629	**Endpoint:**	Survival Rate	**CETIS Version:**	CETISv1.8.8
Analyzed:	03 Jun-15 9:31	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes

Survival Rate Detail

Sample Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
Art Control	0.55	0.55	0.55	0.7	0.75
Nat Control	0.65	0.9	0.7	0.6	0.7
LC-102	0.9	1	0.55	0.95	0.75
LC-105	0.95	0.9	0.8	0.85	0.85
LC-112	0.8	0.9	0.85	0.85	0.85

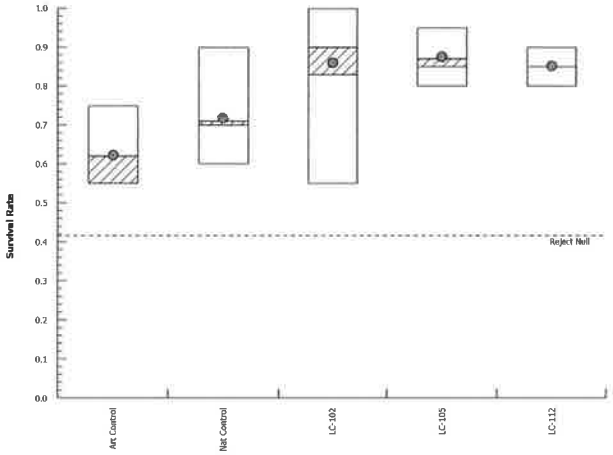
Angular (Corrected) Transformed Detail

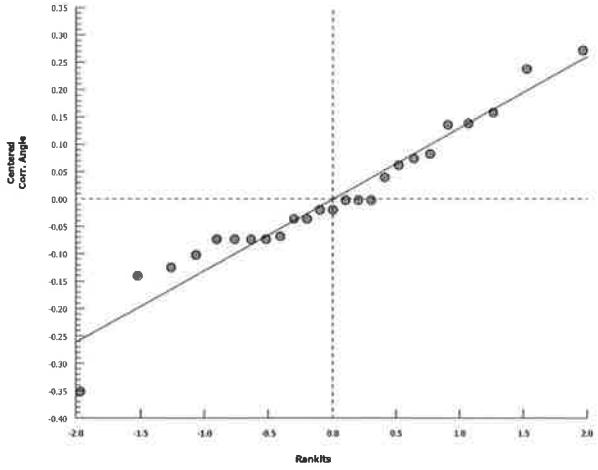
Sample Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
Art Control	0.8355	0.8355	0.8355	0.9912	1.047
Nat Control	0.9377	1.249	0.9912	0.8861	0.9912
LC-102	1.249	1.459	0.8355	1.345	1.047
LC-105	1.345	1.249	1.107	1.173	1.173
LC-112	1.107	1.249	1.173	1.173	1.173

Survival Rate Binomials

Sample Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
Art Control	11/20	11/20	11/20	14/20	15/20
Nat Control	13/20	18/20	14/20	12/20	14/20
LC-102	18/20	20/20	11/20	19/20	15/20
LC-105	19/20	18/20	16/20	17/20	17/20
LC-112	16/20	18/20	17/20	17/20	17/20

Graphics





Leptocheirus 28-d Survival, Growth and Reproduction Sediment Test — **New England Bioassay**

Analysis ID:	17-9235-6318	**Endpoint:**	Survival Rate	**CETIS Version:**	CETISv1.8.8
Analyzed:	03 Jun-15 9:32	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes
Batch ID:	01-5466-7590	**Test Type:**	Leptocheirus (28-d)	**Analyst:**	
Start Date:	30 Apr-15	**Protocol:**	EPA/600/R-01/020 (2001)	**Diluent:**	Not Applicable
Ending Date:	28 May-15	**Species:**	Leptocheirus plumulosus	**Brine:**	Instant Ocean
Duration:	28d 0h	**Source:**	In-House Culture	**Age:**	

Sample Code	Sample ID	Sample Date	Receive Date	Sample Age	Client Name	Project
Art Control	04-5032-5421	25 Mar-15		36d 0h	GZA GeoEnvironmental	
GZ-203	02-5461-8029	24 Mar-15	21 Apr-15	37d 0h		
GZ-207	03-2338-4998	25 Mar-15	21 Apr-15	36d 0h		
GZ-209	16-5046-1852	25 Mar-15	21 Apr-15	36d 0h		
GZ-213	17-1685-0966	25 Mar-15	21 Apr-15	36d 0h		
GZ-214	15-3950-8822	30 Mar-15	21 Apr-15	31d 0h		
GZ-217	04-7415-4404	24 Mar-15	21 Apr-15	37d 0h		
GZ-223	08-6096-2100	30 Mar-15	21 Apr-15	31d 0h		
GZ-224	13-6271-4856	30 Mar-15	21 Apr-15	31d 0h		
GZ-225	18-0414-8615	27 Mar-15	21 Apr-15	34d 0h		

Sample Code	Material Type	Sample Source	Station Location	Latitude	Longitude
Art Control	Not Applicable	Wynn - Everett MA	Art Control		
GZ-203	Site Sediment	Wynn - Everett MA	GZ-203		
GZ-207	Site Sediment	Wynn - Everett MA	GZ-207		
GZ-209	Site Sediment	Wynn - Everett MA	GZ-209		
GZ-213	Site Sediment	Wynn - Everett MA	GZ-213		
GZ-214	Site Sediment	Wynn - Everett MA	GZ-214		
GZ-217	Site Sediment	Wynn - Everett MA	GZ-217		
GZ-223	Site Sediment	Wynn - Everett MA	GZ-223		
GZ-224	Site Sediment	Wynn - Everett MA	GZ-224		
GZ-225	Site Sediment	Wynn - Everett MA	GZ-225		

Data Transform	Zeta	Alt Hyp	Trials	Seed	PMSD	Test Result
Angular (Corrected)	NA	C > T	NA	NA	36.8%	

Dunnett Multiple Comparison Test

Sample Code	vs	Sample Code	Test Stat	Critical	MSD	DF	P-Value	P-Type	Decision(α:5%)
Art Control		GZ-203	-1.815	2.506	0.232	8	0.9997	CDF	Non-Significant Effect
		GZ-207	-0.7862	2.506	0.232	8	0.9875	CDF	Non-Significant Effect
		GZ-209	-1.429	2.506	0.232	8	0.9987	CDF	Non-Significant Effect
		GZ-213	-2.477	2.506	0.232	8	1.0000	CDF	Non-Significant Effect
		GZ-214	-0.9451	2.506	0.232	8	0.9925	CDF	Non-Significant Effect
		GZ-217	0.4834	2.506	0.232	8	0.7539	CDF	Non-Significant Effect
		GZ-223	-2.969	2.506	0.232	8	1.0000	CDF	Non-Significant Effect
		GZ-224	-1.069	2.506	0.232	8	0.9951	CDF	Non-Significant Effect
		GZ-225	-1.404	2.506	0.232	8	0.9985	CDF	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.4190992	0.04656657	9	2.165	0.0458	Significant Effect
Error	0.8601752	0.02150438	40			
Total	1.279274		49			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance	8.931	21.67	0.4436	Equal Variances
Distribution	Shapiro-Wilk W Normality	0.9894	0.9367	0.9307	Normal Distribution

Leptocheirus 28-d Survival, Growth and Reproduction Sediment Test **New England Bioassay**

Analysis ID: 17-9235-6318 **Endpoint:** Survival Rate **CETIS Version:** CETISv1.8.8
Analyzed: 03 Jun-15 9:32 **Analysis:** Parametric-Control vs Treatments **Official Results:** Yes

Survival Rate Summary

Sample Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
Art Control	5	0.62	0.499	0.741	0.55	0.55	0.75	0.04359	15.72%	0.0%
GZ-203	5	0.77	0.6413	0.8987	0.8	0.6	0.85	0.04637	13.47%	-24.19%
GZ-207	5	0.69	0.6091	0.7709	0.7	0.6	0.75	0.02915	9.45%	-11.29%
GZ-209	5	0.73	0.5623	0.8977	0.7	0.6	0.95	0.06042	18.51%	-17.74%
GZ-213	5	0.82	0.7258	0.9142	0.85	0.7	0.9	0.03391	9.25%	-32.26%
GZ-214	5	0.7	0.5544	0.8456	0.75	0.55	0.8	0.05244	16.75%	-12.9%
GZ-217	5	0.57	0.2903	0.8497	0.5	0.3	0.85	0.1007	39.52%	8.07%
GZ-223	5	0.85	0.7518	0.9482	0.85	0.75	0.95	0.03536	9.3%	-37.1%
GZ-224	5	0.71	0.5684	0.8516	0.75	0.55	0.85	0.05099	16.06%	-14.52%
GZ-225	5	0.73	0.5123	0.9477	0.75	0.45	0.9	0.07842	24.02%	-17.74%

Angular (Corrected) Transformed Summary

Sample Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
Art Control	5	0.909	0.7816	1.036	0.8355	0.8355	1.047	0.04586	11.28%	0.0%
GZ-203	5	1.077	0.9295	1.225	1.107	0.8861	1.173	0.05325	11.05%	-18.52%
GZ-207	5	0.9819	0.8946	1.069	0.9912	0.8861	1.047	0.03142	7.16%	-8.02%
GZ-209	5	1.041	0.8178	1.265	0.9912	0.8861	1.345	0.08055	17.29%	-14.58%
GZ-213	5	1.139	1.019	1.259	1.173	0.9912	1.249	0.04319	8.48%	-25.28%
GZ-214	5	0.9966	0.8381	1.155	1.047	0.8355	1.107	0.05709	12.81%	-9.64%
GZ-217	5	0.8641	0.5646	1.164	0.7854	0.5796	1.173	0.1079	27.91%	4.93%
GZ-223	5	1.184	1.039	1.33	1.173	1.047	1.345	0.05243	9.9%	-30.3%
GZ-224	5	1.008	0.8498	1.166	1.047	0.8355	1.173	0.05702	12.65%	-10.91%
GZ-225	5	1.039	0.7934	1.285	1.047	0.7353	1.249	0.08851	19.05%	-14.32%

Survival Rate Detail

Sample Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
Art Control	0.55	0.55	0.55	0.7	0.75
GZ-203	0.85	0.8	0.85	0.6	0.75
GZ-207	0.75	0.6	0.75	0.7	0.65
GZ-209	0.95	0.6	0.75	0.65	0.7
GZ-213	0.9	0.85	0.7	0.85	0.8
GZ-214	0.6	0.8	0.8	0.75	0.55
GZ-217	0.45	0.3	0.5	0.85	0.75
GZ-223	0.75	0.8	0.95	0.9	0.85
GZ-224	0.85	0.75	0.65	0.75	0.55
GZ-225	0.45	0.9	0.75	0.85	0.7

Angular (Corrected) Transformed Detail

Sample Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
Art Control	0.8355	0.8355	0.8355	0.9912	1.047
GZ-203	1.173	1.107	1.173	0.8861	1.047
GZ-207	1.047	0.8861	1.047	0.9912	0.9377
GZ-209	1.345	0.8861	1.047	0.9377	0.9912
GZ-213	1.249	1.173	0.9912	1.173	1.107
GZ-214	0.8861	1.107	1.107	1.047	0.8355
GZ-217	0.7353	0.5796	0.7854	1.173	1.047
GZ-223	1.047	1.107	1.345	1.249	1.173
GZ-224	1.173	1.047	0.9377	1.047	0.8355
GZ-225	0.7353	1.249	1.047	1.173	0.9912

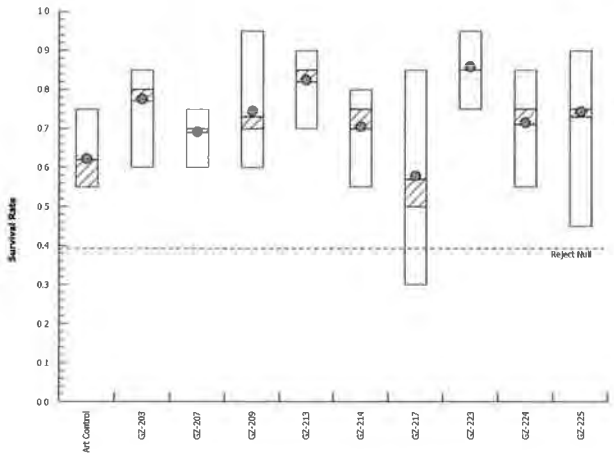
Leptocheirus 28-d Survival, Growth and Reproduction Sediment Test **New England Bioassay**

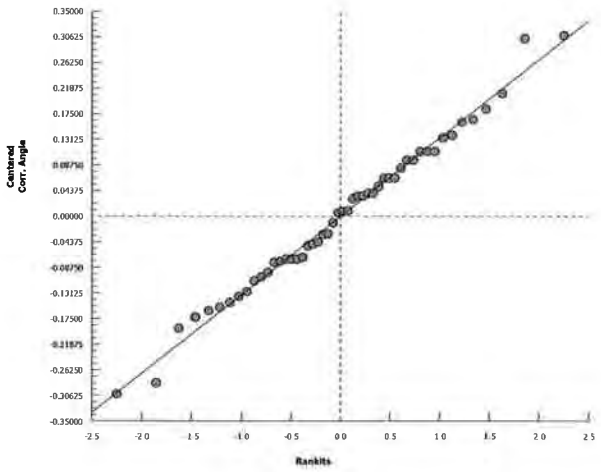
Analysis ID:	17-9235-6318	**Endpoint:**	Survival Rate	**CETIS Version:**	CETISv1.8.8
Analyzed:	03 Jun-15 9:32	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes

Survival Rate Binomials

Sample Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
Art Control	11/20	11/20	11/20	14/20	15/20
GZ-203	17/20	16/20	17/20	12/20	15/20
GZ-207	15/20	12/20	15/20	14/20	13/20
GZ-209	19/20	12/20	15/20	13/20	14/20
GZ-213	18/20	17/20	14/20	17/20	16/20
GZ-214	12/20	16/20	16/20	15/20	11/20
GZ-217	9/20	6/20	10/20	17/20	15/20
GZ-223	15/20	16/20	19/20	18/20	17/20
GZ-224	17/20	15/20	13/20	15/20	11/20
GZ-225	9/20	18/20	15/20	17/20	14/20

Graphics





Leptocheirus 28-d Survival, Growth and Reproduction Sediment Test — **New England Bioassay**

Analysis ID:	00-8811-6910	**Endpoint:**	Mean Dry Biomass-mg	**CETIS Version:**	CETISv1.8.8
Analyzed:	01 Jun-15 11:30	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes
Batch ID:	01-5466-7590	**Test Type:**	Leptocheirus (28-d)	**Analyst:**	
Start Date:	30 Apr-15	**Protocol:**	EPA/600/R-01/020 (2001)	**Diluent:**	Not Applicable
Ending Date:	28 May-15	**Species:**	Leptocheirus plumulosus	**Brine:**	Instant Ocean
Duration:	28d 0h	**Source:**	In-House Culture	**Age:**	

Sample Code	Sample ID	Sample Date	Receive Date	Sample Age	Client Name	Project
Art Control	04-5032-5421	25 Mar-15		36d 0h	GZA GeoEnvironmental	
Nat Control	11-3861-7478	24 Mar-15	21 Apr-15	37d 0h		
LC-102	14-0824-4221	26 Mar-15	21 Apr-15	35d 0h		
LC-105	19-8730-7911	26 Mar-15	21 Apr-15	35d 0h		
LC-112	09-5123-6710	27 Mar-15	21 Apr-15	34d 0h		

Sample Code	Material Type	Sample Source	Station Location	Latitude	Longitude
Art Control	Not Applicable	Wynn - Everett MA	Art Control		
Nat Control	Not Applicable	Wynn - Everett MA	Nat Control		
LC-102	Reference sediment	Wynn - Everett MA	LC-102		
LC-105	Reference sediment	Wynn - Everett MA	LC-105		
LC-112	Reference sediment	Wynn - Everett MA	LC-112		

Data Transform	Zeta	Alt Hyp	Trials	Seed	PMSD	Test Result
Untransformed	NA	C > T	NA	NA	38.0%	

Dunnett Multiple Comparison Test

Sample Code	vs	Sample Code	Test Stat	Critical	MSD	DF	P-Value	P-Type	Decision(α:5%)
Art Control		Nat Control	-1.086	2.305	0.333	8	0.9808	CDF	Non-Significant Effect
		LC-102	-4.893	2.305	0.333	8	1.0000	CDF	Non-Significant Effect
		LC-105	-6.182	2.305	0.333	8	1.0000	CDF	Non-Significant Effect
		LC-112	-3.749	2.305	0.333	8	1.0000	CDF	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	2.801481	0.7003703	4	13.39	<0.0001	Significant Effect
Error	1.046485	0.05232427	20			
Total	3.847967		24			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance	4.781	13.28	0.3106	Equal Variances
Distribution	Shapiro-Wilk W Normality	0.9342	0.8877	0.1087	Normal Distribution

Mean Dry Biomass-mg Summary

Sample Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
Art Control	5	0.8779	0.6644	1.091	0.824	0.7045	1.077	0.07691	19.59%	0.0%
Nat Control	5	1.035	0.8239	1.246	0.973	0.892	1.292	0.07604	16.43%	-17.9%
LC-102	5	1.586	1.139	2.032	1.782	1.036	1.861	0.1608	22.67%	-80.64%
LC-105	5	1.772	1.612	1.932	1.826	1.557	1.867	0.0577	7.28%	-101.9%
LC-112	5	1.42	1.123	1.717	1.514	1.046	1.617	0.107	16.85%	-61.78%

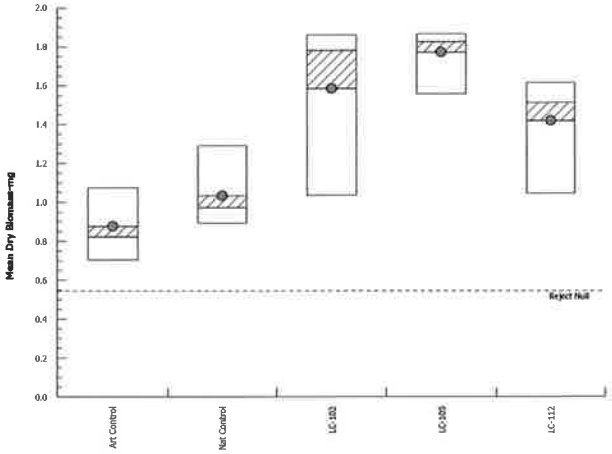
Mean Dry Biomass-mg Detail

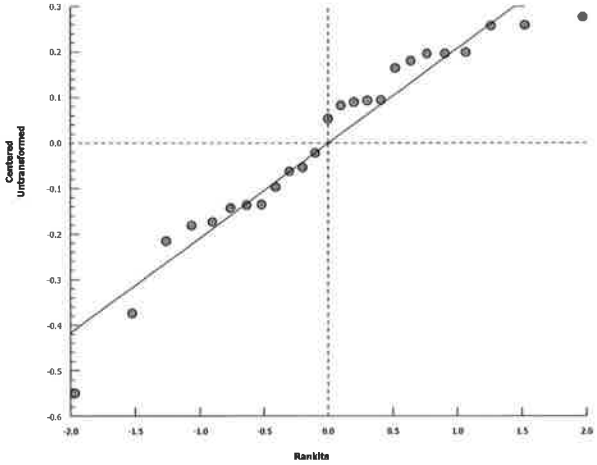
Sample Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
Art Control	0.7415	0.7045	0.824	1.042	1.077
Nat Control	0.892	1.292	0.973	0.9	1.118
LC-102	1.861	1.782	1.036	1.845	1.405
LC-105	1.826	1.751	1.557	1.867	1.862
LC-112	1.514	1.601	1.046	1.323	1.617

Leptocheirus 28-d Survival, Growth and Reproduction Sediment Test — **New England Bioassay**

Analysis ID:	00-8811-6910	**Endpoint:**	Mean Dry Biomass-mg	**CETIS Version:**	CETISv1.8.8
Analyzed:	01 Jun-15 11:30	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes

Graphics





Leptocheirus 28-d Survival, Growth and Reproduction Sediment Test — **New England Bioassay**

Analysis ID:	21-0240-8259	**Endpoint:**	Mean Dry Biomass-mg	**CETIS Version:**	CETISv1.8.8
Analyzed:	01 Jun-15 11:31	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes
Batch ID:	01-5466-7590	**Test Type:**	Leptocheirus (28-d)	**Analyst:**	
Start Date:	30 Apr-15	**Protocol:**	EPA/600/R-01/020 (2001)	**Diluent:**	Not Applicable
Ending Date:	28 May-15	**Species:**	Leptocheirus plumulosus	**Brine:**	Instant Ocean
Duration:	28d 0h	**Source:**	In-House Culture	**Age:**	

Sample Code	Sample ID	Sample Date	Receive Date	Sample Age	Client Name	Project
Art Control	04-5032-5421	25 Mar-15		36d 0h	GZA GeoEnvironmental	
GZ-203	02-5461-8029	24 Mar-15	21 Apr-15	37d 0h		
GZ-207	03-2338-4998	25 Mar-15	21 Apr-15	36d 0h		
GZ-209	16-5046-1852	25 Mar-15	21 Apr-15	36d 0h		
GZ-213	17-1685-0966	25 Mar-15	21 Apr-15	36d 0h		
GZ-214	15-3950-8822	30 Mar-15	21 Apr-15	31d 0h		
GZ-217	04-7415-4404	24 Mar-15	21 Apr-15	37d 0h		
GZ-223	08-6096-2100	30 Mar-15	21 Apr-15	31d 0h		
GZ-224	13-6271-4856	30 Mar-15	21 Apr-15	31d 0h		
GZ-225	18-0414-8615	27 Mar-15	21 Apr-15	34d 0h		

Sample Code	Material Type	Sample Source	Station Location	Latitude	Longitude
Art Control	Not Applicable	Wynn - Everett MA	Art Control		
GZ-203	Site Sediment	Wynn - Everett MA	GZ-203		
GZ-207	Site Sediment	Wynn - Everett MA	GZ-207		
GZ-209	Site Sediment	Wynn - Everett MA	GZ-209		
GZ-213	Site Sediment	Wynn - Everett MA	GZ-213		
GZ-214	Site Sediment	Wynn - Everett MA	GZ-214		
GZ-217	Site Sediment	Wynn - Everett MA	GZ-217		
GZ-223	Site Sediment	Wynn - Everett MA	GZ-223		
GZ-224	Site Sediment	Wynn - Everett MA	GZ-224		
GZ-225	Site Sediment	Wynn - Everett MA	GZ-225		

Data Transform	Zeta	Alt Hyp	Trials	Seed	PMSD	Test Result
Untransformed	NA	C > T	NA	NA	46.9%	

Dunnett Multiple Comparison Test

Sample Code	vs	Sample Code	Test Stat	Critical	MSD	DF	P-Value	P-Type	Decision(α:5%)
Art Control		GZ-203	-3.288	2.506	0.412	8	1.0000	CDF	Non-Significant Effect
		GZ-207	-2.399	2.506	0.412	8	1.0000	CDF	Non-Significant Effect
		GZ-209	-3.623	2.506	0.412	8	1.0000	CDF	Non-Significant Effect
		GZ-213	-1.758	2.506	0.412	8	0.9996	CDF	Non-Significant Effect
		GZ-214	-2.037	2.506	0.412	8	0.9999	CDF	Non-Significant Effect
		GZ-217	2.069	2.506	0.412	8	0.1202	CDF	Non-Significant Effect
		GZ-223	-3.541	2.506	0.412	8	1.0000	CDF	Non-Significant Effect
		GZ-224	-0.3853	2.506	0.412	8	0.9604	CDF	Non-Significant Effect
		GZ-225	-0.8679	2.506	0.412	8	0.9904	CDF	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	3.994654	0.4438505	9	6.576	<0.0001	Significant Effect
Error	2.699842	0.06749605	40			
Total	6.694496		49			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance	11.44	21.67	0.2469	Equal Variances
Distribution	Shapiro-Wilk W Normality	0.9766	0.9367	0.4205	Normal Distribution

Leptocheirus 28-d Survival, Growth and Reproduction Sediment Test — **New England Bioassay**

Analysis ID:	21-0240-8259	**Endpoint:**	Mean Dry Biomass-mg	**CETIS Version:**	CETISv1.8.8
Analyzed:	01 Jun-15 11:31	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes

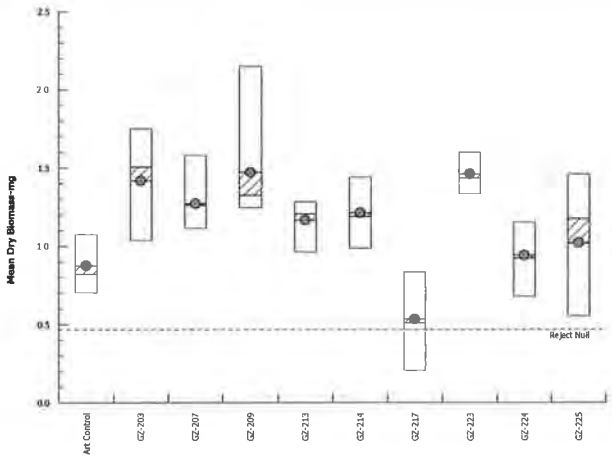
Mean Dry Biomass-mg Summary

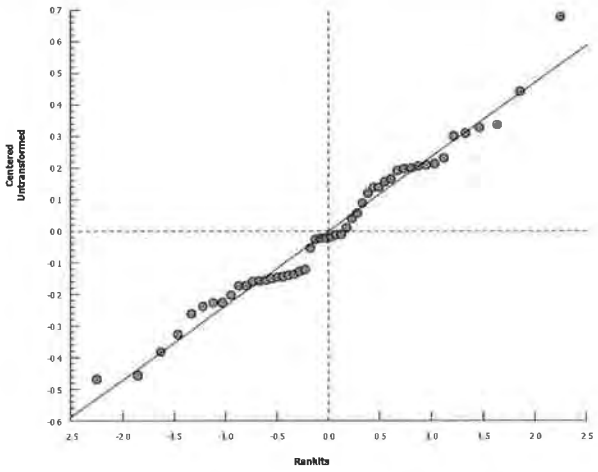
Sample Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
Art Control	5	0.8779	0.6644	1.091	0.824	0.7045	1.077	0.07691	19.59%	0.0%
GZ-203	5	1.418	1.045	1.791	1.507	1.036	1.752	0.1343	21.18%	-61.53%
GZ-207	5	1.272	1.037	1.507	1.261	1.115	1.582	0.08474	14.89%	-44.9%
GZ-209	5	1.473	1.001	1.946	1.326	1.246	2.152	0.1702	25.84%	-67.81%
GZ-213	5	1.167	1.014	1.319	1.206	0.9635	1.285	0.05491	10.52%	-32.9%
GZ-214	5	1.213	0.9559	1.469	1.19	0.986	1.443	0.09247	17.05%	-38.13%
GZ-217	5	0.538	0.2185	0.8575	0.515	0.211	0.839	0.1151	47.82%	38.72%
GZ-223	5	1.46	1.295	1.624	1.433	1.332	1.598	0.0592	9.07%	-66.28%
GZ-224	5	0.9412	0.6801	1.202	0.922	0.6795	1.154	0.09403	22.34%	-7.21%
GZ-225	5	1.021	0.4812	1.56	1.177	0.552	1.463	0.1942	42.56%	-16.24%

Mean Dry Biomass-mg Detail

Sample Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
Art Control	0.7415	0.7045	0.824	1.042	1.077
GZ-203	1.752	1.507	1.18	1.036	1.615
GZ-207	1.261	1.115	1.582	1.121	1.282
GZ-209	2.152	1.326	1.329	1.314	1.246
GZ-213	1.285	1.223	0.9635	1.206	1.155
GZ-214	0.986	1.404	1.443	1.19	1.04
GZ-217	0.3815	0.211	0.515	0.839	0.7435
GZ-223	1.338	1.433	1.598	1.598	1.332
GZ-224	1.15	0.922	1.154	0.8015	0.6795
GZ-225	0.564	1.348	1.463	1.177	0.552

Graphics





Leptocheirus 28-d Survival, Growth and Reproduction Sediment Test — **New England Bioassay**

Analysis ID:	17-2453-9912	**Endpoint:**	Reproduction	**CETIS Version:**	CETISv1.8.8
Analyzed:	03 Jun-15 9:32	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes
Batch ID:	01-5466-7590	**Test Type:**	Leptocheirus (28-d)	**Analyst:**	
Start Date:	30 Apr-15	**Protocol:**	EPA/600/R-01/020 (2001)	**Diluent:**	Not Applicable
Ending Date:	28 May-15	**Species:**	Leptocheirus plumulosus	**Brine:**	Instant Ocean
Duration:	28d 0h	**Source:**	In-House Culture	**Age:**	

Sample Code	Sample ID	Sample Date	Receive Date	Sample Age	Client Name	Project
Art Control	04-5032-5421	25 Mar-15		36d 0h	GZA GeoEnvironmental	
Nat Control	11-3861-7478	24 Mar-15	21 Apr-15	37d 0h		
LC-102	14-0824-4221	26 Mar-15	21 Apr-15	35d 0h		
LC-105	19-8730-7911	26 Mar-15	21 Apr-15	35d 0h		
LC-112	09-5123-6710	27 Mar-15	21 Apr-15	34d 0h		

Sample Code	Material Type	Sample Source	Station Location	Latitude	Longitude
Art Control	Not Applicable	Wynn - Everett MA	Art Control		
Nat Control	Not Applicable	Wynn - Everett MA	Nat Control		
LC-102	Reference sediment	Wynn - Everett MA	LC-102		
LC-105	Reference sediment	Wynn - Everett MA	LC-105		
LC-112	Reference sediment	Wynn - Everett MA	LC-112		

Data Transform	Zeta	Alt Hyp	Trials	Seed	PMSD	Test Result
Untransformed	NA	C > T	NA	NA	79.1%	

Dunnett Multiple Comparison Test

Sample Code	vs	Sample Code	Test Stat	Critical	MSD	DF	P-Value	P-Type	Decision(α:5%)
Art Control		Nat Control	0.6367	2.305	1.368	8	0.5423	CDF	Non-Significant Effect
		LC-102	-1.072	2.305	1.368	8	0.9801	CDF	Non-Significant Effect
		LC-105	0.355	2.305	1.368	8	0.6664	CDF	Non-Significant Effect
		LC-112	-0.5926	2.305	1.368	8	0.9361	CDF	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	3.419955	0.8549886	4	0.9706	0.4454	Non-Significant Effect
Error	17.61759	0.8808794	20			
Total	21.03754		24			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance	3.158	13.28	0.5317	Equal Variances
Distribution	Shapiro-Wilk W Normality	0.9286	0.8877	0.0807	Normal Distribution

Reproduction Summary

Sample Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
Art Control	5	1.73	0.7308	2.729	1.467	1	3	0.3598	46.51%	0.0%
Nat Control	5	1.352	0.5441	2.159	1.214	0.6429	2.056	0.2909	48.12%	21.85%
LC-102	5	2.366	1.085	3.647	2.05	1.278	3.818	0.4615	43.62%	-36.79%
LC-105	5	1.519	0.7234	2.315	1.5	0.8235	2.389	0.2865	42.18%	12.18%
LC-112	5	2.081	0.3887	3.774	1.588	0.9412	4.313	0.6097	65.5%	-20.34%

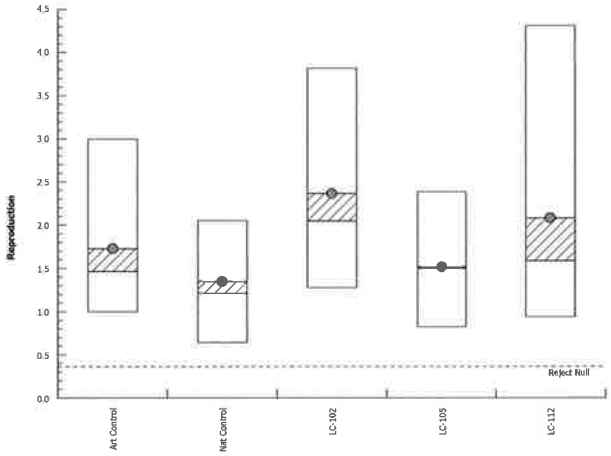
Reproduction Detail

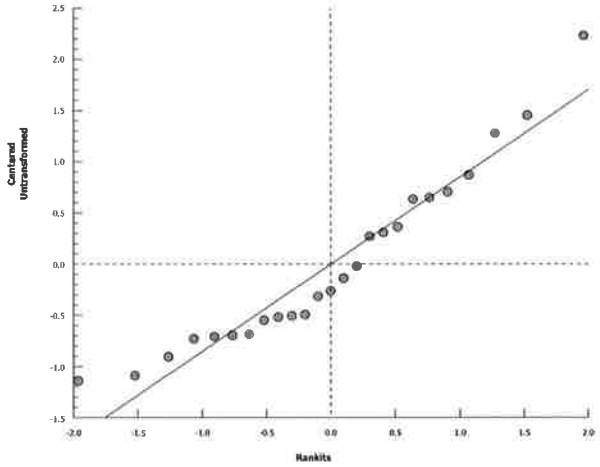
Sample Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
Art Control	1	2	1.182	3	1.467
Nat Control	0.8462	2.056	1.214	2	0.6429
LC-102	1.278	2.05	3.818	1.684	3
LC-105	1	2.389	1.5	0.8235	1.882
LC-112	4.313	2.389	1.176	0.9412	1.588

Leptocheirus 28-d Survival, Growth and Reproduction Sediment Test — **New England Bioassay**

Analysis ID:	17-2453-9912	**Endpoint:**	Reproduction	**CETIS Version:**	CETISv1.8.8
Analyzed:	03 Jun-15 9:32	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes

Graphics





Leptocheirus 28-d Survival, Growth and Reproduction Sediment Test — **New England Bioassay**

Analysis ID:	10-6335-0480	**Endpoint:**	Reproduction	**CETIS Version:**	CETISv1.8.8
Analyzed:	03 Jun-15 9:33	**Analysis:**	Nonparametric-Control vs Treatments	**Official Results:**	Yes
Batch ID:	01-5466-7590	**Test Type:**	Leptocheirus (28-d)	**Analyst:**	
Start Date:	30 Apr-15	**Protocol:**	EPA/600/R-01/020 (2001)	**Diluent:**	Not Applicable
Ending Date:	28 May-15	**Species:**	Leptocheirus plumulosus	**Brine:**	Instant Ocean
Duration:	28d 0h	**Source:**	In-House Culture	**Age:**	

Sample Code	Sample ID	Sample Date	Receive Date	Sample Age	Client Name	Project
Art Control	04-5032-5421	25 Mar-15		36d 0h	GZA GeoEnvironmental	
GZ-203	02-5461-8029	24 Mar-15	21 Apr-15	37d 0h		
GZ-207	03-2338-4998	25 Mar-15	21 Apr-15	36d 0h		
GZ-209	16-5046-1852	25 Mar-15	21 Apr-15	36d 0h		
GZ-213	17-1685-0966	25 Mar-15	21 Apr-15	36d 0h		
GZ-214	15-3950-8822	30 Mar-15	21 Apr-15	31d 0h		
GZ-217	04-7415-4404	24 Mar-15	21 Apr-15	37d 0h		
GZ-223	08-6096-2100	30 Mar-15	21 Apr-15	31d 0h		
GZ-224	13-6271-4856	30 Mar-15	21 Apr-15	31d 0h		
GZ-225	18-0414-8615	27 Mar-15	21 Apr-15	34d 0h		

Sample Code	Material Type	Sample Source	Station Location	Latitude	Longitude
Art Control	Not Applicable	Wynn - Everett MA	Art Control		
GZ-203	Site Sediment	Wynn - Everett MA	GZ-203		
GZ-207	Site Sediment	Wynn - Everett MA	GZ-207		
GZ-209	Site Sediment	Wynn - Everett MA	GZ-209		
GZ-213	Site Sediment	Wynn - Everett MA	GZ-213		
GZ-214	Site Sediment	Wynn - Everett MA	GZ-214		
GZ-217	Site Sediment	Wynn - Everett MA	GZ-217		
GZ-223	Site Sediment	Wynn - Everett MA	GZ-223		
GZ-224	Site Sediment	Wynn - Everett MA	GZ-224		
GZ-225	Site Sediment	Wynn - Everett MA	GZ-225		

Data Transform	Zeta	Alt Hyp	Trials	Seed	PMSD	Test Result
Untransformed	NA	C > T	NA	NA	102.0%	

Steel Many-One Rank Sum Test

Sample Code	vs	Sample Code	Test Stat	Critical	Ties	DF	P-Value	P-Type	Decision(α:5%)
Art Control		GZ-203	25.5	15	1	8	0.7779	Asymp	Non-Significant Effect
		GZ-207	24	15	0	8	0.6482	Asymp	Non-Significant Effect
		GZ-209	33	15	0	8	0.9967	Asymp	Non-Significant Effect
		GZ-213	15	15	0	8	0.0306	Asymp	Significant Effect
		GZ-214	16.5	15	1	8	0.0662	Asymp	Non-Significant Effect
		GZ-217	15	15	0	8	0.0306	Asymp	Significant Effect
		GZ-223	28	15	0	8	0.9209	Asymp	Non-Significant Effect
		GZ-224	15	15	0	8	0.0306	Asymp	Significant Effect
		GZ-225	23	15	0	8	0.5498	Asymp	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	35.21749	3.913054	9	3.154	0.0058	Significant Effect
Error	49.62897	1.240724	40			
Total	84.84646		49			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance	42.61	21.67	<0.0001	Unequal Variances
Distribution	Shapiro-Wilk W Normality	0.8723	0.9367	<0.0001	Non-normal Distribution

Leptocheirus 28-d Survival, Growth and Reproduction Sediment Test — **New England Bioassay**

Analysis ID:	10-6335-0480	**Endpoint:**	Reproduction	**CETIS Version:**	CETISv1.8.8
Analyzed:	03 Jun-15 9:33	**Analysis:**	Nonparametric-Control vs Treatments	**Official Results:**	Yes

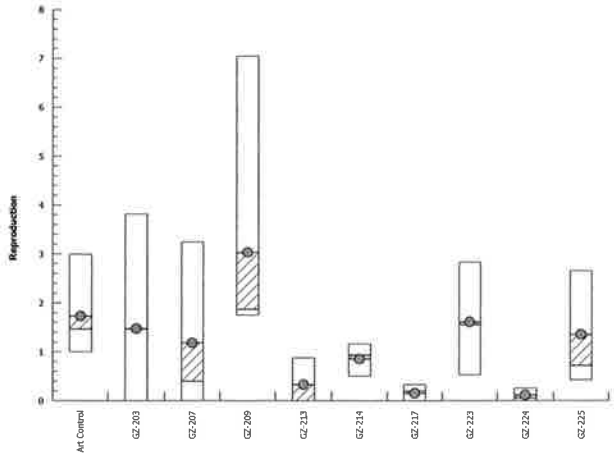
Reproduction Summary

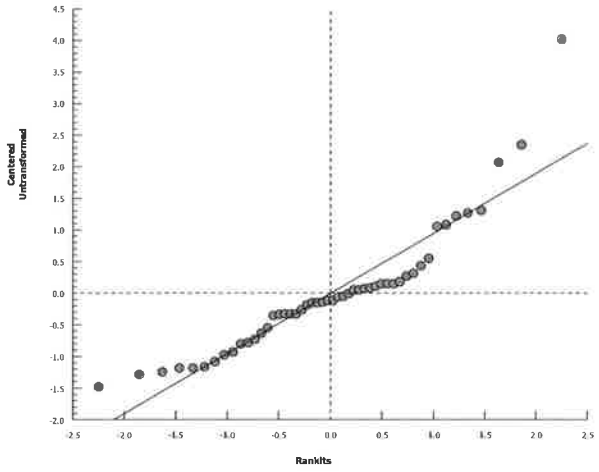
Sample Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
Art Control	5	1.73	0.7308	2.729	1.467	1	3	0.3598	46.51%	0.0%
GZ-203	5	1.475	-0.3516	3.301	1.467	0	3.824	0.6578	99.74%	14.74%
GZ-207	5	1.183	-0.6645	3.031	0.4	0	3.25	0.6655	125.8%	31.59%
GZ-209	5	3.029	0.1956	5.863	1.867	1.75	7.053	1.021	75.34%	-75.14%
GZ-213	5	0.3294	-0.233	0.8919	0	0	0.8824	0.2026	137.5%	80.96%
GZ-214	5	0.8542	0.5219	1.186	0.9375	0.5	1.167	0.1197	31.33%	50.62%
GZ-217	5	0.1511	-0.03129	0.3335	0.2	0	0.3333	0.0657	97.21%	91.26%
GZ-223	5	1.613	0.5952	2.631	1.563	0.5294	2.833	0.3666	50.82%	6.74%
GZ-224	5	0.1184	-0.05222	0.2891	0.05882	0	0.2667	0.06146	116.0%	93.15%
GZ-225	5	1.357	0.006024	2.708	0.7222	0.4286	2.667	0.4866	80.18%	21.55%

Reproduction Detail

Sample Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
Art Control	1	2	1.182	3	1.467
GZ-203	3.824	0.5	0	1.583	1.467
GZ-207	2.267	3.25	0.4	0	0
GZ-209	7.053	1.75	1.867	2.692	1.786
GZ-213	0	0.7647	0	0.8824	0
GZ-214	1.167	0.5	0.9375	0.6667	1
GZ-217	0.2222	0	0.2	0	0.3333
GZ-223	1.667	1.563	1.474	2.833	0.5294
GZ-224	0.05882	0.2667	0	0.2667	0
GZ-225	0.5556	0.7222	2.667	2.412	0.4286

Graphics





SUMMARY OF TEST RESULTS
28-DAY L.PLUMULOSUS TOXICITY TESTS
WYNN-EVERETT (Test Dates 4/30/15 – 5/28/15)
NATURAL CONTROL COMPARISION

Sample	28-day Survival (%)		Biomass (mg)		Reproduction (number of young)	
	Mean	Sig[a]	Mean	Sig[a]	Mean[b]	Sig[a]
Natural Control	71	--	1.035	--	1.352	--
Artificial Control	62	NS	0.8779	NS	1.73	NS
LC-102	83	NS	1.586	NS	2.366	NS
LC-105	87	NS	1.772	NS	1.519	NS
LC-112	85	NS	1.42	NS	2.081	NS
GZ-203	77	NS	1.418	NS	1.475	NS
GZ-207	69	NS	1.272	NS	1.183	NS
GZ-209	73	NS	1.473	NS	3.029	NS
GZ-213	82	NS	1.167	NS	0.3294	NS
GZ-214	70	NS	1.213	NS	0.8542	NS
GZ-217	57	NS	0.538	*	0.1511	*
GZ-223	85	NS	1.46	NS	1.613	NS
GZ-224	71	NS	0.9412	NS	0.1184	*
GZ-225	73	NS	1.021	NS	1.357	NS

[a]NS: Not significantly reduced at P = 0.05; *: significant at P = 0.05.
when compared with natural control

[b] Reproduction as the average of [young per rep/surviving adults per rep]

Leptocheirus 28-d Survival, Growth and Reproduction Sediment Test — **New England Bioassay**

Analysis ID:	05-2554-9801	**Endpoint:**	Survival Rate	**CETIS Version:**	CETISv1.8.8
Analyzed:	03 Jun-15 9:31	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes
Batch ID:	01-5466-7590	**Test Type:**	Leptocheirus (28-d)	**Analyst:**	
Start Date:	30 Apr-15	**Protocol:**	EPA/600/R-01/020 (2001)	**Diluent:**	Not Applicable
Ending Date:	28 May-15	**Species:**	Leptocheirus plumulosus	**Brine:**	Instant Ocean
Duration:	28d 0h	**Source:**	In-House Culture	**Age:**	

Sample Code	Sample ID	Sample Date	Receive Date	Sample Age	Client Name	Project
Art Control	04-5032-5421	25 Mar-15		36d 0h	GZA GeoEnvironmental	
Nat Control	11-3861-7478	24 Mar-15	21 Apr-15	37d 0h		
LC-102	14-0824-4221	26 Mar-15	21 Apr-15	35d 0h		
LC-105	19-8730-7911	26 Mar-15	21 Apr-15	35d 0h		
LC-112	09-5123-6710	27 Mar-15	21 Apr-15	34d 0h		

Sample Code	Material Type	Sample Source	Station Location	Latitude	Longitude
Art Control	Not Applicable	Wynn - Everett MA	Art Control		
Nat Control	Not Applicable	Wynn - Everett MA	Nat Control		
LC-102	Reference sediment	Wynn - Everett MA	LC-102		
LC-105	Reference sediment	Wynn - Everett MA	LC-105		
LC-112	Reference sediment	Wynn - Everett MA	LC-112		

Data Transform	Zeta	Alt Hyp	Trials	Seed	PMSD	Test Result
Angular (Corrected)	NA	C > T	NA	NA	27.2%	

Dunnett Multiple Comparison Test

Sample Code	vs	Sample Code	Test Stat	Critical	MSD	DF	P-Value	P-Type	Decision(α:5%)
Nat Control		Art Control	1.128	2.305	0.209	8	0.3283	CDF	Non-Significant Effect
		LC-102	-1.946	2.305	0.209	8	0.9984	CDF	Non-Significant Effect
		LC-105	-2.193	2.305	0.209	8	0.9993	CDF	Non-Significant Effect
		LC-112	-1.813	2.305	0.209	8	0.9976	CDF	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.348152	0.08703799	4	4.25	0.0119	Significant Effect
Error	0.4095784	0.02047892	20			
Total	0.7577303		24			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance	9.49	13.28	0.0500	Equal Variances
Distribution	Shapiro-Wilk W Normality	0.9527	0.8877	0.2887	Normal Distribution

Survival Rate Summary

Sample Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
Art Control	5	0.62	0.499	0.741	0.55	0.55	0.75	0.04359	15.72%	0.0%
Nat Control	5	0.71	0.5684	0.8516	0.7	0.6	0.9	0.05099	16.06%	-14.52%
LC-102	5	0.83	0.6036	1	0.9	0.55	1	0.08155	21.97%	-33.87%
LC-105	5	0.87	0.7992	0.9408	0.85	0.8	0.95	0.0255	6.55%	-40.32%
LC-112	5	0.85	0.8061	0.8939	0.85	0.8	0.9	0.01581	4.16%	-37.1%

Angular (Corrected) Transformed Summary

Sample Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
Art Control	5	0.909	0.7816	1.036	0.8355	0.8355	1.047	0.04586	11.28%	0.0%
Nat Control	5	1.011	0.8372	1.185	0.9912	0.8861	1.249	0.06262	13.85%	-11.23%
LC-102	5	1.187	0.8793	1.495	1.249	0.8355	1.459	0.1109	20.88%	-30.61%
LC-105	5	1.21	1.097	1.323	1.173	1.107	1.345	0.0407	7.52%	-33.07%
LC-112	5	1.175	1.113	1.237	1.173	1.107	1.249	0.02247	4.28%	-29.28%

Leptocheirus 28-d Survival, Growth and Reproduction Sediment Test — **New England Bioassay**

Analysis ID:	05-2554-9801	**Endpoint:**	Survival Rate	**CETIS Version:**	CETISv1.8.8
Analyzed:	03 Jun-15 9:31	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes

Survival Rate Detail

Sample Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
Art Control	0.55	0.55	0.55	0.7	0.75
Nat Control	0.65	0.9	0.7	0.6	0.7
LC-102	0.9	1	0.55	0.95	0.75
LC-105	0.95	0.9	0.8	0.85	0.85
LC-112	0.8	0.9	0.85	0.85	0.85

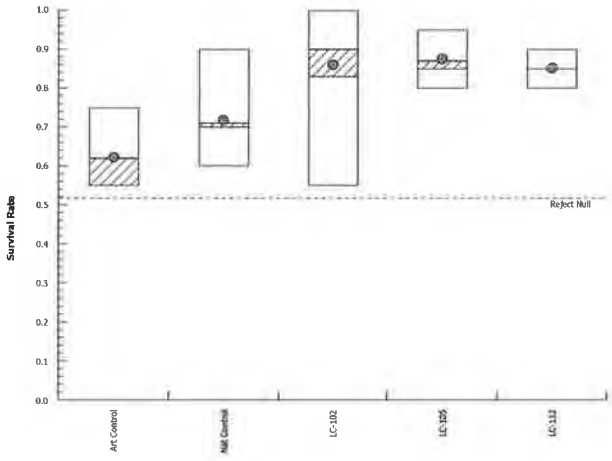
Angular (Corrected) Transformed Detail

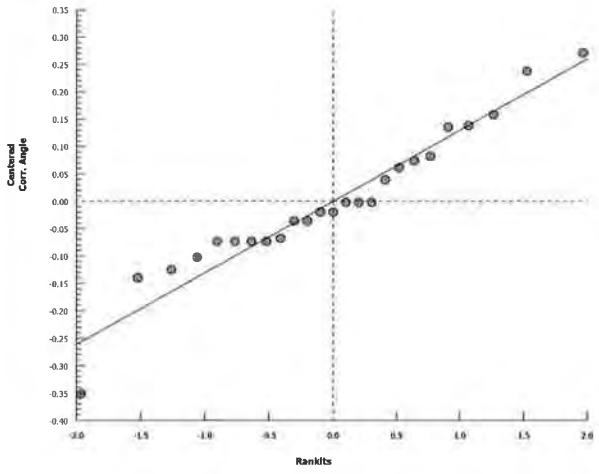
Sample Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
Art Control	0.8355	0.8355	0.8355	0.9912	1.047
Nat Control	0.9377	1.249	0.9912	0.8861	0.9912
LC-102	1.249	1.459	0.8355	1.345	1.047
LC-105	1.345	1.249	1.107	1.173	1.173
LC-112	1.107	1.249	1.173	1.173	1.173

Survival Rate Binomials

Sample Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
Art Control	11/20	11/20	11/20	14/20	15/20
Nat Control	13/20	18/20	14/20	12/20	14/20
LC-102	18/20	20/20	11/20	19/20	15/20
LC-105	19/20	18/20	16/20	17/20	17/20
LC-112	16/20	18/20	17/20	17/20	17/20

Graphics





Leptocheirus 28-d Survival, Growth and Reproduction Sediment Test — **New England Bioassay**

Analysis ID:	10-3040-5051	**Endpoint:**	Survival Rate	**CETIS Version:**	CETISv1.8.8
Analyzed:	03 Jun-15 9:32	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes
Batch ID:	01-5466-7590	**Test Type:**	Leptocheirus (28-d)	**Analyst:**	
Start Date:	30 Apr-15	**Protocol:**	EPA/600/R-01/020 (2001)	**Diluent:**	Not Applicable
Ending Date:	28 May-15	**Species:**	Leptocheirus plumulosus	**Brine:**	Instant Ocean
Duration:	28d 0h	**Source:**	In-House Culture	**Age:**	

Sample Code	Sample ID	Sample Date	Receive Date	Sample Age	Client Name	Project
Nat Control	11-3861-7478	24 Mar-15	21 Apr-15	37d 0h	GZA GeoEnvironmental	
GZ-203	02-5461-8029	24 Mar-15	21 Apr-15	37d 0h		
GZ-207	03-2338-4998	25 Mar-15	21 Apr-15	36d 0h		
GZ-209	16-5046-1852	25 Mar-15	21 Apr-15	36d 0h		
GZ-213	17-1685-0966	25 Mar-15	21 Apr-15	36d 0h		
GZ-214	15-3950-8822	30 Mar-15	21 Apr-15	31d 0h		
GZ-217	04-7415-4404	24 Mar-15	21 Apr-15	37d 0h		
GZ-223	08-6096-2100	30 Mar-15	21 Apr-15	31d 0h		
GZ-224	13-6271-4856	30 Mar-15	21 Apr-15	31d 0h		
GZ-225	18-0414-8615	27 Mar-15	21 Apr-15	34d 0h		

Sample Code	Material Type	Sample Source	Station Location	Latitude	Longitude
Nat Control	Not Applicable	Wynn - Everett MA	Nat Control		
GZ-203	Site Sediment	Wynn - Everett MA	GZ-203		
GZ-207	Site Sediment	Wynn - Everett MA	GZ-207		
GZ-209	Site Sediment	Wynn - Everett MA	GZ-209		
GZ-213	Site Sediment	Wynn - Everett MA	GZ-213		
GZ-214	Site Sediment	Wynn - Everett MA	GZ-214		
GZ-217	Site Sediment	Wynn - Everett MA	GZ-217		
GZ-223	Site Sediment	Wynn - Everett MA	GZ-223		
GZ-224	Site Sediment	Wynn - Everett MA	GZ-224		
GZ-225	Site Sediment	Wynn - Everett MA	GZ-225		

Data Transform	Zeta	Alt Hyp	Trials	Seed	PMSD	Test Result
Angular (Corrected)	NA	C > T	NA	NA	31.2%	

Dunnett Multiple Comparison Test

Sample Code	vs	Sample Code	Test Stat	Critical	MSD	DF	P-Value	P-Type	Decision(α:5%)
Nat Control		GZ-203	-0.7001	2.506	0.237	8	0.9838	CDF	Non-Significant Effect
		GZ-207	0.308	2.506	0.237	8	0.8165	CDF	Non-Significant Effect
		GZ-209	-0.3216	2.506	0.237	8	0.9532	CDF	Non-Significant Effect
		GZ-213	-1.348	2.506	0.237	8	0.9982	CDF	Non-Significant Effect
		GZ-214	0.1523	2.506	0.237	8	0.8630	CDF	Non-Significant Effect
		GZ-217	1.552	2.506	0.237	8	0.2774	CDF	Non-Significant Effect
		GZ-223	-1.83	2.506	0.237	8	0.9997	CDF	Non-Significant Effect
		GZ-224	0.03055	2.506	0.237	8	0.8932	CDF	Non-Significant Effect
		GZ-225	-0.297	2.506	0.237	8	0.9502	CDF	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.3484811	0.03872013	9	1.728	0.1144	Non-Significant Effect
Error	0.8965376	0.02241344	40			
Total	1.245019		49			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance	8.166	21.67	0.5175	Equal Variances
Distribution	Shapiro-Wilk W Normality	0.9898	0.9367	0.9412	Normal Distribution

Leptocheirus 28-d Survival, Growth and Reproduction Sediment Test **New England Bioassay**

Analysis ID: 10-3040-5051 **Endpoint:** Survival Rate **CETIS Version:** CETISv1.8.8
Analyzed: 03 Jun-15 9:32 **Analysis:** Parametric-Control vs Treatments **Official Results:** Yes

Survival Rate Summary

Sample Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
Nat Control	5	0.71	0.5684	0.8516	0.7	0.6	0.9	0.05099	16.06%	0.0%
GZ-203	5	0.77	0.6413	0.8987	0.8	0.6	0.85	0.04637	13.47%	-8.45%
GZ-207	5	0.69	0.6091	0.7709	0.7	0.6	0.75	0.02915	9.45%	2.82%
GZ-209	5	0.73	0.5623	0.8977	0.7	0.6	0.95	0.06042	18.51%	-2.82%
GZ-213	5	0.82	0.7258	0.9142	0.85	0.7	0.9	0.03391	9.25%	-15.49%
GZ-214	5	0.7	0.5544	0.8456	0.75	0.55	0.8	0.05244	16.75%	1.41%
GZ-217	5	0.57	0.2903	0.8497	0.5	0.3	0.85	0.1007	39.52%	19.72%
GZ-223	5	0.85	0.7518	0.9482	0.85	0.75	0.95	0.03536	9.3%	-19.72%
GZ-224	5	0.71	0.5684	0.8516	0.75	0.55	0.85	0.05099	16.06%	0.0%
GZ-225	5	0.73	0.5123	0.9477	0.75	0.45	0.9	0.07842	24.02%	-2.82%

Angular (Corrected) Transformed Summary

Sample Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
Nat Control	5	1.011	0.8372	1.185	0.9912	0.8861	1.249	0.06262	13.85%	0.0%
GZ-203	5	1.077	0.9295	1.225	1.107	0.8861	1.173	0.05325	11.05%	-6.56%
GZ-207	5	0.9819	0.8946	1.069	0.9912	0.8861	1.047	0.03142	7.16%	2.88%
GZ-209	5	1.041	0.8178	1.265	0.9912	0.8861	1.345	0.08055	17.29%	-3.01%
GZ-213	5	1.139	1.019	1.259	1.173	0.9912	1.249	0.04319	8.48%	-12.63%
GZ-214	5	0.9966	0.8381	1.155	1.047	0.8355	1.107	0.05709	12.81%	1.43%
GZ-217	5	0.8641	0.5646	1.164	0.7854	0.5796	1.173	0.1079	27.91%	14.53%
GZ-223	5	1.184	1.039	1.33	1.173	1.047	1.345	0.05243	9.9%	-17.14%
GZ-224	5	1.008	0.8498	1.166	1.047	0.8355	1.173	0.05702	12.65%	0.29%
GZ-225	5	1.039	0.7934	1.285	1.047	0.7353	1.249	0.08851	19.05%	-2.78%

Survival Rate Detail

Sample Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
Nat Control	0.65	0.9	0.7	0.6	0.7
GZ-203	0.85	0.8	0.85	0.6	0.75
GZ-207	0.75	0.6	0.75	0.7	0.65
GZ-209	0.95	0.6	0.75	0.65	0.7
GZ-213	0.9	0.85	0.7	0.85	0.8
GZ-214	0.6	0.8	0.8	0.75	0.55
GZ-217	0.45	0.3	0.5	0.85	0.75
GZ-223	0.75	0.8	0.95	0.9	0.85
GZ-224	0.85	0.75	0.65	0.75	0.55
GZ-225	0.45	0.9	0.75	0.85	0.7

Angular (Corrected) Transformed Detail

Sample Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
Nat Control	0.9377	1.249	0.9912	0.8861	0.9912
GZ-203	1.173	1.107	1.173	0.8861	1.047
GZ-207	1.047	0.8861	1.047	0.9912	0.9377
GZ-209	1.345	0.8861	1.047	0.9377	0.9912
GZ-213	1.249	1.173	0.9912	1.173	1.107
GZ-214	0.8861	1.107	1.107	1.047	0.8355
GZ-217	0.7353	0.5796	0.7854	1.173	1.047
GZ-223	1.047	1.107	1.345	1.249	1.173
GZ-224	1.173	1.047	0.9377	1.047	0.8355
GZ-225	0.7353	1.249	1.047	1.173	0.9912

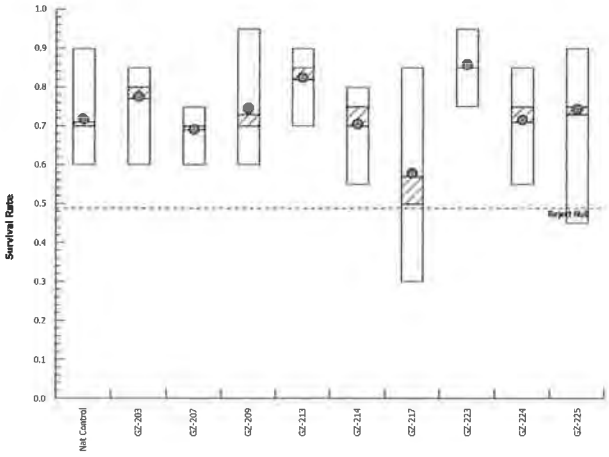
Leptocheirus 28-d Survival, Growth and Reproduction Sediment Test — **New England Bioassay**

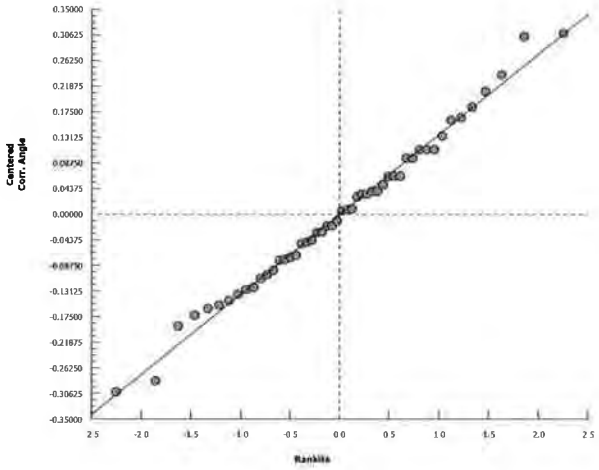
Analysis ID:	10-3040-5051	**Endpoint:**	Survival Rate	**CETIS Version:**	CETISv1.8.8
Analyzed:	03 Jun-15 9:32	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes

Survival Rate Binomials

Sample Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
Nat Control	13/20	18/20	14/20	12/20	14/20
GZ-203	17/20	16/20	17/20	12/20	15/20
GZ-207	15/20	12/20	15/20	14/20	13/20
GZ-209	19/20	12/20	15/20	13/20	14/20
GZ-213	18/20	17/20	14/20	17/20	16/20
GZ-214	12/20	16/20	16/20	15/20	11/20
GZ-217	9/20	6/20	10/20	17/20	15/20
GZ-223	15/20	16/20	19/20	18/20	17/20
GZ-224	17/20	15/20	13/20	15/20	11/20
GZ-225	9/20	18/20	15/20	17/20	14/20

Graphics





Leptocheirus 28-d Survival, Growth and Reproduction Sediment Test — **New England Bioassay**

Analysis ID:	13-0556-5577	**Endpoint:**	Mean Dry Biomass-mg	**CETIS Version:**	CETISv1.8.8
Analyzed:	01 Jun-15 11:30	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes
Batch ID:	01-5466-7590	**Test Type:**	Leptocheirus (28-d)	**Analyst:**	
Start Date:	30 Apr-15	**Protocol:**	EPA/600/R-01/020 (2001)	**Diluent:**	Not Applicable
Ending Date:	28 May-15	**Species:**	Leptocheirus plumulosus	**Brine:**	Instant Ocean
Duration:	28d 0h	**Source:**	In-House Culture	**Age:**	

Sample Code	Sample ID	Sample Date	Receive Date	Sample Age	Client Name	Project
Art Control	04-5032-5421	25 Mar-15		36d 0h	GZA GeoEnvironmental	
Nat Control	11-3861-7478	24 Mar-15	21 Apr-15	37d 0h		
LC-102	14-0824-4221	26 Mar-15	21 Apr-15	35d 0h		
LC-105	19-8730-7911	26 Mar-15	21 Apr-15	35d 0h		
LC-112	09-5123-6710	27 Mar-15	21 Apr-15	34d 0h		

Sample Code	Material Type	Sample Source	Station Location	Latitude	Longitude
Art Control	Not Applicable	Wynn - Everett MA	Art Control		
Nat Control	Not Applicable	Wynn - Everett MA	Nat Control		
LC-102	Reference sediment	Wynn - Everett MA	LC-102		
LC-105	Reference sediment	Wynn - Everett MA	LC-105		
LC-112	Reference sediment	Wynn - Everett MA	LC-112		

Data Transform	Zeta	Alt Hyp	Trials	Seed	PMSD	Test Result
Untransformed	NA	C > T	NA	NA	32.2%	

Dunnett Multiple Comparison Test

Sample Code	vs	Sample Code	Test Stat	Critical	MSD	DF	P-Value	P-Type	Decision(α:5%)
Nat Control		Art Control	1.086	2.305	0.333	8	0.3451	CDF	Non-Significant Effect
		LC-102	-3.807	2.305	0.333	8	1.0000	CDF	Non-Significant Effect
		LC-105	-5.096	2.305	0.333	8	1.0000	CDF	Non-Significant Effect
		LC-112	-2.663	2.305	0.333	8	0.9998	CDF	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	2.801481	0.7003703	4	13.39	<0.0001	Significant Effect
Error	1.046485	0.05232427	20			
Total	3.847967		24			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance	4.781	13.28	0.3106	Equal Variances
Distribution	Shapiro-Wilk W Normality	0.9342	0.8877	0.1087	Normal Distribution

Mean Dry Biomass-mg Summary

Sample Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
Art Control	5	0.8779	0.6644	1.091	0.824	0.7045	1.077	0.07691	19.59%	0.0%
Nat Control	5	1.035	0.8239	1.246	0.973	0.892	1.292	0.07604	16.43%	-17.9%
LC-102	5	1.586	1.139	2.032	1.782	1.036	1.861	0.1608	22.67%	-80.64%
LC-105	5	1.772	1.612	1.932	1.826	1.557	1.867	0.0577	7.28%	-101.9%
LC-112	5	1.42	1.123	1.717	1.514	1.046	1.617	0.107	16.85%	-61.78%

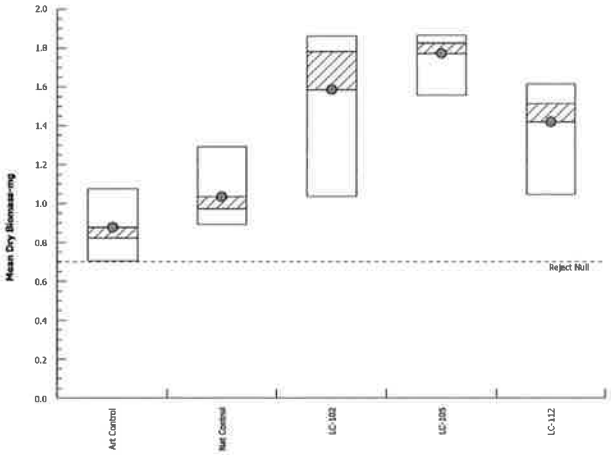
Mean Dry Biomass-mg Detail

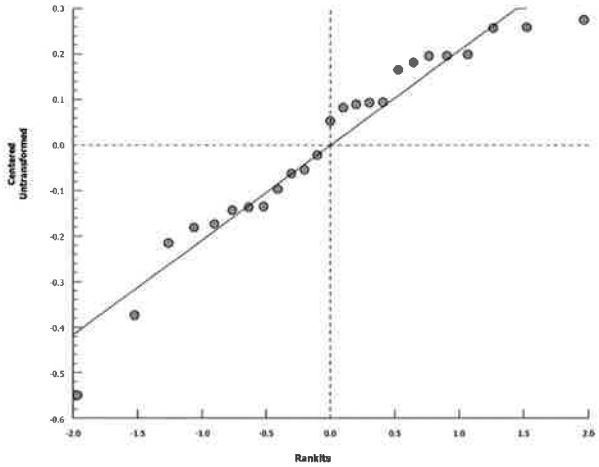
Sample Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
Art Control	0.7415	0.7045	0.824	1.042	1.077
Nat Control	0.892	1.292	0.973	0.9	1.118
LC-102	1.861	1.782	1.036	1.845	1.405
LC-105	1.826	1.751	1.557	1.867	1.862
LC-112	1.514	1.601	1.046	1.323	1.617

Leptocheirus 28-d Survival, Growth and Reproduction Sediment Test **New England Bioassay**

Analysis ID:	13-0556-5577	**Endpoint:**	Mean Dry Biomass-mg	**CETIS Version:**	CETISv1.8.8
Analyzed:	01 Jun-15 11:30	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes

Graphics





Leptocheirus 28-d Survival, Growth and Reproduction Sediment Test — **New England Bioassay**

Analysis ID:	01-3591-8261	**Endpoint:**	Mean Dry Biomass-mg	**CETIS Version:**	CETISv1.8.8
Analyzed:	01 Jun-15 11:32	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes
Batch ID:	01-5466-7590	**Test Type:**	Leptocheirus (28-d)	**Analyst:**	
Start Date:	30 Apr-15	**Protocol:**	EPA/600/R-01/020 (2001)	**Diluent:**	Not Applicable
Ending Date:	28 May-15	**Species:**	Leptocheirus plumulosus	**Brine:**	Instant Ocean
Duration:	28d 0h	**Source:**	In-House Culture	**Age:**	

Sample Code	Sample ID	Sample Date	Receive Date	Sample Age	Client Name	Project
Nat Control	11-3861-7478	24 Mar-15	21 Apr-15	37d 0h	GZA GeoEnvironmental	
GZ-203	02-5461-8029	24 Mar-15	21 Apr-15	37d 0h		
GZ-207	03-2338-4998	25 Mar-15	21 Apr-15	36d 0h		
GZ-209	16-5046-1852	25 Mar-15	21 Apr-15	36d 0h		
GZ-213	17-1685-0966	25 Mar-15	21 Apr-15	36d 0h		
GZ-214	15-3950-8822	30 Mar-15	21 Apr-15	31d 0h		
GZ-217	04-7415-4404	24 Mar-15	21 Apr-15	37d 0h		
GZ-223	08-6096-2100	30 Mar-15	21 Apr-15	31d 0h		
GZ-224	13-6271-4856	30 Mar-15	21 Apr-15	31d 0h		
GZ-225	18-0414-8615	27 Mar-15	21 Apr-15	34d 0h		

Sample Code	Material Type	Sample Source	Station Location	Latitude	Longitude
Nat Control	Not Applicable	Wynn - Everett MA	Nat Control		
GZ-203	Site Sediment	Wynn - Everett MA	GZ-203		
GZ-207	Site Sediment	Wynn - Everett MA	GZ-207		
GZ-209	Site Sediment	Wynn - Everett MA	GZ-209		
GZ-213	Site Sediment	Wynn - Everett MA	GZ-213		
GZ-214	Site Sediment	Wynn - Everett MA	GZ-214		
GZ-217	Site Sediment	Wynn - Everett MA	GZ-217		
GZ-223	Site Sediment	Wynn - Everett MA	GZ-223		
GZ-224	Site Sediment	Wynn - Everett MA	GZ-224		
GZ-225	Site Sediment	Wynn - Everett MA	GZ-225		

Data Transform	Zeta	Alt Hyp	Trials	Seed	PMSD	Test Result
Untransformed	NA	C > T	NA	NA	39.8%	

Dunnett Multiple Comparison Test

Sample Code	vs	Sample Code	Test Stat	Critical	MSD	DF	P-Value	P-Type	Decision(α:5%)
Nat Control		GZ-203	-2.333	2.506	0.412	8	1.0000	CDF	Non-Significant Effect
		GZ-207	-1.444	2.506	0.412	8	0.9987	CDF	Non-Significant Effect
		GZ-209	-2.668	2.506	0.412	8	1.0000	CDF	Non-Significant Effect
		GZ-213	-0.8019	2.506	0.412	8	0.9881	CDF	Non-Significant Effect
		GZ-214	-1.081	2.506	0.412	8	0.9953	CDF	Non-Significant Effect
		GZ-217	3.026	2.506	0.412	8	0.0148	CDF	Significant Effect
		GZ-223	-2.587	2.506	0.412	8	1.0000	CDF	Non-Significant Effect
		GZ-224	0.5711	2.506	0.412	8	0.7188	CDF	Non-Significant Effect
		GZ-225	0.08828	2.506	0.412	8	0.8796	CDF	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	3.697082	0.4107869	9	6.092	<0.0001	Significant Effect
Error	2.697161	0.06742904	40			
Total	6.394243		49			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance	11.49	21.67	0.2439	Equal Variances
Distribution	Shapiro-Wilk W Normality	0.9782	0.9367	0.4780	Normal Distribution

Leptocheirus 28-d Survival, Growth and Reproduction Sediment Test — **New England Bioassay**

Analysis ID:	01-3591-8261	**Endpoint:**	Mean Dry Biomass-mg	**CETIS Version:**	CETISv1.8.8
Analyzed:	01 Jun-15 11:32	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes

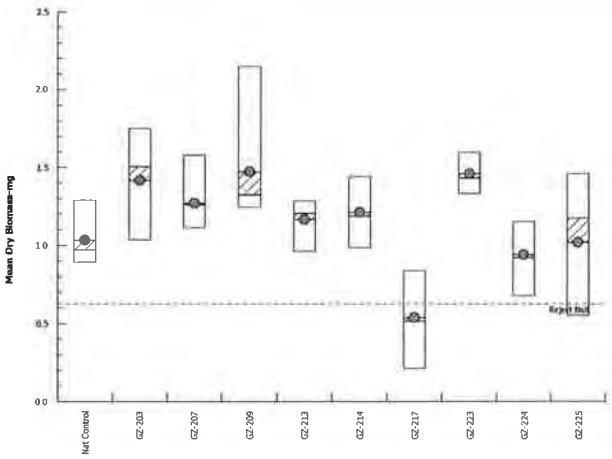
Mean Dry Biomass-mg Summary

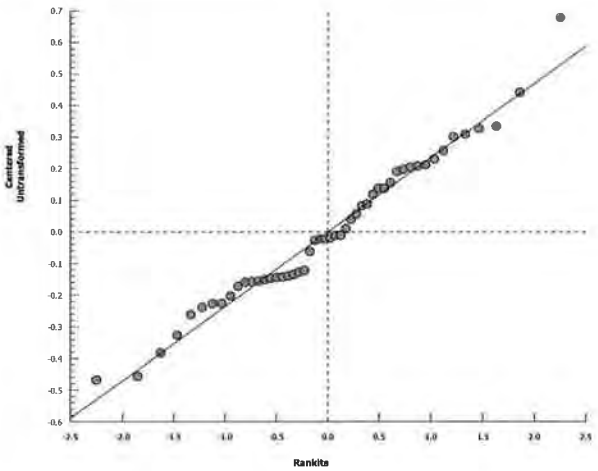
Sample Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
Nat Control	5	1.035	0.8239	1.246	0.973	0.892	1.292	0.07604	16.43%	0.0%
GZ-203	5	1.418	1.045	1.791	1.507	1.036	1.752	0.1343	21.18%	-37.01%
GZ-207	5	1.272	1.037	1.507	1.261	1.115	1.582	0.08474	14.89%	-22.91%
GZ-209	5	1.473	1.001	1.946	1.326	1.246	2.152	0.1702	25.84%	-42.34%
GZ-213	5	1.167	1.014	1.319	1.206	0.9635	1.285	0.05491	10.52%	-12.72%
GZ-214	5	1.213	0.9559	1.469	1.19	0.986	1.443	0.09247	17.05%	-17.16%
GZ-217	5	0.538	0.2185	0.8575	0.515	0.211	0.839	0.1151	47.82%	48.02%
GZ-223	5	1.46	1.295	1.624	1.433	1.332	1.598	0.0592	9.07%	-41.04%
GZ-224	5	0.9412	0.6801	1.202	0.922	0.6795	1.154	0.09403	22.34%	9.06%
GZ-225	5	1.021	0.4812	1.56	1.177	0.552	1.463	0.1942	42.56%	1.4%

Mean Dry Biomass-mg Detail

Sample Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
Nat Control	0.892	1.292	0.973	0.9	1.118
GZ-203	1.752	1.507	1.18	1.036	1.615
GZ-207	1.261	1.115	1.582	1.121	1.282
GZ-209	2.152	1.326	1.329	1.314	1.246
GZ-213	1.285	1.223	0.9635	1.206	1.155
GZ-214	0.986	1.404	1.443	1.19	1.04
GZ-217	0.3815	0.211	0.515	0.839	0.7435
GZ-223	1.338	1.433	1.598	1.598	1.332
GZ-224	1.15	0.922	1.154	0.8015	0.6795
GZ-225	0.564	1.348	1.463	1.177	0.552

Graphics





Leptocheirus 28-d Survival, Growth and Reproduction Sediment Test — **New England Bioassay**

Analysis ID:	01-4073-7208	**Endpoint:**	Reproduction	**CETIS Version:**	CETISv1.8.8
Analyzed:	03 Jun-15 9:32	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes
Batch ID:	01-5466-7590	**Test Type:**	Leptocheirus (28-d)	**Analyst:**	
Start Date:	30 Apr-15	**Protocol:**	EPA/600/R-01/020 (2001)	**Diluent:**	Not Applicable
Ending Date:	28 May-15	**Species:**	Leptocheirus plumulosus	**Brine:**	Instant Ocean
Duration:	28d 0h	**Source:**	In-House Culture	**Age:**	

Sample Code	Sample ID	Sample Date	Receive Date	Sample Age	Client Name	Project
Art Control	04-5032-5421	25 Mar-15		36d 0h	GZA GeoEnvironmental	
Nat Control	11-3861-7478	24 Mar-15	21 Apr-15	37d 0h		
LC-102	14-0824-4221	26 Mar-15	21 Apr-15	35d 0h		
LC-105	19-8730-7911	26 Mar-15	21 Apr-15	35d 0h		
LC-112	09-5123-6710	27 Mar-15	21 Apr-15	34d 0h		

Sample Code	Material Type	Sample Source	Station Location	Latitude	Longitude
Art Control	Not Applicable	Wynn - Everett MA	Art Control		
Nat Control	Not Applicable	Wynn - Everett MA	Nat Control		
LC-102	Reference sediment	Wynn - Everett MA	LC-102		
LC-105	Reference sediment	Wynn - Everett MA	LC-105		
LC-112	Reference sediment	Wynn - Everett MA	LC-112		

Data Transform	Zeta	Alt Hyp	Trials	Seed	PMSD	Test Result
Untransformed	NA	C > T	NA	NA	101.0%	

Dunnett Multiple Comparison Test

Sample Code	vs	Sample Code	Test Stat	Critical	MSD	DF	P-Value	P-Type	Decision(α:5%)
Nat Control		Art Control	-0.6367	2.305	1.368	8	0.9421	CDF	Non-Significant Effect
		LC-102	-1.709	2.305	1.368	8	0.9967	CDF	Non-Significant Effect
		LC-105	-0.2816	2.305	1.368	8	0.8785	CDF	Non-Significant Effect
		LC-112	-1.229	2.305	1.368	8	0.9869	CDF	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	3.419955	0.8549886	4	0.9706	0.4454	Non-Significant Effect
Error	17.61759	0.8808794	20			
Total	21.03754		24			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance	3.158	13.28	0.5317	Equal Variances
Distribution	Shapiro-Wilk W Normality	0.9286	0.8877	0.0807	Normal Distribution

Reproduction Summary

Sample Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
Art Control	5	1.73	0.7308	2.729	1.467	1	3	0.3598	46.51%	0.0%
Nat Control	5	1.352	0.5441	2.159	1.214	0.6429	2.056	0.2909	48.12%	21.85%
LC-102	5	2.366	1.085	3.647	2.05	1.278	3.818	0.4615	43.62%	-36.79%
LC-105	5	1.519	0.7234	2.315	1.5	0.8235	2.389	0.2865	42.18%	12.18%
LC-112	5	2.081	0.3887	3.774	1.588	0.9412	4.313	0.6097	65.5%	-20.34%

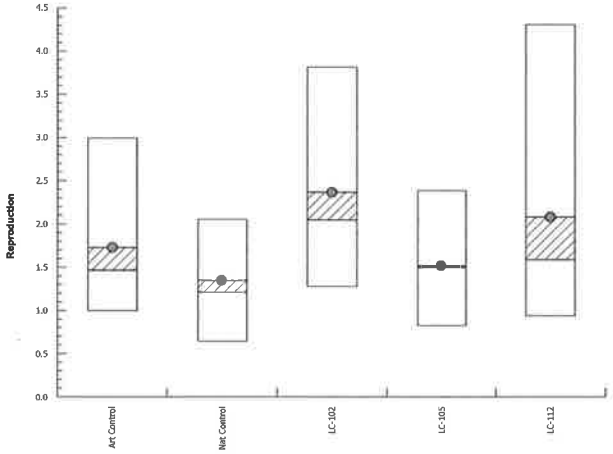
Reproduction Detail

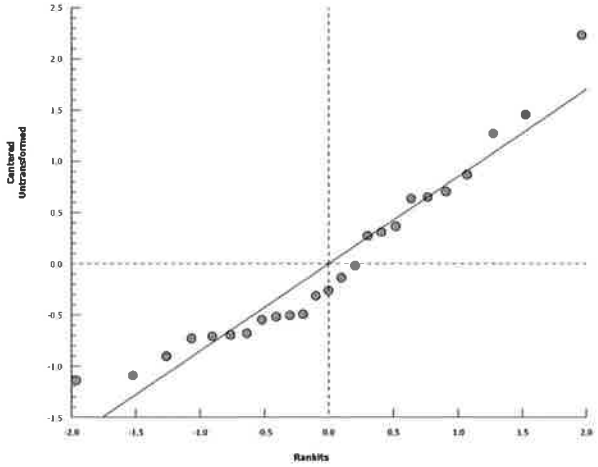
Sample Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
Art Control	1	2	1.182	3	1.467
Nat Control	0.8462	2.056	1.214	2	0.6429
LC-102	1.278	2.05	3.818	1.684	3
LC-105	1	2.389	1.5	0.8235	1.882
LC-112	4.313	2.389	1.176	0.9412	1.588

Leptocheirus 28-d Survival, Growth and Reproduction Sediment Test — **New England Bioassay**

Analysis ID:	01-4073-7208	**Endpoint:**	Reproduction	**CETIS Version:**	CETISv1.8.8
Analyzed:	03 Jun-15 9:32	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes

Graphics





Leptocheirus 28-d Survival, Growth and Reproduction Sediment Test — **New England Bioassay**

Analysis ID:	21-0233-8341	**Endpoint:**	Reproduction	**CETIS Version:**	CETISv1.8.8
Analyzed:	03 Jun-15 9:33	**Analysis:**	Nonparametric-Control vs Treatments	**Official Results:**	Yes
Batch ID:	01-5466-7590	**Test Type:**	Leptocheirus (28-d)	**Analyst:**	
Start Date:	30 Apr-15	**Protocol:**	EPA/600/R-01/020 (2001)	**Diluent:**	Not Applicable
Ending Date:	28 May-15	**Species:**	Leptocheirus plumulosus	**Brine:**	Instant Ocean
Duration:	28d 0h	**Source:**	In-House Culture	**Age:**	

Sample Code	Sample ID	Sample Date	Receive Date	Sample Age	Client Name	Project
Nat Control	11-3861-7478	24 Mar-15	21 Apr-15	37d 0h	GZA GeoEnvironmental	
GZ-203	02-5461-8029	24 Mar-15	21 Apr-15	37d 0h		
GZ-207	03-2338-4998	25 Mar-15	21 Apr-15	36d 0h		
GZ-209	16-5046-1852	25 Mar-15	21 Apr-15	36d 0h		
GZ-213	17-1685-0966	25 Mar-15	21 Apr-15	36d 0h		
GZ-214	15-3950-8822	30 Mar-15	21 Apr-15	31d 0h		
GZ-217	04-7415-4404	24 Mar-15	21 Apr-15	37d 0h		
GZ-223	08-6096-2100	30 Mar-15	21 Apr-15	31d 0h		
GZ-224	13-6271-4856	30 Mar-15	21 Apr-15	31d 0h		
GZ-225	18-0414-8615	27 Mar-15	21 Apr-15	34d 0h		

Sample Code	Material Type	Sample Source	Station Location	Latitude	Longitude
Nat Control	Not Applicable	Wynn - Everett MA	Nat Control		
GZ-203	Site Sediment	Wynn - Everett MA	GZ-203		
GZ-207	Site Sediment	Wynn - Everett MA	GZ-207		
GZ-209	Site Sediment	Wynn - Everett MA	GZ-209		
GZ-213	Site Sediment	Wynn - Everett MA	GZ-213		
GZ-214	Site Sediment	Wynn - Everett MA	GZ-214		
GZ-217	Site Sediment	Wynn - Everett MA	GZ-217		
GZ-223	Site Sediment	Wynn - Everett MA	GZ-223		
GZ-224	Site Sediment	Wynn - Everett MA	GZ-224		
GZ-225	Site Sediment	Wynn - Everett MA	GZ-225		

Data Transform	Zeta	Alt Hyp	Trials	Seed	PMSD	Test Result
Untransformed	NA	C > T	NA	NA	129.0%	

Steel Many-One Rank Sum Test

Sample Code	vs	Sample Code	Test Stat	Critical	Ties	DF	P-Value	P-Type	Decision(α:5%)
Nat Control		GZ-203	26	15	0	8	0.8143	Asymp	Non-Significant Effect
		GZ-207	25	15	0	8	0.7379	Asymp	Non-Significant Effect
		GZ-209	34	15	0	8	0.9986	Asymp	Non-Significant Effect
		GZ-213	18	15	0	8	0.1285	Asymp	Non-Significant Effect
		GZ-214	22	15	0	8	0.4487	Asymp	Non-Significant Effect
		GZ-217	15	15	0	8	0.0306	Asymp	Significant Effect
		GZ-223	29	15	0	8	0.9526	Asymp	Non-Significant Effect
		GZ-224	15	15	0	8	0.0306	Asymp	Significant Effect
		GZ-225	26	15	0	8	0.8143	Asymp	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	33.79803	3.755337	9	3.082	0.0067	Significant Effect
Error	48.73305	1.218326	40			
Total	82.53108		49			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance	43.5	21.67	<0.0001	Unequal Variances
Distribution	Shapiro-Wilk W Normality	0.8739	0.9367	<0.0001	Non-normal Distribution

Leptocheirus 28-d Survival, Growth and Reproduction Sediment Test — **New England Bioassay**

Analysis ID:	21-0233-8341	**Endpoint:**	Reproduction	**CETIS Version:**	CETISv1.8.8
Analyzed:	03 Jun-15 9:33	**Analysis:**	Nonparametric-Control vs Treatments	**Official Results:**	Yes

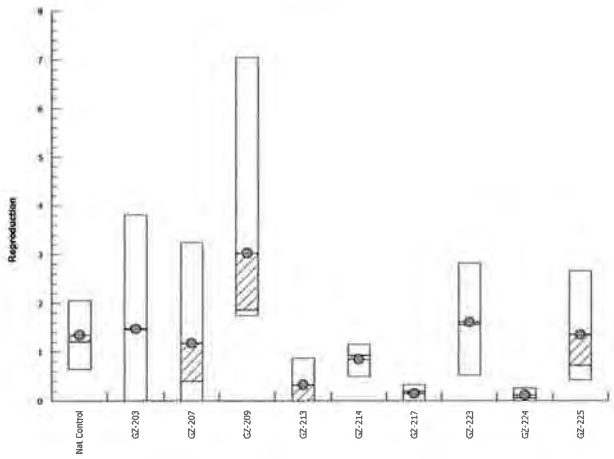
Reproduction Summary

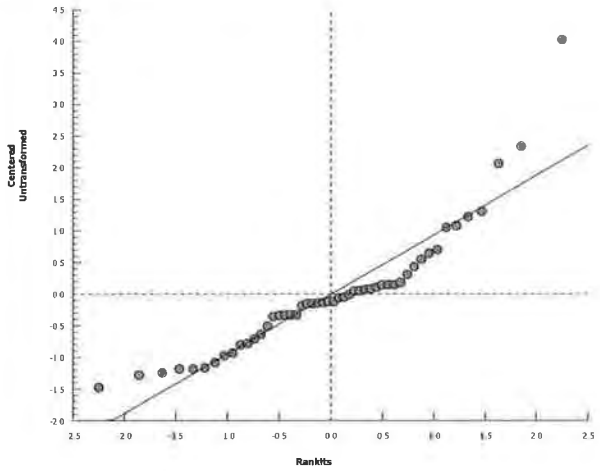
Sample Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
Nat Control	5	1.352	0.5441	2.159	1.214	0.6429	2.056	0.2909	48.12%	0.0%
GZ-203	5	1.475	-0.3516	3.301	1.467	0	3.824	0.6578	99.74%	-9.09%
GZ-207	5	1.183	-0.6645	3.031	0.4	0	3.25	0.6655	125.8%	12.46%
GZ-209	5	3.029	0.1956	5.863	1.867	1.75	7.053	1.021	75.34%	-124.1%
GZ-213	5	0.3294	-0.233	0.8919	0	0	0.8824	0.2026	137.5%	75.63%
GZ-214	5	0.8542	0.5219	1.186	0.9375	0.5	1.167	0.1197	31.33%	36.81%
GZ-217	5	0.1511	-0.03129	0.3335	0.2	0	0.3333	0.0657	97.21%	88.82%
GZ-223	5	1.613	0.5952	2.631	1.563	0.5294	2.833	0.3666	50.82%	-19.33%
GZ-224	5	0.1184	-0.05222	0.2891	0.05882	0	0.2667	0.06146	116.0%	91.24%
GZ-225	5	1.357	0.006024	2.708	0.7222	0.4286	2.667	0.4866	80.18%	-0.38%

Reproduction Detail

Sample Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
Nat Control	0.8462	2.056	1.214	2	0.6429
GZ-203	3.824	0.5	0	1.583	1.467
GZ-207	2.267	3.25	0.4	0	0
GZ-209	7.053	1.75	1.867	2.692	1.786
GZ-213	0	0.7647	0	0.8824	0
GZ-214	1.167	0.5	0.9375	0.6667	1
GZ-217	0.2222	0	0.2	0	0.3333
GZ-223	1.667	1.563	1.474	2.833	0.5294
GZ-224	0.05882	0.2667	0	0.2667	0
GZ-225	0.5556	0.7222	2.667	2.412	0.4286

Graphics





SUMMARY OF TEST RESULTS
28-DAY L.PLUMULOSUS TOXICITY TESTS
WYNN-EVERETT (Test Dates 4/30/15 – 5/28/15)
LC-102 REFERENCE SITE COMPARISION

Sample	28-day Survival (%)		Biomass (mg)		Reproduction (number of young)	
	Mean	Sig[a]	Mean	Sig[a]	Mean[b]	Sig[a]
LC-102	83	--	1.586	--	2.366	--
Artificial Control	62	*	0.8779	*	1.73	NS
Natural Control	71	NS	1.035	*	1.352	NS
LC-105	87	NS	1.772	NS	1.519	NS
LC-112	85	NS	1.42	NS	2.081	NS
GZ-203	77	NS	1.418	NS	1.475	NS
GZ-207	69	NS	1.272	NS	1.183	NS
GZ-209	73	NS	1.473	NS	3.029	NS
GZ-213	82	NS	1.167	NS	0.3294	*
GZ-214	70	NS	1.213	NS	0.8542	*
GZ-217	57	*	0.538	*	0.1511	*
GZ-223	85	NS	1.46	NS	1.613	NS
GZ-224	71	NS	0.9412	*	0.1184	*
GZ-225	73	NS	1.021	*	1.357	NS

[a]NS: Not significantly reduced at P = 0.05; *: significant at P = 0.05.
when compared with LC-102 reference site

[b] Reproduction as the average of [young per rep/surviving adults per rep]

Leptocheirus 28-d Survival, Growth and Reproduction Sediment Test — **New England Bioassay**

Analysis ID:	05-7160-9957	**Endpoint:**	Survival Rate	**CETIS Version:**	CETISv1.8.8
Analyzed:	03 Jun-15 9:31	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes
Batch ID:	01-5466-7590	**Test Type:**	Leptocheirus (28-d)	**Analyst:**	
Start Date:	30 Apr-15	**Protocol:**	EPA/600/R-01/020 (2001)	**Diluent:**	Not Applicable
Ending Date:	28 May-15	**Species:**	Leptocheirus plumulosus	**Brine:**	Instant Ocean
Duration:	28d 0h	**Source:**	In-House Culture	**Age:**	

Sample Code	Sample ID	Sample Date	Receive Date	Sample Age	Client Name	Project
Art Control	04-5032-5421	25 Mar-15		36d 0h	GZA GeoEnvironmental	
Nat Control	11-3861-7478	24 Mar-15	21 Apr-15	37d 0h		
LC-102	14-0824-4221	26 Mar-15	21 Apr-15	35d 0h		
LC-105	19-8730-7911	26 Mar-15	21 Apr-15	35d 0h		
LC-112	09-5123-6710	27 Mar-15	21 Apr-15	34d 0h		

Sample Code	Material Type	Sample Source	Station Location	Latitude	Longitude
Art Control	Not Applicable	Wynn - Everett MA	Art Control		
Nat Control	Not Applicable	Wynn - Everett MA	Nat Control		
LC-102	Reference sediment	Wynn - Everett MA	LC-102		
LC-105	Reference sediment	Wynn - Everett MA	LC-105		
LC-112	Reference sediment	Wynn - Everett MA	LC-112		

Data Transform	Zeta	Alt Hyp	Trials	Seed	PMSD	Test Result
Angular (Corrected)	NA	C > T	NA	NA	17.1%	

Dunnett Multiple Comparison Test

Sample Code	vs	Sample Code	Test Stat	Critical	MSD	DF	P-Value	P-Type	Decision(α:5%)
LC-102		Art Control	3.074	2.305	0.209	8	0.0102	CDF	Significant Effect
		Nat Control	1.946	2.305	0.209	8	0.0968	CDF	Non-Significant Effect
		LC-105	-0.2473	2.305	0.209	8	0.8703	CDF	Non-Significant Effect
		LC-112	0.1332	2.305	0.209	8	0.7540	CDF	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.348152	0.08703799	4	4.25	0.0119	Significant Effect
Error	0.4095784	0.02047892	20			
Total	0.7577303		24			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance	9.49	13.28	0.0500	Equal Variances
Distribution	Shapiro-Wilk W Normality	0.9527	0.8877	0.2887	Normal Distribution

Survival Rate Summary

Sample Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
Art Control	5	0.62	0.499	0.741	0.55	0.55	0.75	0.04359	15.72%	0.0%
Nat Control	5	0.71	0.5684	0.8516	0.7	0.6	0.9	0.05099	16.06%	-14.52%
LC-102	5	0.83	0.6036	1	0.9	0.55	1	0.08155	21.97%	-33.87%
LC-105	5	0.87	0.7992	0.9408	0.85	0.8	0.95	0.0255	6.55%	-40.32%
LC-112	5	0.85	0.8061	0.8939	0.85	0.8	0.9	0.01581	4.16%	-37.1%

Angular (Corrected) Transformed Summary

Sample Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
Art Control	5	0.909	0.7816	1.036	0.8355	0.8355	1.047	0.04586	11.28%	0.0%
Nat Control	5	1.011	0.8372	1.185	0.9912	0.8861	1.249	0.06262	13.85%	-11.23%
LC-102	5	1.187	0.8793	1.495	1.249	0.8355	1.459	0.1109	20.88%	-30.61%
LC-105	5	1.21	1.097	1.323	1.173	1.107	1.345	0.0407	7.52%	-33.07%
LC-112	5	1.175	1.113	1.237	1.173	1.107	1.249	0.02247	4.28%	-29.28%

Leptocheirus 28-d Survival, Growth and Reproduction Sediment Test **New England Bioassay**

Analysis ID:	05-7160-9957	**Endpoint:**	Survival Rate	**CETIS Version:**	CETISv1.8.8
Analyzed:	03 Jun-15 9:31	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes

Survival Rate Detail

Sample Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
Art Control	0.55	0.55	0.55	0.7	0.75
Nat Control	0.65	0.9	0.7	0.6	0.7
LC-102	0.9	1	0.55	0.95	0.75
LC-105	0.95	0.9	0.8	0.85	0.85
LC-112	0.8	0.9	0.85	0.85	0.85

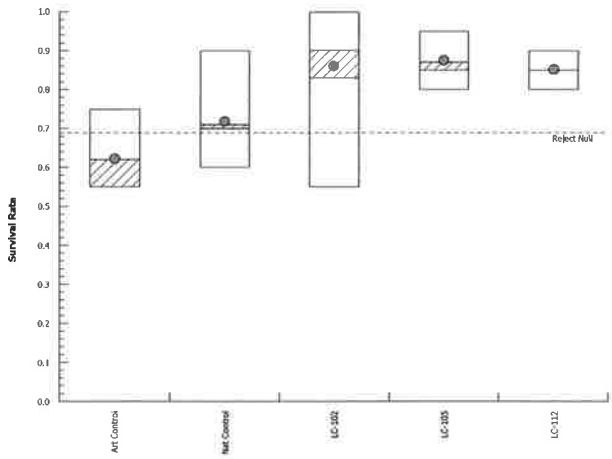
Angular (Corrected) Transformed Detail

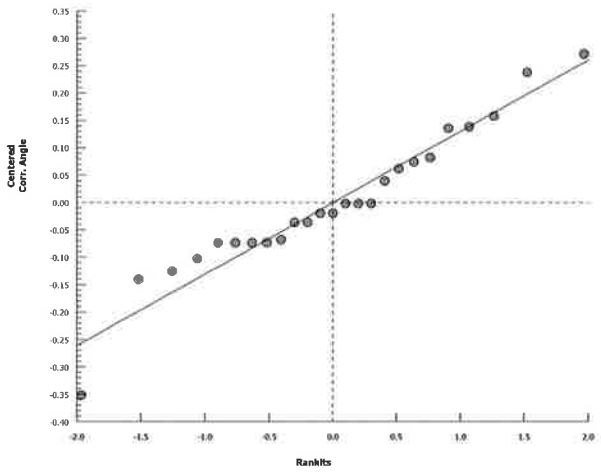
Sample Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
Art Control	0.8355	0.8355	0.8355	0.9912	1.047
Nat Control	0.9377	1.249	0.9912	0.8861	0.9912
LC-102	1.249	1.459	0.8355	1.345	1.047
LC-105	1.345	1.249	1.107	1.173	1.173
LC-112	1.107	1.249	1.173	1.173	1.173

Survival Rate Binomials

Sample Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
Art Control	11/20	11/20	11/20	14/20	15/20
Nat Control	13/20	18/20	14/20	12/20	14/20
LC-102	18/20	20/20	11/20	19/20	15/20
LC-105	19/20	18/20	16/20	17/20	17/20
LC-112	16/20	18/20	17/20	17/20	17/20

Graphics





Leptocheirus 28-d Survival, Growth and Reproduction Sediment Test — **New England Bioassay**

Analysis ID:	03-9774-5210	**Endpoint:**	Survival Rate	**CETIS Version:**	CETISv1.8.8
Analyzed:	03 Jun-15 9:32	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes
Batch ID:	01-5466-7590	**Test Type:**	Leptocheirus (28-d)	**Analyst:**	
Start Date:	30 Apr-15	**Protocol:**	EPA/600/R-01/020 (2001)	**Diluent:**	Not Applicable
Ending Date:	28 May-15	**Species:**	Leptocheirus plumulosus	**Brine:**	Instant Ocean
Duration:	28d 0h	**Source:**	In-House Culture	**Age:**	

Sample Code	Sample ID	Sample Date	Receive Date	Sample Age	Client Name	Project
LC-102	14-0824-4221	26 Mar-15	21 Apr-15	35d 0h	GZA GeoEnvironmental	
GZ-203	02-5461-8029	24 Mar-15	21 Apr-15	37d 0h		
GZ-207	03-2338-4998	25 Mar-15	21 Apr-15	36d 0h		
GZ-209	16-5046-1852	25 Mar-15	21 Apr-15	36d 0h		
GZ-213	17-1685-0966	25 Mar-15	21 Apr-15	36d 0h		
GZ-214	15-3950-8822	30 Mar-15	21 Apr-15	31d 0h		
GZ-217	04-7415-4404	24 Mar-15	21 Apr-15	37d 0h		
GZ-223	08-6096-2100	30 Mar-15	21 Apr-15	31d 0h		
GZ-224	13-6271-4856	30 Mar-15	21 Apr-15	31d 0h		
GZ-225	18-0414-8615	27 Mar-15	21 Apr-15	34d 0h		

Sample Code	Material Type	Sample Source	Station Location	Latitude	Longitude
LC-102	Reference sediment	Wynn - Everett MA	LC-102		
GZ-203	Site Sediment	Wynn - Everett MA	GZ-203		
GZ-207	Site Sediment	Wynn - Everett MA	GZ-207		
GZ-209	Site Sediment	Wynn - Everett MA	GZ-209		
GZ-213	Site Sediment	Wynn - Everett MA	GZ-213		
GZ-214	Site Sediment	Wynn - Everett MA	GZ-214		
GZ-217	Site Sediment	Wynn - Everett MA	GZ-217		
GZ-223	Site Sediment	Wynn - Everett MA	GZ-223		
GZ-224	Site Sediment	Wynn - Everett MA	GZ-224		
GZ-225	Site Sediment	Wynn - Everett MA	GZ-225		

Data Transform	Zeta	Alt Hyp	Trials	Seed	PMSD	Test Result
Angular (Corrected)	NA	C > T	NA	NA	22.7%	

Dunnett Multiple Comparison Test

Sample Code	vs	Sample Code	Test Stat	Critical	MSD	DF	P-Value	P-Type	Decision(α:5%)
LC-102		GZ-203	1.065	2.506	0.259	8	0.4928	CDF	Non-Significant Effect
		GZ-207	1.99	2.506	0.259	8	0.1384	CDF	Non-Significant Effect
		GZ-209	1.412	2.506	0.259	8	0.3340	CDF	Non-Significant Effect
		GZ-213	0.4697	2.506	0.259	8	0.7592	CDF	Non-Significant Effect
		GZ-214	1.847	2.506	0.259	8	0.1768	CDF	Non-Significant Effect
		GZ-217	3.132	2.506	0.259	8	0.0114	CDF	Significant Effect
		GZ-223	0.02714	2.506	0.259	8	0.8940	CDF	Non-Significant Effect
		GZ-224	1.735	2.506	0.259	8	0.2115	CDF	Non-Significant Effect
		GZ-225	1.435	2.506	0.259	8	0.3245	CDF	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.4471162	0.04967958	9	1.868	0.0856	Non-Significant Effect
Error	1.063978	0.02659944	40			
Total	1.511094		49			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance	10.25	21.67	0.3304	Equal Variances
Distribution	Shapiro-Wilk W Normality	0.9887	0.9367	0.9114	Normal Distribution

Leptocheirus 28-d Survival, Growth and Reproduction Sediment Test **New England Bioassay**

Analysis ID: 03-9774-5210 **Endpoint:** Survival Rate **CETIS Version:** CETISv1.8.8
Analyzed: 03 Jun-15 9:32 **Analysis:** Parametric-Control vs Treatments **Official Results:** Yes

Survival Rate Summary

Sample Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
LC-102	5	0.83	0.6036	1	0.9	0.55	1	0.08155	21.97%	0.0%
GZ-203	5	0.77	0.6413	0.8987	0.8	0.6	0.85	0.04637	13.47%	7.23%
GZ-207	5	0.69	0.6091	0.7709	0.7	0.6	0.75	0.02915	9.45%	16.87%
GZ-209	5	0.73	0.5623	0.8977	0.7	0.6	0.95	0.06042	18.51%	12.05%
GZ-213	5	0.82	0.7258	0.9142	0.85	0.7	0.9	0.03391	9.25%	1.21%
GZ-214	5	0.7	0.5544	0.8456	0.75	0.55	0.8	0.05244	16.75%	15.66%
GZ-217	5	0.57	0.2903	0.8497	0.5	0.3	0.85	0.1007	39.52%	31.33%
GZ-223	5	0.85	0.7518	0.9482	0.85	0.75	0.95	0.03536	9.3%	-2.41%
GZ-224	5	0.71	0.5684	0.8516	0.75	0.55	0.85	0.05099	16.06%	14.46%
GZ-225	5	0.73	0.5123	0.9477	0.75	0.45	0.9	0.07842	24.02%	12.05%

Angular (Corrected) Transformed Summary

Sample Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
LC-102	5	1.187	0.8793	1.495	1.249	0.8355	1.459	0.1109	20.88%	0.0%
GZ-203	5	1.077	0.9295	1.225	1.107	0.8861	1.173	0.05325	11.05%	9.25%
GZ-207	5	0.9819	0.8946	1.069	0.9912	0.8861	1.047	0.03142	7.16%	17.29%
GZ-209	5	1.041	0.8178	1.265	0.9912	0.8861	1.345	0.08055	17.29%	12.27%
GZ-213	5	1.139	1.019	1.259	1.173	0.9912	1.249	0.04319	8.48%	4.08%
GZ-214	5	0.9966	0.8381	1.155	1.047	0.8355	1.107	0.05709	12.81%	16.05%
GZ-217	5	0.8641	0.5646	1.164	0.7854	0.5796	1.173	0.1079	27.91%	27.21%
GZ-223	5	1.184	1.039	1.33	1.173	1.047	1.345	0.05243	9.9%	0.24%
GZ-224	5	1.008	0.8498	1.166	1.047	0.8355	1.173	0.05702	12.65%	15.08%
GZ-225	5	1.039	0.7934	1.285	1.047	0.7353	1.249	0.08851	19.05%	12.47%

Survival Rate Detail

Sample Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
LC-102	0.9	1	0.55	0.95	0.75
GZ-203	0.85	0.8	0.85	0.6	0.75
GZ-207	0.75	0.6	0.75	0.7	0.65
GZ-209	0.95	0.6	0.75	0.65	0.7
GZ-213	0.9	0.85	0.7	0.85	0.8
GZ-214	0.6	0.8	0.8	0.75	0.55
GZ-217	0.45	0.3	0.5	0.85	0.75
GZ-223	0.75	0.8	0.95	0.9	0.85
GZ-224	0.85	0.75	0.65	0.75	0.55
GZ-225	0.45	0.9	0.75	0.85	0.7

Angular (Corrected) Transformed Detail

Sample Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
LC-102	1.249	1.459	0.8355	1.345	1.047
GZ-203	1.173	1.107	1.173	0.8861	1.047
GZ-207	1.047	0.8861	1.047	0.9912	0.9377
GZ-209	1.345	0.8861	1.047	0.9377	0.9912
GZ-213	1.249	1.173	0.9912	1.173	1.107
GZ-214	0.8861	1.107	1.107	1.047	0.8355
GZ-217	0.7353	0.5796	0.7854	1.173	1.047
GZ-223	1.047	1.107	1.345	1.249	1.173
GZ-224	1.173	1.047	0.9377	1.047	0.8355
GZ-225	0.7353	1.249	1.047	1.173	0.9912

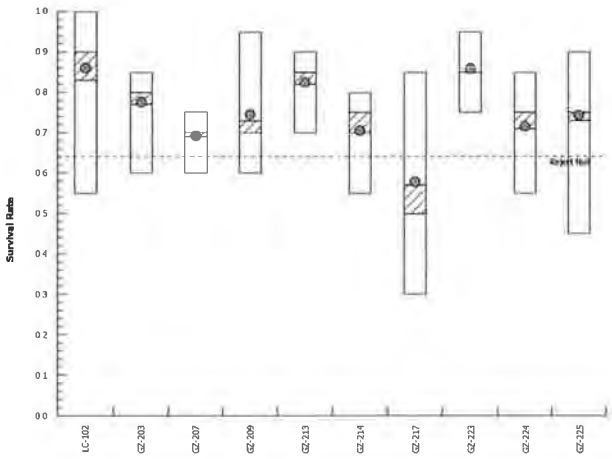
Leptocheirus 28-d Survival, Growth and Reproduction Sediment Test **New England Bioassay**

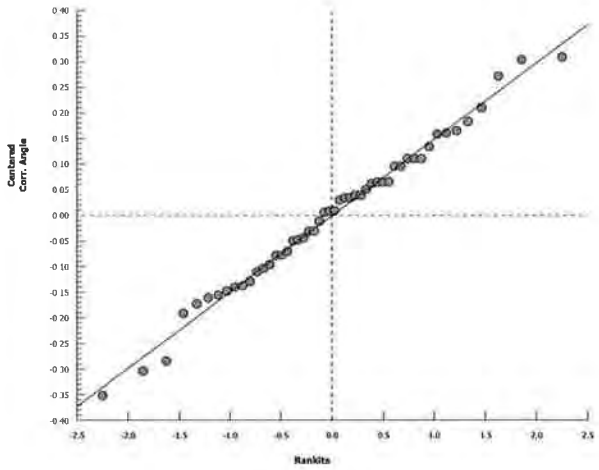
Analysis ID:	03-9774-5210	**Endpoint:**	Survival Rate	**CETIS Version:**	CETISv1.8.8
Analyzed:	03 Jun-15 9:32	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes

Survival Rate Binomials

Sample Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
LC-102	18/20	20/20	11/20	19/20	15/20
GZ-203	17/20	16/20	17/20	12/20	15/20
GZ-207	15/20	12/20	15/20	14/20	13/20
GZ-209	19/20	12/20	15/20	13/20	14/20
GZ-213	18/20	17/20	14/20	17/20	16/20
GZ-214	12/20	16/20	16/20	15/20	11/20
GZ-217	9/20	6/20	10/20	17/20	15/20
GZ-223	15/20	16/20	19/20	18/20	17/20
GZ-224	17/20	15/20	13/20	15/20	11/20
GZ-225	9/20	18/20	15/20	17/20	14/20

Graphics





Leptocheirus 28-d Survival, Growth and Reproduction Sediment Test — **New England Bioassay**

Analysis ID:	20-9626-3570	**Endpoint:**	Mean Dry Biomass-mg	**CETIS Version:**	CETISv1.8.8
Analyzed:	01 Jun-15 11:31	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes
Batch ID:	01-5466-7590	**Test Type:**	Leptocheirus (28-d)	**Analyst:**	
Start Date:	30 Apr-15	**Protocol:**	EPA/600/R-01/020 (2001)	**Diluent:**	Not Applicable
Ending Date:	28 May-15	**Species:**	Leptocheirus plumulosus	**Brine:**	Instant Ocean
Duration:	28d 0h	**Source:**	In-House Culture	**Age:**	

Sample Code	Sample ID	Sample Date	Receive Date	Sample Age	Client Name	Project
Art Control	04-5032-5421	25 Mar-15		36d 0h	GZA GeoEnvironmental	
Nat Control	11-3861-7478	24 Mar-15	21 Apr-15	37d 0h		
LC-102	14-0824-4221	26 Mar-15	21 Apr-15	35d 0h		
LC-105	19-8730-7911	26 Mar-15	21 Apr-15	35d 0h		
LC-112	09-5123-6710	27 Mar-15	21 Apr-15	34d 0h		

Sample Code	Material Type	Sample Source	Station Location	Latitude	Longitude
Art Control	Not Applicable	Wynn - Everett MA	Art Control		
Nat Control	Not Applicable	Wynn - Everett MA	Nat Control		
LC-102	Reference sediment	Wynn - Everett MA	LC-102		
LC-105	Reference sediment	Wynn - Everett MA	LC-105		
LC-112	Reference sediment	Wynn - Everett MA	LC-112		

Data Transform	Zeta	Alt Hyp	Trials	Seed	PMSD	Test Result
Untransformed	NA	C > T	NA	NA	21.0%	

Dunnett Multiple Comparison Test

Sample Code	vs	Sample Code	Test Stat	Critical	MSD	DF	P-Value	P-Type	Decision(α:5%)
LC-102		Art Control	4.893	2.305	0.333	8	0.0002	CDF	Significant Effect
		Nat Control	3.807	2.305	0.333	8	0.0020	CDF	Significant Effect
		LC-105	-1.289	2.305	0.333	8	0.9889	CDF	Non-Significant Effect
		LC-112	1.144	2.305	0.333	8	0.3219	CDF	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	2.801481	0.7003703	4	13.39	<0.0001	Significant Effect
Error	1.046485	0.05232427	20			
Total	3.847967		24			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance	4.781	13.28	0.3106	Equal Variances
Distribution	Shapiro-Wilk W Normality	0.9342	0.8877	0.1087	Normal Distribution

Mean Dry Biomass-mg Summary

Sample Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
Art Control	5	0.8779	0.6644	1.091	0.824	0.7045	1.077	0.07691	19.59%	0.0%
Nat Control	5	1.035	0.8239	1.246	0.973	0.892	1.292	0.07604	16.43%	-17.9%
LC-102	5	1.586	1.139	2.032	1.782	1.036	1.861	0.1608	22.67%	-80.64%
LC-105	5	1.772	1.612	1.932	1.826	1.557	1.867	0.0577	7.28%	-101.9%
LC-112	5	1.42	1.123	1.717	1.514	1.046	1.617	0.107	16.85%	-61.78%

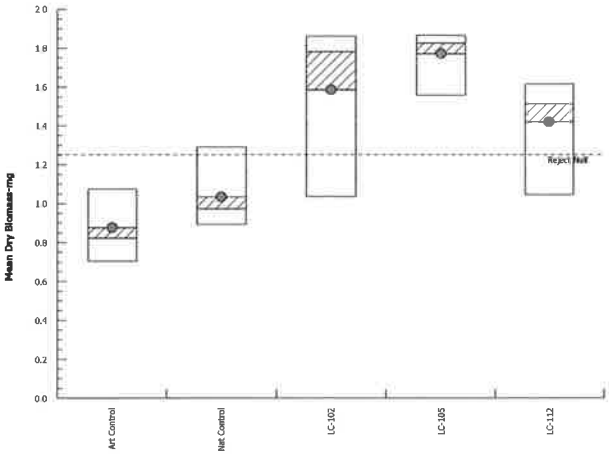
Mean Dry Biomass-mg Detail

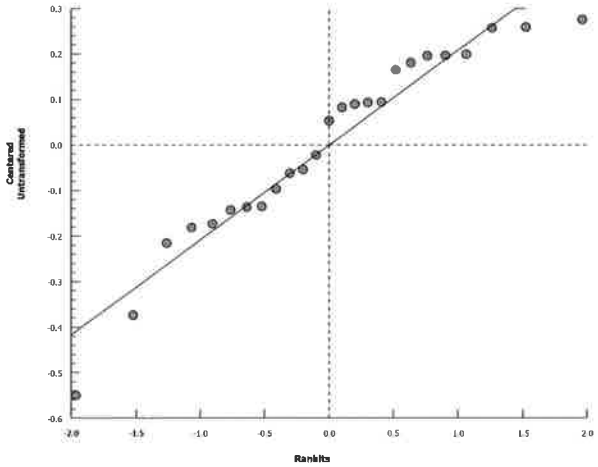
Sample Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
Art Control	0.7415	0.7045	0.824	1.042	1.077
Nat Control	0.892	1.292	0.973	0.9	1.118
LC-102	1.861	1.782	1.036	1.845	1.405
LC-105	1.826	1.751	1.557	1.867	1.862
LC-112	1.514	1.601	1.046	1.323	1.617

Leptocheirus 28-d Survival, Growth and Reproduction Sediment Test **New England Bioassay**

Analysis ID:	20-9626-3570	**Endpoint:**	Mean Dry Biomass-mg	**CETIS Version:**	CETISv1.8.8
Analyzed:	01 Jun-15 11:31	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes

Graphics





Leptocheirus 28-d Survival, Growth and Reproduction Sediment Test — **New England Bioassay**

Analysis ID:	08-9552-5899	**Endpoint:**	Mean Dry Biomass-mg	**CETIS Version:**	CETISv1.8.8
Analyzed:	01 Jun-15 11:32	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes
Batch ID:	01-5466-7590	**Test Type:**	Leptocheirus (28-d)	**Analyst:**	
Start Date:	30 Apr-15	**Protocol:**	EPA/600/R-01/020 (2001)	**Diluent:**	Not Applicable
Ending Date:	28 May-15	**Species:**	Leptocheirus plumulosus	**Brine:**	Instant Ocean
Duration:	28d 0h	**Source:**	In-House Culture	**Age:**	

Sample Code	Sample ID	Sample Date	Receive Date	Sample Age	Client Name	Project
LC-102	14-0824-4221	26 Mar-15	21 Apr-15	35d 0h	GZA GeoEnvironmental	
GZ-203	02-5461-8029	24 Mar-15	21 Apr-15	37d 0h		
GZ-207	03-2338-4998	25 Mar-15	21 Apr-15	36d 0h		
GZ-209	16-5046-1852	25 Mar-15	21 Apr-15	36d 0h		
GZ-213	17-1685-0966	25 Mar-15	21 Apr-15	36d 0h		
GZ-214	15-3950-8822	30 Mar-15	21 Apr-15	31d 0h		
GZ-217	04-7415-4404	24 Mar-15	21 Apr-15	37d 0h		
GZ-223	08-6096-2100	30 Mar-15	21 Apr-15	31d 0h		
GZ-224	13-6271-4856	30 Mar-15	21 Apr-15	31d 0h		
GZ-225	18-0414-8615	27 Mar-15	21 Apr-15	34d 0h		

Sample Code	Material Type	Sample Source	Station Location	Latitude	Longitude
LC-102	Reference sediment	Wynn - Everett MA	LC-102		
GZ-203	Site Sediment	Wynn - Everett MA	GZ-203		
GZ-207	Site Sediment	Wynn - Everett MA	GZ-207		
GZ-209	Site Sediment	Wynn - Everett MA	GZ-209		
GZ-213	Site Sediment	Wynn - Everett MA	GZ-213		
GZ-214	Site Sediment	Wynn - Everett MA	GZ-214		
GZ-217	Site Sediment	Wynn - Everett MA	GZ-217		
GZ-223	Site Sediment	Wynn - Everett MA	GZ-223		
GZ-224	Site Sediment	Wynn - Everett MA	GZ-224		
GZ-225	Site Sediment	Wynn - Everett MA	GZ-225		

Data Transform	Zeta	Alt Hyp	Trials	Seed	PMSD	Test Result
Untransformed	NA	C > T	NA	NA	27.8%	

Dunnett Multiple Comparison Test

Sample Code	vs	Sample Code	Test Stat	Critical	MSD	DF	P-Value	P-Type	Decision(α:5%)
LC-102		GZ-203	0.9527	2.506	0.441	8	0.5463	CDF	Non-Significant Effect
		GZ-207	1.782	2.506	0.441	8	0.1965	CDF	Non-Significant Effect
		GZ-209	0.6397	2.506	0.441	8	0.6899	CDF	Non-Significant Effect
		GZ-213	2.381	2.506	0.441	8	0.0652	CDF	Non-Significant Effect
		GZ-214	2.12	2.506	0.441	8	0.1092	CDF	Non-Significant Effect
		GZ-217	5.953	2.506	0.441	8	<0.0001	CDF	Significant Effect
		GZ-223	0.7158	2.506	0.441	8	0.6565	CDF	Non-Significant Effect
		GZ-224	3.662	2.506	0.441	8	0.0027	CDF	Significant Effect
		GZ-225	3.212	2.506	0.441	8	0.0093	CDF	Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	4.408385	0.4898206	9	6.324	<0.0001	Significant Effect
Error	3.098366	0.07745916	40			
Total	7.506752		49			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance	11.08	21.67	0.2702	Equal Variances
Distribution	Shapiro-Wilk W Normality	0.9827	0.9367	0.6689	Normal Distribution

Leptocheirus 28-d Survival, Growth and Reproduction Sediment Test **New England Bioassay**

Analysis ID:	08-9552-5899	**Endpoint:**	Mean Dry Biomass-mg	**CETIS Version:**	CETISv1.8.8
Analyzed:	01 Jun-15 11:32	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes

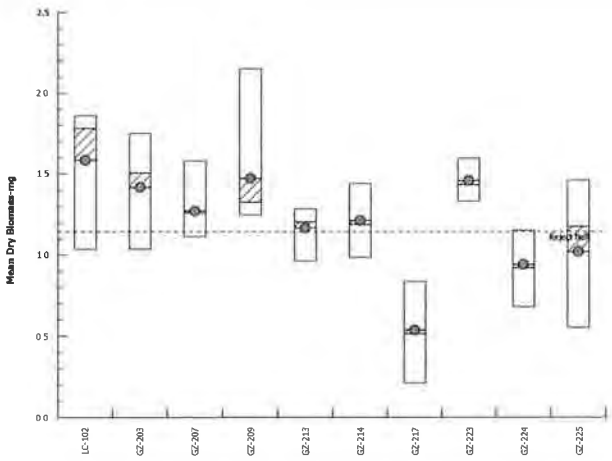
Mean Dry Biomass-mg Summary

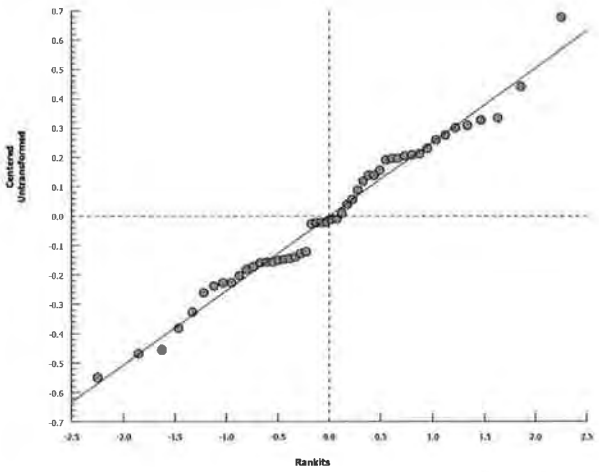
Sample Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
LC-102	5	1.586	1.139	2.032	1.782	1.036	1.861	0.1608	22.67%	0.0%
GZ-203	5	1.418	1.045	1.791	1.507	1.036	1.752	0.1343	21.18%	10.58%
GZ-207	5	1.272	1.037	1.507	1.261	1.115	1.582	0.08474	14.89%	19.78%
GZ-209	5	1.473	1.001	1.946	1.326	1.246	2.152	0.1702	25.84%	7.1%
GZ-213	5	1.167	1.014	1.319	1.206	0.9635	1.285	0.05491	10.52%	26.43%
GZ-214	5	1.213	0.9559	1.469	1.19	0.986	1.443	0.09247	17.05%	23.53%
GZ-217	5	0.538	0.2185	0.8575	0.515	0.211	0.839	0.1151	47.82%	66.07%
GZ-223	5	1.46	1.295	1.624	1.433	1.332	1.598	0.0592	9.07%	7.95%
GZ-224	5	0.9412	0.6801	1.202	0.922	0.6795	1.154	0.09403	22.34%	40.65%
GZ-225	5	1.021	0.4812	1.56	1.177	0.552	1.463	0.1942	42.56%	35.65%

Mean Dry Biomass-mg Detail

Sample Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
LC-102	1.861	1.782	1.036	1.845	1.405
GZ-203	1.752	1.507	1.18	1.036	1.615
GZ-207	1.261	1.115	1.582	1.121	1.282
GZ-209	2.152	1.326	1.329	1.314	1.246
GZ-213	1.285	1.223	0.9635	1.206	1.155
GZ-214	0.986	1.404	1.443	1.19	1.04
GZ-217	0.3815	0.211	0.515	0.839	0.7435
GZ-223	1.338	1.433	1.598	1.598	1.332
GZ-224	1.15	0.922	1.154	0.8015	0.6795
GZ-225	0.564	1.348	1.463	1.177	0.552

Graphics





Leptocheirus 28-d Survival, Growth and Reproduction Sediment Test — **New England Bioassay**

Analysis ID:	09-4099-3410	**Endpoint:**	Reproduction	**CETIS Version:**	CETISv1.8.8
Analyzed:	03 Jun-15 9:33	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes
Batch ID:	01-5466-7590	**Test Type:**	Leptocheirus (28-d)	**Analyst:**	
Start Date:	30 Apr-15	**Protocol:**	EPA/600/R-01/020 (2001)	**Diluent:**	Not Applicable
Ending Date:	28 May-15	**Species:**	Leptocheirus plumulosus	**Brine:**	Instant Ocean
Duration:	28d 0h	**Source:**	In-House Culture	**Age:**	

Sample Code	Sample ID	Sample Date	Receive Date	Sample Age	Client Name	Project
Art Control	04-5032-5421	25 Mar-15		36d 0h	GZA GeoEnvironmental	
Nat Control	11-3861-7478	24 Mar-15	21 Apr-15	37d 0h		
LC-102	14-0824-4221	26 Mar-15	21 Apr-15	35d 0h		
LC-105	19-8730-7911	26 Mar-15	21 Apr-15	35d 0h		
LC-112	09-5123-6710	27 Mar-15	21 Apr-15	34d 0h		

Sample Code	Material Type	Sample Source	Station Location	Latitude	Longitude
Art Control	Not Applicable	Wynn - Everett MA	Art Control		
Nat Control	Not Applicable	Wynn - Everett MA	Nat Control		
LC-102	Reference sediment	Wynn - Everett MA	LC-102		
LC-105	Reference sediment	Wynn - Everett MA	LC-105		
LC-112	Reference sediment	Wynn - Everett MA	LC-112		

Data Transform	Zeta	Alt Hyp	Trials	Seed	PMSD	Test Result
Untransformed	NA	C > T	NA	NA	57.8%	

Dunnett Multiple Comparison Test

Sample Code	vs	Sample Code	Test Stat	Critical	MSD	DF	P-Value	P-Type	Decision(α:5%)
LC-102		Art Control	1.072	2.305	1.368	8	0.3508	CDF	Non-Significant Effect
		Nat Control	1.709	2.305	1.368	8	0.1443	CDF	Non-Significant Effect
		LC-105	1.427	2.305	1.368	8	0.2213	CDF	Non-Significant Effect
		LC-112	0.4794	2.305	1.368	8	0.6127	CDF	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	3.419955	0.8549886	4	0.9706	0.4454	Non-Significant Effect
Error	17.61759	0.8808794	20			
Total	21.03754		24			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance	3.158	13.28	0.5317	Equal Variances
Distribution	Shapiro-Wilk W Normality	0.9286	0.8877	0.0807	Normal Distribution

Reproduction Summary

Sample Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
Art Control	5	1.73	0.7308	2.729	1.467	1	3	0.3598	46.51%	0.0%
Nat Control	5	1.352	0.5441	2.159	1.214	0.6429	2.056	0.2909	48.12%	21.85%
LC-102	5	2.366	1.085	3.647	2.05	1.278	3.818	0.4615	43.62%	-36.79%
LC-105	5	1.519	0.7234	2.315	1.5	0.8235	2.389	0.2865	42.18%	12.18%
LC-112	5	2.081	0.3887	3.774	1.588	0.9412	4.313	0.6097	65.5%	-20.34%

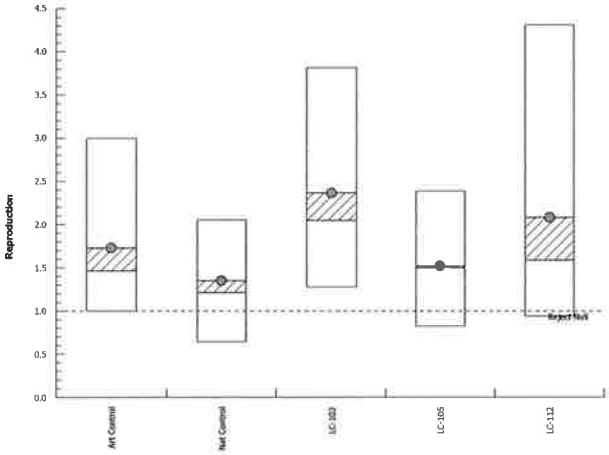
Reproduction Detail

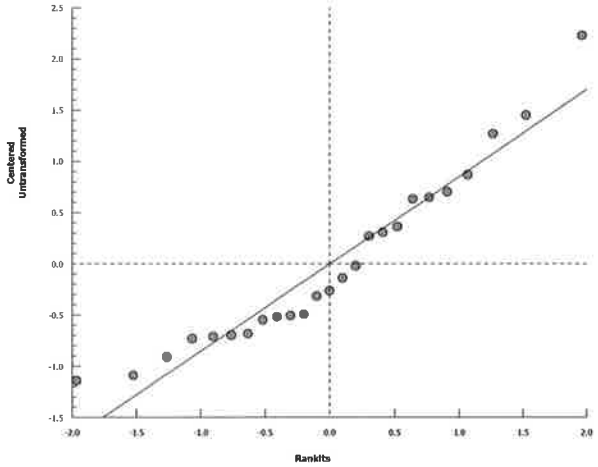
Sample Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
Art Control	1	2	1.182	3	1.467
Nat Control	0.8462	2.056	1.214	2	0.6429
LC-102	1.278	2.05	3.818	1.684	3
LC-105	1	2.389	1.5	0.8235	1.882
LC-112	4.313	2.389	1.176	0.9412	1.588

Leptocheirus 28-d Survival, Growth and Reproduction Sediment Test — **New England Bioassay**

Analysis ID:	09-4099-3410	**Endpoint:**	Reproduction	**CETIS Version:**	CETISv1.8.8
Analyzed:	03 Jun-15 9:33	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes

Graphics





Leptocheirus 28-d Survival, Growth and Reproduction Sediment Test — **New England Bioassay**

Analysis ID:	14-5627-7435	**Endpoint:**	Reproduction	**CETIS Version:**	CETISv1.8.8
Analyzed:	03 Jun-15 9:33	**Analysis:**	Nonparametric-Control vs Treatments	**Official Results:**	Yes
Batch ID:	01-5466-7590	**Test Type:**	Leptocheirus (28-d)	**Analyst:**	
Start Date:	30 Apr-15	**Protocol:**	EPA/600/R-01/020 (2001)	**Diluent:**	Not Applicable
Ending Date:	28 May-15	**Species:**	Leptocheirus plumulosus	**Brine:**	Instant Ocean
Duration:	28d 0h	**Source:**	In-House Culture	**Age:**	

Sample Code	Sample ID	Sample Date	Receive Date	Sample Age	Client Name	Project
LC-102	14-0824-4221	26 Mar-15	21 Apr-15	35d 0h	GZA GeoEnvironmental	
GZ-203	02-5461-8029	24 Mar-15	21 Apr-15	37d 0h		
GZ-207	03-2338-4998	25 Mar-15	21 Apr-15	36d 0h		
GZ-209	16-5046-1852	25 Mar-15	21 Apr-15	36d 0h		
GZ-213	17-1685-0966	25 Mar-15	21 Apr-15	36d 0h		
GZ-214	15-3950-8822	30 Mar-15	21 Apr-15	31d 0h		
GZ-217	04-7415-4404	24 Mar-15	21 Apr-15	37d 0h		
GZ-223	08-6096-2100	30 Mar-15	21 Apr-15	31d 0h		
GZ-224	13-6271-4856	30 Mar-15	21 Apr-15	31d 0h		
GZ-225	18-0414-8615	27 Mar-15	21 Apr-15	34d 0h		

Sample Code	Material Type	Sample Source	Station Location	Latitude	Longitude
LC-102	Reference sediment	Wynn - Everett MA	LC-102		
GZ-203	Site Sediment	Wynn - Everett MA	GZ-203		
GZ-207	Site Sediment	Wynn - Everett MA	GZ-207		
GZ-209	Site Sediment	Wynn - Everett MA	GZ-209		
GZ-213	Site Sediment	Wynn - Everett MA	GZ-213		
GZ-214	Site Sediment	Wynn - Everett MA	GZ-214		
GZ-217	Site Sediment	Wynn - Everett MA	GZ-217		
GZ-223	Site Sediment	Wynn - Everett MA	GZ-223		
GZ-224	Site Sediment	Wynn - Everett MA	GZ-224		
GZ-225	Site Sediment	Wynn - Everett MA	GZ-225		

Data Transform	Zeta	Alt Hyp	Trials	Seed	PMSD	Test Result
Untransformed	NA	C > T	NA	NA	75.9%	

Steel Many-One Rank Sum Test

Sample Code	vs	Sample Code	Test Stat	Critical	Ties	DF	P-Value	P-Type	Decision(α:5%)
LC-102		GZ-203	22	15	0	8	0.4487	Asymp	Non-Significant Effect
		GZ-207	22	15	0	8	0.4487	Asymp	Non-Significant Effect
		GZ-209	29	15	0	8	0.9526	Asymp	Non-Significant Effect
		GZ-213	15	15	0	8	0.0306	Asymp	Significant Effect
		GZ-214	15	15	0	8	0.0306	Asymp	Significant Effect
		GZ-217	15	15	0	8	0.0306	Asymp	Significant Effect
		GZ-223	21	15	0	8	0.3513	Asymp	Non-Significant Effect
		GZ-224	15	15	0	8	0.0306	Asymp	Significant Effect
		GZ-225	21	15	0	8	0.3513	Asymp	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	40.51187	4.501318	9	3.51	0.0028	Significant Effect
Error	51.30013	1.282503	40			
Total	91.812		49			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance	42	21.67	<0.0001	Unequal Variances
Distribution	Shapiro-Wilk W Normality	0.8805	0.9367	0.0001	Non-normal Distribution

Leptocheirus 28-d Survival, Growth and Reproduction Sediment Test — **New England Bioassay**

Analysis ID:	14-5627-7435	**Endpoint:**	Reproduction	**CETIS Version:**	CETISv1.8.8
Analyzed:	03 Jun-15 9:33	**Analysis:**	Nonparametric-Control vs Treatments	**Official Results:**	Yes

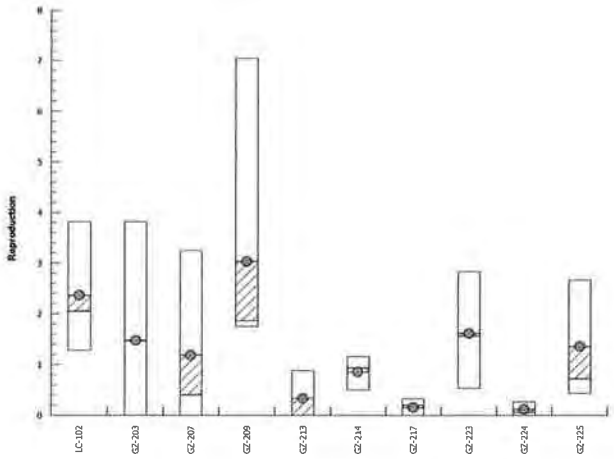
Reproduction Summary

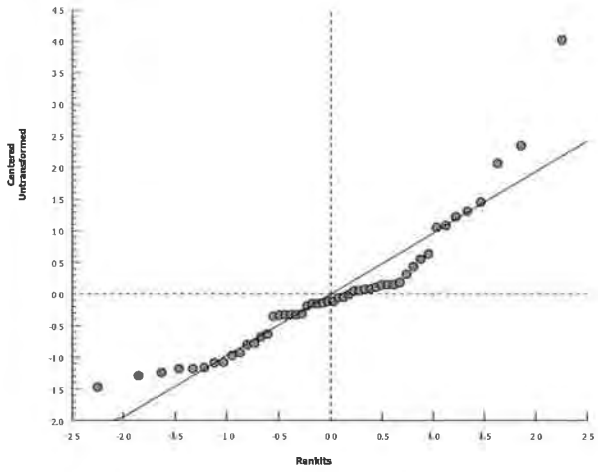
Sample Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
LC-102	5	2.366	1.085	3.647	2.05	1.278	3.818	0.4615	43.62%	0.0%
GZ-203	5	1.475	-0.3516	3.301	1.467	0	3.824	0.6578	99.74%	37.67%
GZ-207	5	1.183	-0.6645	3.031	0.4	0	3.25	0.6655	125.8%	49.99%
GZ-209	5	3.029	0.1956	5.863	1.867	1.75	7.053	1.021	75.34%	-28.04%
GZ-213	5	0.3294	-0.233	0.8919	0	0	0.8824	0.2026	137.5%	86.08%
GZ-214	5	0.8542	0.5219	1.186	0.9375	0.5	1.167	0.1197	31.33%	63.9%
GZ-217	5	0.1511	-0.03129	0.3335	0.2	0	0.3333	0.0657	97.21%	93.61%
GZ-223	5	1.613	0.5952	2.631	1.563	0.5294	2.833	0.3666	50.82%	31.82%
GZ-224	5	0.1184	-0.05222	0.2891	0.05882	0	0.2667	0.06146	116.0%	94.99%
GZ-225	5	1.357	0.006024	2.708	0.7222	0.4286	2.667	0.4866	80.18%	42.65%

Reproduction Detail

Sample Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
LC-102	1.278	2.05	3.818	1.684	3
GZ-203	3.824	0.5	0	1.583	1.467
GZ-207	2.267	3.25	0.4	0	0
GZ-209	7.053	1.75	1.867	2.692	1.786
GZ-213	0	0.7647	0	0.8824	0
GZ-214	1.167	0.5	0.9375	0.6667	1
GZ-217	0.2222	0	0.2	0	0.3333
GZ-223	1.667	1.563	1.474	2.833	0.5294
GZ-224	0.05882	0.2667	0	0.2667	0
GZ-225	0.5556	0.7222	2.667	2.412	0.4286

Graphics





SUMMARY OF TEST RESULTS
28-DAY L.PLUMULOSUS TOXICITY TESTS
WYNN-EVERETT (Test Dates 4/30/15 – 5/28/15)
LC-105 REFERENCE SITE COMPARISION

Sample	28-day Survival (%)		Biomass (mg)		Reproduction (number of young)	
	Mean	Sig[a]	Mean	Sig[a]	Mean[b]	Sig[a]
LC-105	87	--	1.772	--	1.519	--
Artificial Control	62	*	0.8779	*	1.73	NS
Natural Control	71	NS	1.035	*	1.352	NS
LC-102	83	NS	1.586	NS	2.366	NS
LC-112	85	NS	1.42	*	2.081	NS
GZ-203	77	NS	1.418	NS	1.475	NS
GZ-207	69	NS	1.272	*	1.183	NS
GZ-209	73	NS	1.473	NS	3.029	NS
GZ-213	82	NS	1.167	*	0.3294	NS
GZ-214	70	NS	1.213	*	0.8542	NS
GZ-217	57	*	0.538	*	0.1511	*
GZ-223	85	NS	1.46	NS	1.613	NS
GZ-224	71	NS	0.9412	*	0.1184	*
GZ-225	73	NS	1.021	*	1.357	NS

[a]NS: Not significantly reduced at P = 0.05; *: significant at P = 0.05.
when compared with LC-105 reference site

[b] Reproduction as the average of [young per rep/surviving adults per rep]

Leptocheirus 28-d Survival, Growth and Reproduction Sediment Test — **New England Bioassay**

Analysis ID:	20-4902-3565	**Endpoint:**	Survival Rate	**CETIS Version:**	CETISv1.8.8
Analyzed:	03 Jun-15 9:31	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes
Batch ID:	01-5466-7590	**Test Type:**	Leptocheirus (28-d)	**Analyst:**	
Start Date:	30 Apr-15	**Protocol:**	EPA/600/R-01/020 (2001)	**Diluent:**	Not Applicable
Ending Date:	28 May-15	**Species:**	Leptocheirus plumulosus	**Brine:**	Instant Ocean
Duration:	28d 0h	**Source:**	In-House Culture	**Age:**	

Sample Code	Sample ID	Sample Date	Receive Date	Sample Age	Client Name	Project
Art Control	04-5032-5421	25 Mar-15		36d 0h	GZA GeoEnvironmental	
Nat Control	11-3861-7478	24 Mar-15	21 Apr-15	37d 0h		
LC-102	14-0824-4221	26 Mar-15	21 Apr-15	35d 0h		
LC-105	19-8730-7911	26 Mar-15	21 Apr-15	35d 0h		
LC-112	09-5123-6710	27 Mar-15	21 Apr-15	34d 0h		

Sample Code	Material Type	Sample Source	Station Location	Latitude	Longitude
Art Control	Not Applicable	Wynn - Everett MA	Art Control		
Nat Control	Not Applicable	Wynn - Everett MA	Nat Control		
LC-102	Reference sediment	Wynn - Everett MA	LC-102		
LC-105	Reference sediment	Wynn - Everett MA	LC-105		
LC-112	Reference sediment	Wynn - Everett MA	LC-112		

Data Transform	Zeta	Alt Hyp	Trials	Seed	PMSD	Test Result
Angular (Corrected)	NA	C > T	NA	NA	18.5%	

Dunnett Multiple Comparison Test

Sample Code	vs	Sample Code	Test Stat	Critical	MSD	DF	P-Value	P-Type	Decision(α:5%)
LC-105		Art Control	3.321	2.305	0.209	8	0.0059	CDF	Significant Effect
		Nat Control	2.193	2.305	0.209	8	0.0618	CDF	Non-Significant Effect
		LC-102	0.2473	2.305	0.209	8	0.7105	CDF	Non-Significant Effect
		LC-112	0.3805	2.305	0.209	8	0.6556	CDF	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.348152	0.08703799	4	4.25	0.0119	Significant Effect
Error	0.4095784	0.02047892	20			
Total	0.7577303		24			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance	9.49	13.28	0.0500	Equal Variances
Distribution	Shapiro-Wilk W Normality	0.9527	0.8877	0.2887	Normal Distribution

Survival Rate Summary

Sample Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
Art Control	5	0.62	0.499	0.741	0.55	0.55	0.75	0.04359	15.72%	0.0%
Nat Control	5	0.71	0.5684	0.8516	0.7	0.6	0.9	0.05099	16.06%	-14.52%
LC-102	5	0.83	0.6036	1	0.9	0.55	1	0.08155	21.97%	-33.87%
LC-105	5	0.87	0.7992	0.9408	0.85	0.8	0.95	0.0255	6.55%	-40.32%
LC-112	5	0.85	0.8061	0.8939	0.85	0.8	0.9	0.01581	4.16%	-37.1%

Angular (Corrected) Transformed Summary

Sample Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
Art Control	5	0.909	0.7816	1.036	0.8355	0.8355	1.047	0.04586	11.28%	0.0%
Nat Control	5	1.011	0.8372	1.185	0.9912	0.8861	1.249	0.06262	13.85%	-11.23%
LC-102	5	1.187	0.8793	1.495	1.249	0.8355	1.459	0.1109	20.88%	-30.61%
LC-105	5	1.21	1.097	1.323	1.173	1.107	1.345	0.0407	7.52%	-33.07%
LC-112	5	1.175	1.113	1.237	1.173	1.107	1.249	0.02247	4.28%	-29.28%

Leptocheirus 28-d Survival, Growth and Reproduction Sediment Test **New England Bioassay**

Analysis ID:	20-4902-3565	**Endpoint:**	Survival Rate	**CETIS Version:**	CETISv1.8.8
Analyzed:	03 Jun-15 9:31	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes

Survival Rate Detail

Sample Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
Art Control	0.55	0.55	0.55	0.7	0.75
Nat Control	0.65	0.9	0.7	0.6	0.7
LC-102	0.9	1	0.55	0.95	0.75
LC-105	0.95	0.9	0.8	0.85	0.85
LC-112	0.8	0.9	0.85	0.85	0.85

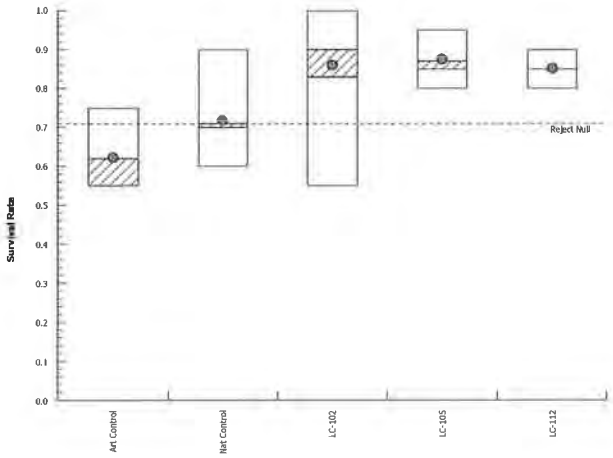
Angular (Corrected) Transformed Detail

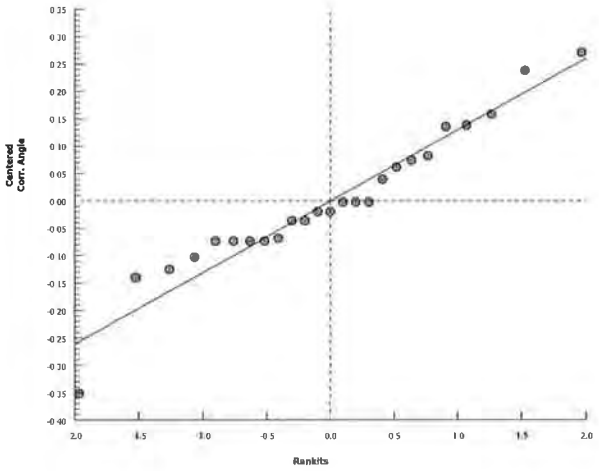
Sample Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
Art Control	0.8355	0.8355	0.8355	0.9912	1.047
Nat Control	0.9377	1.249	0.9912	0.8861	0.9912
LC-102	1.249	1.459	0.8355	1.345	1.047
LC-105	1.345	1.249	1.107	1.173	1.173
LC-112	1.107	1.249	1.173	1.173	1.173

Survival Rate Binomials

Sample Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
Art Control	11/20	11/20	11/20	14/20	15/20
Nat Control	13/20	18/20	14/20	12/20	14/20
LC-102	18/20	20/20	11/20	19/20	15/20
LC-105	19/20	18/20	16/20	17/20	17/20
LC-112	16/20	18/20	17/20	17/20	17/20

Graphics





Leptocheirus 28-d Survival, Growth and Reproduction Sediment Test — **New England Bioassay**

Analysis ID:	06-4598-4061	**Endpoint:**	Survival Rate	**CETIS Version:**	CETISv1.8.8
Analyzed:	03 Jun-15 9:32	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes
Batch ID:	01-5466-7590	**Test Type:**	Leptocheirus (28-d)	**Analyst:**	
Start Date:	30 Apr-15	**Protocol:**	EPA/600/R-01/020 (2001)	**Diluent:**	Not Applicable
Ending Date:	28 May-15	**Species:**	Leptocheirus plumulosus	**Brine:**	Instant Ocean
Duration:	28d 0h	**Source:**	In-House Culture	**Age:**	

Sample Code	Sample ID	Sample Date	Receive Date	Sample Age	Client Name	Project
LC-105	19-8730-7911	26 Mar-15	21 Apr-15	35d 0h	GZA GeoEnvironmental	
GZ-203	02-5461-8029	24 Mar-15	21 Apr-15	37d 0h		
GZ-207	03-2338-4998	25 Mar-15	21 Apr-15	36d 0h		
GZ-209	16-5046-1852	25 Mar-15	21 Apr-15	36d 0h		
GZ-213	17-1685-0966	25 Mar-15	21 Apr-15	36d 0h		
GZ-214	15-3950-8822	30 Mar-15	21 Apr-15	31d 0h		
GZ-217	04-7415-4404	24 Mar-15	21 Apr-15	37d 0h		
GZ-223	08-6096-2100	30 Mar-15	21 Apr-15	31d 0h		
GZ-224	13-6271-4856	30 Mar-15	21 Apr-15	31d 0h		
GZ-225	18-0414-8615	27 Mar-15	21 Apr-15	34d 0h		

Sample Code	Material Type	Sample Source	Station Location	Latitude	Longitude
LC-105	Reference sediment	Wynn - Everett MA	LC-105		
GZ-203	Site Sediment	Wynn - Everett MA	GZ-203		
GZ-207	Site Sediment	Wynn - Everett MA	GZ-207		
GZ-209	Site Sediment	Wynn - Everett MA	GZ-209		
GZ-213	Site Sediment	Wynn - Everett MA	GZ-213		
GZ-214	Site Sediment	Wynn - Everett MA	GZ-214		
GZ-217	Site Sediment	Wynn - Everett MA	GZ-217		
GZ-223	Site Sediment	Wynn - Everett MA	GZ-223		
GZ-224	Site Sediment	Wynn - Everett MA	GZ-224		
GZ-225	Site Sediment	Wynn - Everett MA	GZ-225		

Data Transform	Zeta	Alt Hyp	Trials	Seed	PMSD	Test Result
Angular (Corrected)	NA	C > T	NA	NA	20.9%	

Dunnett Multiple Comparison Test

Sample Code	vs	Sample Code	Test Stat	Critical	MSD	DF	P-Value	P-Type	Decision(α:5%)
LC-105		GZ-203	1.433	2.506	0.231	8	0.3252	CDF	Non-Significant Effect
		GZ-207	2.468	2.506	0.231	8	0.0543	CDF	Non-Significant Effect
		GZ-209	1.821	2.506	0.231	8	0.1844	CDF	Non-Significant Effect
		GZ-213	0.7676	2.506	0.231	8	0.6330	CDF	Non-Significant Effect
		GZ-214	2.308	2.506	0.231	8	0.0758	CDF	Non-Significant Effect
		GZ-217	3.744	2.506	0.231	8	0.0022	CDF	Significant Effect
		GZ-223	0.2729	2.506	0.231	8	0.8278	CDF	Non-Significant Effect
		GZ-224	2.183	2.506	0.231	8	0.0970	CDF	Non-Significant Effect
		GZ-225	1.847	2.506	0.231	8	0.1769	CDF	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.4796422	0.05329358	9	2.504	0.0224	Significant Effect
Error	0.8512392	0.02128098	40			
Total	1.330881		49			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance	9.424	21.67	0.3991	Equal Variances
Distribution	Shapiro-Wilk W Normality	0.99	0.9367	0.9464	Normal Distribution

Leptocheirus 28-d Survival, Growth and Reproduction Sediment Test **New England Bioassay**

Analysis ID: 06-4598-4061 **Endpoint:** Survival Rate **CETIS Version:** CETISv1.8.8
Analyzed: 03 Jun-15 9:32 **Analysis:** Parametric-Control vs Treatments **Official Results:** Yes

Survival Rate Summary

Sample Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
LC-105	5	0.87	0.7992	0.9408	0.85	0.8	0.95	0.0255	6.55%	0.0%
GZ-203	5	0.77	0.6413	0.8987	0.8	0.6	0.85	0.04637	13.47%	11.49%
GZ-207	5	0.69	0.6091	0.7709	0.7	0.6	0.75	0.02915	9.45%	20.69%
GZ-209	5	0.73	0.5623	0.8977	0.7	0.6	0.95	0.06042	18.51%	16.09%
GZ-213	5	0.82	0.7258	0.9142	0.85	0.7	0.9	0.03391	9.25%	5.75%
GZ-214	5	0.7	0.5544	0.8456	0.75	0.55	0.8	0.05244	16.75%	19.54%
GZ-217	5	0.57	0.2903	0.8497	0.5	0.3	0.85	0.1007	39.52%	34.48%
GZ-223	5	0.85	0.7518	0.9482	0.85	0.75	0.95	0.03536	9.3%	2.3%
GZ-224	5	0.71	0.5684	0.8516	0.75	0.55	0.85	0.05099	16.06%	18.39%
GZ-225	5	0.73	0.5123	0.9477	0.75	0.45	0.9	0.07842	24.02%	16.09%

Angular (Corrected) Transformed Summary

Sample Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
LC-105	5	1.21	1.097	1.323	1.173	1.107	1.345	0.0407	7.52%	0.0%
GZ-203	5	1.077	0.9295	1.225	1.107	0.8861	1.173	0.05325	11.05%	10.93%
GZ-207	5	0.9819	0.8946	1.069	0.9912	0.8861	1.047	0.03142	7.16%	18.82%
GZ-209	5	1.041	0.8178	1.265	0.9912	0.8861	1.345	0.08055	17.29%	13.89%
GZ-213	5	1.139	1.019	1.259	1.173	0.9912	1.249	0.04319	8.48%	5.86%
GZ-214	5	0.9966	0.8381	1.155	1.047	0.8355	1.107	0.05709	12.81%	17.6%
GZ-217	5	0.8641	0.5646	1.164	0.7854	0.5796	1.173	0.1079	27.91%	28.56%
GZ-223	5	1.184	1.039	1.33	1.173	1.047	1.345	0.05243	9.9%	2.08%
GZ-224	5	1.008	0.8498	1.166	1.047	0.8355	1.173	0.05702	12.65%	16.65%
GZ-225	5	1.039	0.7934	1.285	1.047	0.7353	1.249	0.08851	19.05%	14.09%

Survival Rate Detail

Sample Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
LC-105	0.95	0.9	0.8	0.85	0.85
GZ-203	0.85	0.8	0.85	0.6	0.75
GZ-207	0.75	0.6	0.75	0.7	0.65
GZ-209	0.95	0.6	0.75	0.65	0.7
GZ-213	0.9	0.85	0.7	0.85	0.8
GZ-214	0.6	0.8	0.8	0.75	0.55
GZ-217	0.45	0.3	0.5	0.85	0.75
GZ-223	0.75	0.8	0.95	0.9	0.85
GZ-224	0.85	0.75	0.65	0.75	0.55
GZ-225	0.45	0.9	0.75	0.85	0.7

Angular (Corrected) Transformed Detail

Sample Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
LC-105	1.345	1.249	1.107	1.173	1.173
GZ-203	1.173	1.107	1.173	0.8861	1.047
GZ-207	1.047	0.8861	1.047	0.9912	0.9377
GZ-209	1.345	0.8861	1.047	0.9377	0.9912
GZ-213	1.249	1.173	0.9912	1.173	1.107
GZ-214	0.8861	1.107	1.107	1.047	0.8355
GZ-217	0.7353	0.5796	0.7854	1.173	1.047
GZ-223	1.047	1.107	1.345	1.249	1.173
GZ-224	1.173	1.047	0.9377	1.047	0.8355
GZ-225	0.7353	1.249	1.047	1.173	0.9912

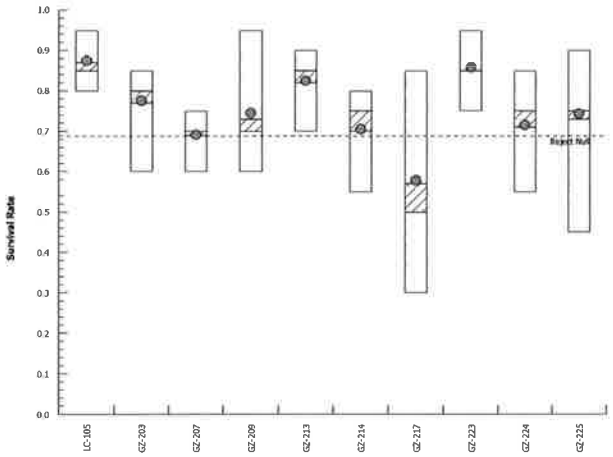
Leptocheirus 28-d Survival, Growth and Reproduction Sediment Test **New England Bioassay**

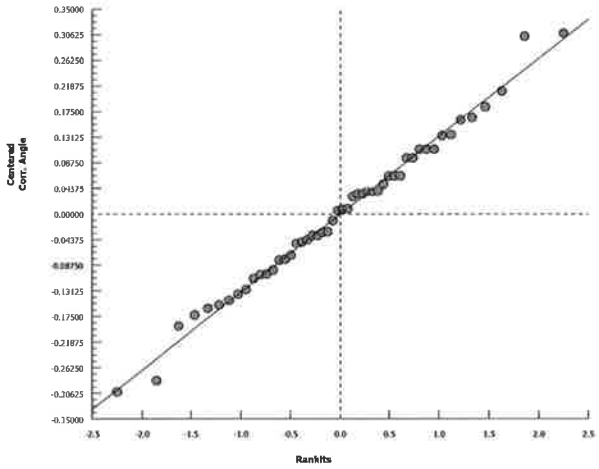
Analysis ID:	06-4598-4061	**Endpoint:**	Survival Rate	**CETIS Version:**	CETISv1.8.8
Analyzed:	03 Jun-15 9:32	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes

Survival Rate Binomials

Sample Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
LC-105	19/20	18/20	16/20	17/20	17/20
GZ-203	17/20	16/20	17/20	12/20	15/20
GZ-207	15/20	12/20	15/20	14/20	13/20
GZ-209	19/20	12/20	15/20	13/20	14/20
GZ-213	18/20	17/20	14/20	17/20	16/20
GZ-214	12/20	16/20	16/20	15/20	11/20
GZ-217	9/20	6/20	10/20	17/20	15/20
GZ-223	15/20	16/20	19/20	18/20	17/20
GZ-224	17/20	15/20	13/20	15/20	11/20
GZ-225	9/20	18/20	15/20	17/20	14/20

Graphics





Leptocheirus 28-d Survival, Growth and Reproduction Sediment Test — **New England Bioassay**

Analysis ID:	06-7752-4385	**Endpoint:**	Mean Dry Biomass-mg	**CETIS Version:**	CETISv1.8.8
Analyzed:	01 Jun-15 11:31	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes
Batch ID:	01-5466-7590	**Test Type:**	Leptocheirus (28-d)	**Analyst:**	
Start Date:	30 Apr-15	**Protocol:**	EPA/600/R-01/020 (2001)	**Diluent:**	Not Applicable
Ending Date:	28 May-15	**Species:**	Leptocheirus plumulosus	**Brine:**	Instant Ocean
Duration:	28d 0h	**Source:**	In-House Culture	**Age:**	

Sample Code	Sample ID	Sample Date	Receive Date	Sample Age	Client Name	Project
Art Control	04-5032-5421	25 Mar-15		36d 0h	GZA GeoEnvironmental	
Nat Control	11-3861-7478	24 Mar-15	21 Apr-15	37d 0h		
LC-102	14-0824-4221	26 Mar-15	21 Apr-15	35d 0h		
LC-105	19-8730-7911	26 Mar-15	21 Apr-15	35d 0h		
LC-112	09-5123-6710	27 Mar-15	21 Apr-15	34d 0h		

Sample Code	Material Type	Sample Source	Station Location	Latitude	Longitude
Art Control	Not Applicable	Wynn - Everett MA	Art Control		
Nat Control	Not Applicable	Wynn - Everett MA	Nat Control		
LC-102	Reference sediment	Wynn - Everett MA	LC-102		
LC-105	Reference sediment	Wynn - Everett MA	LC-105		
LC-112	Reference sediment	Wynn - Everett MA	LC-112		

Data Transform	Zeta	Alt Hyp	Trials	Seed	PMSD	Test Result
Untransformed	NA	C > T	NA	NA	18.8%	

Dunnett Multiple Comparison Test

Sample Code	vs	Sample Code	Test Stat	Critical	MSD	DF	P-Value	P-Type	Decision(α:5%)
LC-105		Art Control	6.182	2.305	0.333	8	<0.0001	CDF	Significant Effect
		Nat Control	5.096	2.305	0.333	8	0.0001	CDF	Significant Effect
		LC-102	1.289	2.305	0.333	8	0.2676	CDF	Non-Significant Effect
		LC-112	2.433	2.305	0.333	8	0.0389	CDF	Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	2.801481	0.7003703	4	13.39	<0.0001	Significant Effect
Error	1.046485	0.05232427	20			
Total	3.847967		24			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance	4.781	13.28	0.3106	Equal Variances
Distribution	Shapiro-Wilk W Normality	0.9342	0.8877	0.1087	Normal Distribution

Mean Dry Biomass-mg Summary

Sample Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
Art Control	5	0.8779	0.6644	1.091	0.824	0.7045	1.077	0.07691	19.59%	0.0%
Nat Control	5	1.035	0.8239	1.246	0.973	0.892	1.292	0.07604	16.43%	-17.9%
LC-102	5	1.586	1.139	2.032	1.782	1.036	1.861	0.1608	22.67%	-80.64%
LC-105	5	1.772	1.612	1.932	1.826	1.557	1.867	0.0577	7.28%	-101.9%
LC-112	5	1.42	1.123	1.717	1.514	1.046	1.617	0.107	16.85%	-61.78%

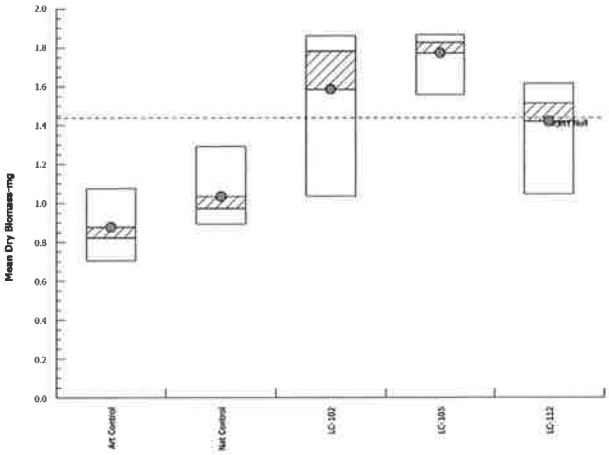
Mean Dry Biomass-mg Detail

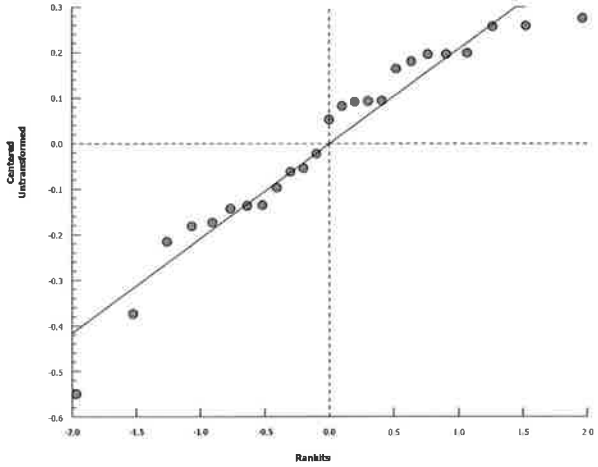
Sample Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
Art Control	0.7415	0.7045	0.824	1.042	1.077
Nat Control	0.892	1.292	0.973	0.9	1.118
LC-102	1.861	1.782	1.036	1.845	1.405
LC-105	1.826	1.751	1.557	1.867	1.862
LC-112	1.514	1.601	1.046	1.323	1.617

Leptocheirus 28-d Survival, Growth and Reproduction Sediment Test **New England Bioassay**

Analysis ID:	06-7752-4385	**Endpoint:**	Mean Dry Biomass-mg	**CETIS Version:**	CETISv1.8.8
Analyzed:	01 Jun-15 11:31	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes

Graphics





Leptocheirus 28-d Survival, Growth and Reproduction Sediment Test — **New England Bioassay**

Analysis ID:	14-6661-5882	**Endpoint:**	Mean Dry Biomass-mg	**CETIS Version:**	CETISv1.8.8
Analyzed:	01 Jun-15 11:32	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes
Batch ID:	01-5466-7590	**Test Type:**	Leptocheirus (28-d)	**Analyst:**	
Start Date:	30 Apr-15	**Protocol:**	EPA/600/R-01/020 (2001)	**Diluent:**	Not Applicable
Ending Date:	28 May-15	**Species:**	Leptocheirus plumulosus	**Brine:**	Instant Ocean
Duration:	28d 0h	**Source:**	In-House Culture	**Age:**	

Sample Code	Sample ID	Sample Date	Receive Date	Sample Age	Client Name	Project
LC-105	19-8730-7911	26 Mar-15	21 Apr-15	35d 0h	GZA GeoEnvironmental	
GZ-203	02-5461-8029	24 Mar-15	21 Apr-15	37d 0h		
GZ-207	03-2338-4998	25 Mar-15	21 Apr-15	36d 0h		
GZ-209	16-5046-1852	25 Mar-15	21 Apr-15	36d 0h		
GZ-213	17-1685-0966	25 Mar-15	21 Apr-15	36d 0h		
GZ-214	15-3950-8822	30 Mar-15	21 Apr-15	31d 0h		
GZ-217	04-7415-4404	24 Mar-15	21 Apr-15	37d 0h		
GZ-223	08-6096-2100	30 Mar-15	21 Apr-15	31d 0h		
GZ-224	13-6271-4856	30 Mar-15	21 Apr-15	31d 0h		
GZ-225	18-0414-8615	27 Mar-15	21 Apr-15	34d 0h		

Sample Code	Material Type	Sample Source	Station Location	Latitude	Longitude
LC-105	Reference sediment	Wynn - Everett MA	LC-105		
GZ-203	Site Sediment	Wynn - Everett MA	GZ-203		
GZ-207	Site Sediment	Wynn - Everett MA	GZ-207		
GZ-209	Site Sediment	Wynn - Everett MA	GZ-209		
GZ-213	Site Sediment	Wynn - Everett MA	GZ-213		
GZ-214	Site Sediment	Wynn - Everett MA	GZ-214		
GZ-217	Site Sediment	Wynn - Everett MA	GZ-217		
GZ-223	Site Sediment	Wynn - Everett MA	GZ-223		
GZ-224	Site Sediment	Wynn - Everett MA	GZ-224		
GZ-225	Site Sediment	Wynn - Everett MA	GZ-225		

Data Transform	Zeta	Alt Hyp	Trials	Seed	PMSD	Test Result
Untransformed	NA	C > T	NA	NA	23.0%	

Dunnett Multiple Comparison Test

Sample Code	vs	Sample Code	Test Stat	Critical	MSD	DF	P-Value	P-Type	Decision(α:5%)
LC-105		GZ-203	2.177	2.506	0.408	8	0.0981	CDF	Non-Significant Effect
		GZ-207	3.074	2.506	0.408	8	0.0132	CDF	Significant Effect
		GZ-209	1.838	2.506	0.408	8	0.1795	CDF	Non-Significant Effect
		GZ-213	3.722	2.506	0.408	8	0.0023	CDF	Significant Effect
		GZ-214	3.439	2.506	0.408	8	0.0051	CDF	Significant Effect
		GZ-217	7.585	2.506	0.408	8	<0.0001	CDF	Significant Effect
		GZ-223	1.92	2.506	0.408	8	0.1563	CDF	Non-Significant Effect
		GZ-224	5.107	2.506	0.408	8	<0.0001	CDF	Significant Effect
		GZ-225	4.62	2.506	0.408	8	0.0002	CDF	Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	5.268008	0.5853343	9	8.842	<0.0001	Significant Effect
Error	2.648111	0.06620277	40			
Total	7.916119		49			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance	12.84	21.67	0.1702	Equal Variances
Distribution	Shapiro-Wilk W Normality	0.982	0.9367	0.6389	Normal Distribution

Leptocheirus 28-d Survival, Growth and Reproduction Sediment Test — **New England Bioassay**

Analysis ID:	14-6661-5882	**Endpoint:**	Mean Dry Biomass-mg	**CETIS Version:**	CETISv1.8.8
Analyzed:	01 Jun-15 11:32	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes

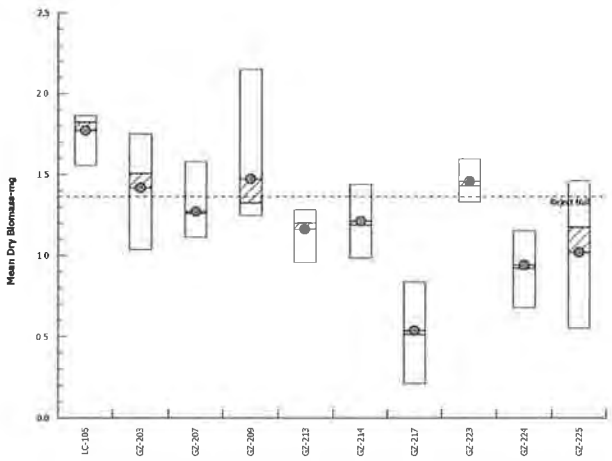
Mean Dry Biomass-mg Summary

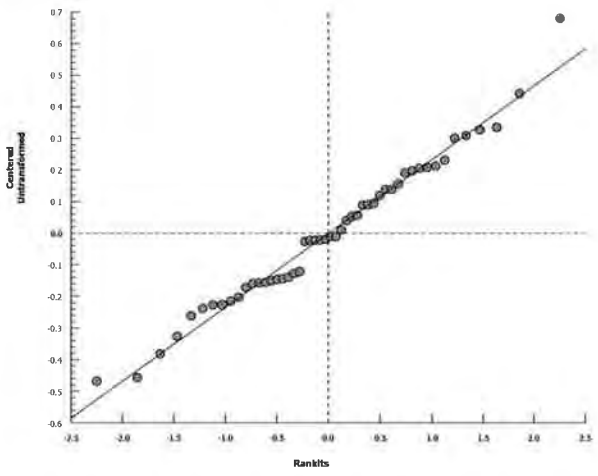
Sample Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
LC-105	5	1.772	1.612	1.932	1.826	1.557	1.867	0.0577	7.28%	0.0%
GZ-203	5	1.418	1.045	1.791	1.507	1.036	1.752	0.1343	21.18%	19.99%
GZ-207	5	1.272	1.037	1.507	1.261	1.115	1.582	0.08474	14.89%	28.22%
GZ-209	5	1.473	1.001	1.946	1.326	1.246	2.152	0.1702	25.84%	16.88%
GZ-213	5	1.167	1.014	1.319	1.206	0.9635	1.285	0.05491	10.52%	34.17%
GZ-214	5	1.213	0.9559	1.469	1.19	0.986	1.443	0.09247	17.05%	31.58%
GZ-217	5	0.538	0.2185	0.8575	0.515	0.211	0.839	0.1151	47.82%	69.64%
GZ-223	5	1.46	1.295	1.624	1.433	1.332	1.598	0.0592	9.07%	17.63%
GZ-224	5	0.9412	0.6801	1.202	0.922	0.6795	1.154	0.09403	22.34%	46.89%
GZ-225	5	1.021	0.4812	1.56	1.177	0.552	1.463	0.1942	42.56%	42.42%

Mean Dry Biomass-mg Detail

Sample Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
LC-105	1.826	1.751	1.557	1.867	1.862
GZ-203	1.752	1.507	1.18	1.036	1.615
GZ-207	1.261	1.115	1.582	1.121	1.282
GZ-209	2.152	1.326	1.329	1.314	1.246
GZ-213	1.285	1.223	0.9635	1.206	1.155
GZ-214	0.986	1.404	1.443	1.19	1.04
GZ-217	0.3815	0.211	0.515	0.839	0.7435
GZ-223	1.338	1.433	1.598	1.598	1.332
GZ-224	1.15	0.922	1.154	0.8015	0.6795
GZ-225	0.564	1.348	1.463	1.177	0.552

Graphics





Leptocheirus 28-d Survival, Growth and Reproduction Sediment Test — **New England Bioassay**

Analysis ID:	04-7700-9019	**Endpoint:**	Reproduction	**CETIS Version:**	CETISv1.8.8
Analyzed:	03 Jun-15 9:33	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes
Batch ID:	01-5466-7590	**Test Type:**	Leptocheirus (28-d)	**Analyst:**	
Start Date:	30 Apr-15	**Protocol:**	EPA/600/R-01/020 (2001)	**Diluent:**	Not Applicable
Ending Date:	28 May-15	**Species:**	Leptocheirus plumulosus	**Brine:**	Instant Ocean
Duration:	28d 0h	**Source:**	In-House Culture	**Age:**	

Sample Code	Sample ID	Sample Date	Receive Date	Sample Age	Client Name	Project
Art Control	04-5032-5421	25 Mar-15		36d 0h	GZA GeoEnvironmental	
Nat Control	11-3861-7478	24 Mar-15	21 Apr-15	37d 0h		
LC-102	14-0824-4221	26 Mar-15	21 Apr-15	35d 0h		
LC-105	19-8730-7911	26 Mar-15	21 Apr-15	35d 0h		
LC-112	09-5123-6710	27 Mar-15	21 Apr-15	34d 0h		

Sample Code	Material Type	Sample Source	Station Location	Latitude	Longitude
Art Control	Not Applicable	Wynn - Everett MA	Art Control		
Nat Control	Not Applicable	Wynn - Everett MA	Nat Control		
LC-102	Reference sediment	Wynn - Everett MA	LC-102		
LC-105	Reference sediment	Wynn - Everett MA	LC-105		
LC-112	Reference sediment	Wynn - Everett MA	LC-112		

Data Transform	Zeta	Alt Hyp	Trials	Seed	PMSD	Test Result
Untransformed	NA	C > T	NA	NA	90.1%	

Dunnett Multiple Comparison Test

Sample Code	vs	Sample Code	Test Stat	Critical	MSD	DF	P-Value	P-Type	Decision(α:5%)
LC-105		Art Control	-0.355	2.305	1.368	8	0.8947	CDF	Non-Significant Effect
		Nat Control	0.2816	2.305	1.368	8	0.6967	CDF	Non-Significant Effect
		LC-102	-1.427	2.305	1.368	8	0.9925	CDF	Non-Significant Effect
		LC-112	-0.9476	2.305	1.368	8	0.9725	CDF	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	3.419955	0.8549886	4	0.9706	0.4454	Non-Significant Effect
Error	17.61759	0.8808794	20			
Total	21.03754		24			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance	3.158	13.28	0.5317	Equal Variances
Distribution	Shapiro-Wilk W Normality	0.9286	0.8877	0.0807	Normal Distribution

Reproduction Summary

Sample Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
Art Control	5	1.73	0.7308	2.729	1.467	1	3	0.3598	46.51%	0.0%
Nat Control	5	1.352	0.5441	2.159	1.214	0.6429	2.056	0.2909	48.12%	21.85%
LC-102	5	2.366	1.085	3.647	2.05	1.278	3.818	0.4615	43.62%	-36.79%
LC-105	5	1.519	0.7234	2.315	1.5	0.8235	2.389	0.2865	42.18%	12.18%
LC-112	5	2.081	0.3887	3.774	1.588	0.9412	4.313	0.6097	65.5%	-20.34%

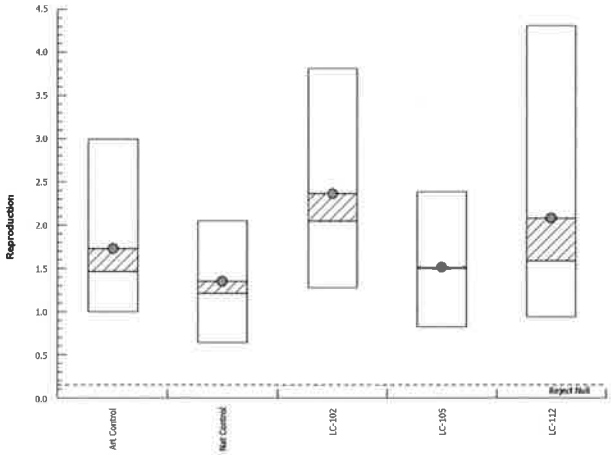
Reproduction Detail

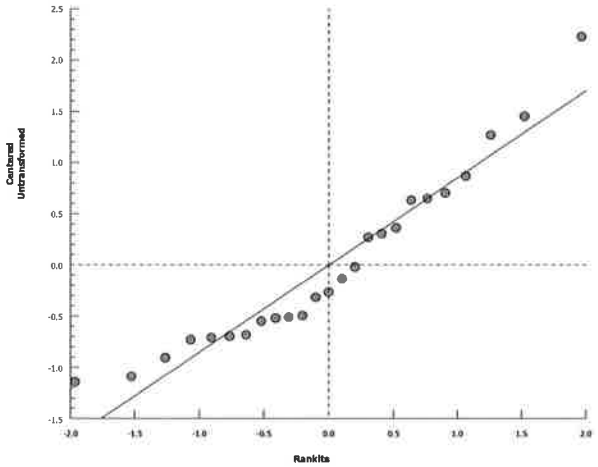
Sample Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
Art Control	1	2	1.182	3	1.467
Nat Control	0.8462	2.056	1.214	2	0.6429
LC-102	1.278	2.05	3.818	1.684	3
LC-105	1	2.389	1.5	0.8235	1.882
LC-112	4.313	2.389	1.176	0.9412	1.588

Leptocheirus 28-d Survival, Growth and Reproduction Sediment Test — **New England Bioassay**

Analysis ID:	04-7700-9019	**Endpoint:**	Reproduction	**CETIS Version:**	CETISv1.8.8
Analyzed:	03 Jun-15 9:33	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes

Graphics





Leptocheirus 28-d Survival, Growth and Reproduction Sediment Test — **New England Bioassay**

Analysis ID:	21-0457-4261	**Endpoint:**	Reproduction	**CETIS Version:**	CETISv1.8.8
Analyzed:	03 Jun-15 9:33	**Analysis:**	Nonparametric-Control vs Treatments	**Official Results:**	Yes
Batch ID:	01-5466-7590	**Test Type:**	Leptocheirus (28-d)	**Analyst:**	
Start Date:	30 Apr-15	**Protocol:**	EPA/600/R-01/020 (2001)	**Diluent:**	Not Applicable
Ending Date:	28 May-15	**Species:**	Leptocheirus plumulosus	**Brine:**	Instant Ocean
Duration:	28d 0h	**Source:**	In-House Culture	**Age:**	

Sample Code	Sample ID	Sample Date	Receive Date	Sample Age	Client Name	Project
LC-105	19-8730-7911	26 Mar-15	21 Apr-15	35d 0h	GZA GeoEnvironmental	
GZ-203	02-5461-8029	24 Mar-15	21 Apr-15	37d 0h		
GZ-207	03-2338-4998	25 Mar-15	21 Apr-15	36d 0h		
GZ-209	16-5046-1852	25 Mar-15	21 Apr-15	36d 0h		
GZ-213	17-1685-0966	25 Mar-15	21 Apr-15	36d 0h		
GZ-214	15-3950-8822	30 Mar-15	21 Apr-15	31d 0h		
GZ-217	04-7415-4404	24 Mar-15	21 Apr-15	37d 0h		
GZ-223	08-6096-2100	30 Mar-15	21 Apr-15	31d 0h		
GZ-224	13-6271-4856	30 Mar-15	21 Apr-15	31d 0h		
GZ-225	18-0414-8615	27 Mar-15	21 Apr-15	34d 0h		

Sample Code	Material Type	Sample Source	Station Location	Latitude	Longitude
LC-105	Reference sediment	Wynn - Everett MA	LC-105		
GZ-203	Site Sediment	Wynn - Everett MA	GZ-203		
GZ-207	Site Sediment	Wynn - Everett MA	GZ-207		
GZ-209	Site Sediment	Wynn - Everett MA	GZ-209		
GZ-213	Site Sediment	Wynn - Everett MA	GZ-213		
GZ-214	Site Sediment	Wynn - Everett MA	GZ-214		
GZ-217	Site Sediment	Wynn - Everett MA	GZ-217		
GZ-223	Site Sediment	Wynn - Everett MA	GZ-223		
GZ-224	Site Sediment	Wynn - Everett MA	GZ-224		
GZ-225	Site Sediment	Wynn - Everett MA	GZ-225		

Data Transform	Zeta	Alt Hyp	Trials	Seed	PMSD	Test Result
Untransformed	NA	C > T	NA	NA	115.0%	

Steel Many-One Rank Sum Test

Sample Code	vs	Sample Code	Test Stat	Critical	Ties	DF	P-Value	P-Type	Decision(α:5%)
LC-105		GZ-203	25	15	0	8	0.7379	Asymp	Non-Significant Effect
		GZ-207	24	15	0	8	0.6482	Asymp	Non-Significant Effect
		GZ-209	34	15	0	8	0.9986	Asymp	Non-Significant Effect
		GZ-213	16	15	0	8	0.0518	Asymp	Non-Significant Effect
		GZ-214	19.5	15	1	8	0.2239	Asymp	Non-Significant Effect
		GZ-217	15	15	0	8	0.0306	Asymp	Significant Effect
		GZ-223	28	15	0	8	0.9209	Asymp	Non-Significant Effect
		GZ-224	15	15	0	8	0.0306	Asymp	Significant Effect
		GZ-225	25	15	0	8	0.7379	Asymp	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	34.26741	3.80749	9	3.128	0.0061	Significant Effect
Error	48.68256	1.217064	40			
Total	82.94997		49			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance	43.57	21.67	<0.0001	Unequal Variances
Distribution	Shapiro-Wilk W Normality	0.8719	0.9367	<0.0001	Non-normal Distribution

Leptocheirus 28-d Survival, Growth and Reproduction Sediment Test — **New England Bioassay**

Analysis ID:	21-0457-4261	**Endpoint:**	Reproduction	**CETIS Version:**	CETISv1.8.8
Analyzed:	03 Jun-15 9:33	**Analysis:**	Nonparametric-Control vs Treatments	**Official Results:**	Yes

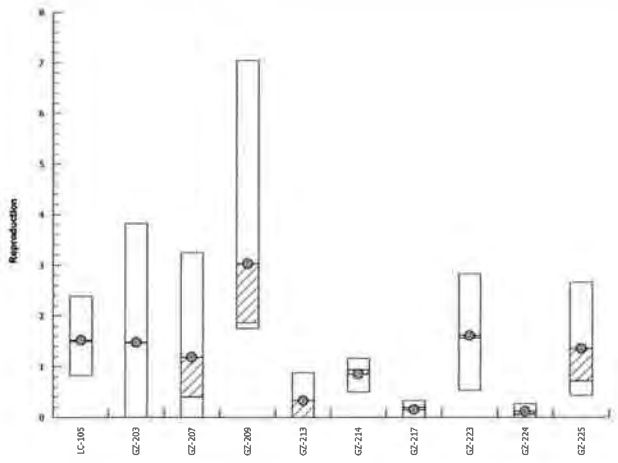
Reproduction Summary

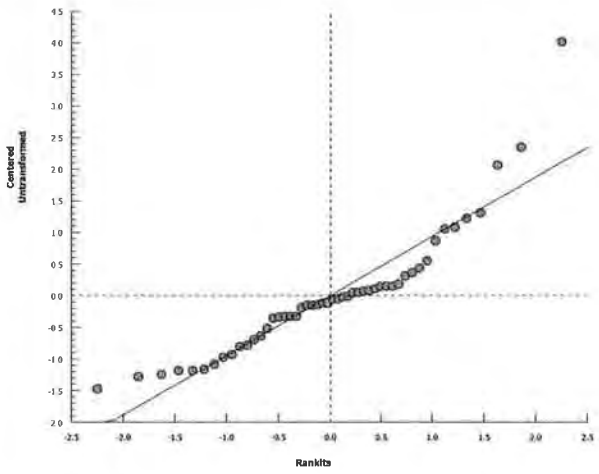
Sample Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
LC-105	5	1.519	0.7234	2.315	1.5	0.8235	2.389	0.2865	42.18%	0.0%
GZ-203	5	1.475	-0.3516	3.301	1.467	0	3.824	0.6578	99.74%	2.91%
GZ-207	5	1.183	-0.6645	3.031	0.4	0	3.25	0.6655	125.8%	22.1%
GZ-209	5	3.029	0.1956	5.863	1.867	1.75	7.053	1.021	75.34%	-99.44%
GZ-213	5	0.3294	-0.233	0.8919	0	0	0.8824	0.2026	137.5%	78.31%
GZ-214	5	0.8542	0.5219	1.186	0.9375	0.5	1.167	0.1197	31.33%	43.77%
GZ-217	5	0.1511	-0.03129	0.3335	0.2	0	0.3333	0.0657	97.21%	90.05%
GZ-223	5	1.613	0.5952	2.631	1.563	0.5294	2.833	0.3666	50.82%	-6.2%
GZ-224	5	0.1184	-0.05222	0.2891	0.05882	0	0.2667	0.06146	116.0%	92.2%
GZ-225	5	1.357	0.006024	2.708	0.7222	0.4286	2.667	0.4866	80.18%	10.67%

Reproduction Detail

Sample Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
LC-105	1	2.389	1.5	0.8235	1.882
GZ-203	3.824	0.5	0	1.583	1.467
GZ-207	2.267	3.25	0.4	0	0
GZ-209	7.053	1.75	1.867	2.692	1.786
GZ-213	0	0.7647	0	0.8824	0
GZ-214	1.167	0.5	0.9375	0.6667	1
GZ-217	0.2222	0	0.2	0	0.3333
GZ-223	1.667	1.563	1.474	2.833	0.5294
GZ-224	0.05882	0.2667	0	0.2667	0
GZ-225	0.5556	0.7222	2.667	2.412	0.4286

Graphics





SUMMARY OF TEST RESULTS
28-DAY L.PLUMULOSUS TOXICITY TESTS
WYNN-EVERETT (Test Dates 4/30/15 – 5/28/15)
LC-112 REFERENCE SITE COMPARISION

Sample	28-day Survival (%)		Biomass (mg)		Reproduction (number of young)	
	Mean	Sig[a]	Mean	Sig[a]	Mean[b]	Sig[a]
LC-112	85	--	1.42	--	2.081	--
Artificial Control	62	*	0.8779	*	1.73	NS
Natural Control	71	NS	1.035	*	1.352	NS
LC-102	83	NS	1.586	NS	2.366	NS
LC-105	87	NS	1.772	NS	1.519	NS
GZ-203	77	NS	1.418	NS	1.475	NS
GZ-207	69	NS	1.272	NS	1.183	NS
GZ-209	73	NS	1.473	NS	3.029	NS
GZ-213	82	NS	1.167	NS	0.3294	*
GZ-214	70	NS	1.213	NS	0.8542	NS
GZ-217	57	*	0.538	*	0.1511	*
GZ-223	85	NS	1.46	NS	1.613	NS
GZ-224	71	NS	0.9412	*	0.1184	*
GZ-225	73	NS	1.021	NS	1.357	NS

[a]NS: Not significantly reduced at P = 0.05; *: significant at P = 0.05.
when compared with LC-112 reference site

[b] Reproduction as the average of [young per rep/surviving adults per rep]

Leptocheirus 28-d Survival, Growth and Reproduction Sediment Test — **New England Bioassay**

Analysis ID:	15-9844-9384	**Endpoint:**	Survival Rate	**CETIS Version:**	CETISv1.8.8
Analyzed:	03 Jun-15 9:32	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes
Batch ID:	01-5466-7590	**Test Type:**	Leptocheirus (28-d)	**Analyst:**	
Start Date:	30 Apr-15	**Protocol:**	EPA/600/R-01/020 (2001)	**Diluent:**	Not Applicable
Ending Date:	28 May-15	**Species:**	Leptocheirus plumulosus	**Brine:**	Instant Ocean
Duration:	28d 0h	**Source:**	In-House Culture	**Age:**	

Sample Code	Sample ID	Sample Date	Receive Date	Sample Age	Client Name	Project
Art Control	04-5032-5421	25 Mar-15		36d 0h	GZA GeoEnvironmental	
Nat Control	11-3861-7478	24 Mar-15	21 Apr-15	37d 0h		
LC-102	14-0824-4221	26 Mar-15	21 Apr-15	35d 0h		
LC-105	19-8730-7911	26 Mar-15	21 Apr-15	35d 0h		
LC-112	09-5123-6710	27 Mar-15	21 Apr-15	34d 0h		

Sample Code	Material Type	Sample Source	Station Location	Latitude	Longitude
Art Control	Not Applicable	Wynn - Everett MA	Art Control		
Nat Control	Not Applicable	Wynn - Everett MA	Nat Control		
LC-102	Reference sediment	Wynn - Everett MA	LC-102		
LC-105	Reference sediment	Wynn - Everett MA	LC-105		
LC-112	Reference sediment	Wynn - Everett MA	LC-112		

Data Transform	Zeta	Alt Hyp	Trials	Seed	PMSD	Test Result
Angular (Corrected)	NA	C > T	NA	NA	20.3%	

Dunnett Multiple Comparison Test

Sample Code	vs	Sample Code	Test Stat	Critical	MSD	DF	P-Value	P-Type	Decision(α:5%)
LC-112		Art Control	2.941	2.305	0.209	8	0.0136	CDF	Significant Effect
		Nat Control	1.813	2.305	0.209	8	0.1216	CDF	Non-Significant Effect
		LC-102	-0.1332	2.305	0.209	8	0.8404	CDF	Non-Significant Effect
		LC-105	-0.3805	2.305	0.209	8	0.8999	CDF	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.348152	0.08703799	4	4.25	0.0119	Significant Effect
Error	0.4095784	0.02047892	20			
Total	0.7577303		24			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance	9.49	13.28	0.0500	Equal Variances
Distribution	Shapiro-Wilk W Normality	0.9527	0.8877	0.2887	Normal Distribution

Survival Rate Summary

Sample Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
Art Control	5	0.62	0.499	0.741	0.55	0.55	0.75	0.04359	15.72%	0.0%
Nat Control	5	0.71	0.5684	0.8516	0.7	0.6	0.9	0.05099	16.06%	-14.52%
LC-102	5	0.83	0.6036	1	0.9	0.55	1	0.08155	21.97%	-33.87%
LC-105	5	0.87	0.7992	0.9408	0.85	0.8	0.95	0.0255	6.55%	-40.32%
LC-112	5	0.85	0.8061	0.8939	0.85	0.8	0.9	0.01581	4.16%	-37.1%

Angular (Corrected) Transformed Summary

Sample Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
Art Control	5	0.909	0.7816	1.036	0.8355	0.8355	1.047	0.04586	11.28%	0.0%
Nat Control	5	1.011	0.8372	1.185	0.9912	0.8861	1.249	0.06262	13.85%	-11.23%
LC-102	5	1.187	0.8793	1.495	1.249	0.8355	1.459	0.1109	20.88%	-30.61%
LC-105	5	1.21	1.097	1.323	1.173	1.107	1.345	0.0407	7.52%	-33.07%
LC-112	5	1.175	1.113	1.237	1.173	1.107	1.249	0.02247	4.28%	-29.28%

Leptocheirus 28-d Survival, Growth and Reproduction Sediment Test — **New England Bioassay**

Analysis ID:	15-9844-9384	**Endpoint:**	Survival Rate	**CETIS Version:**	CETISv1.8.8
Analyzed:	03 Jun-15 9:32	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes

Survival Rate Detail

Sample Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
Art Control	0.55	0.55	0.55	0.7	0.75
Nat Control	0.65	0.9	0.7	0.6	0.7
LC-102	0.9	1	0.55	0.95	0.75
LC-105	0.95	0.9	0.8	0.85	0.85
LC-112	0.8	0.9	0.85	0.85	0.85

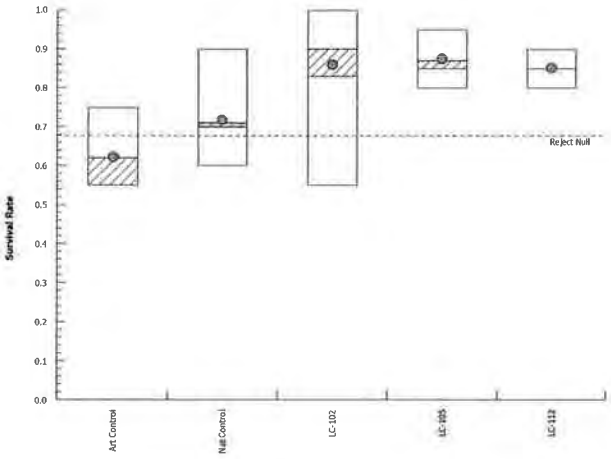
Angular (Corrected) Transformed Detail

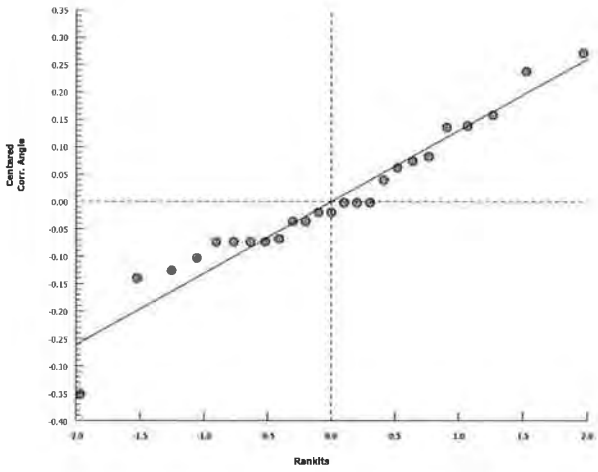
Sample Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
Art Control	0.8355	0.8355	0.8355	0.9912	1.047
Nat Control	0.9377	1.249	0.9912	0.8861	0.9912
LC-102	1.249	1.459	0.8355	1.345	1.047
LC-105	1.345	1.249	1.107	1.173	1.173
LC-112	1.107	1.249	1.173	1.173	1.173

Survival Rate Binomials

Sample Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
Art Control	11/20	11/20	11/20	14/20	15/20
Nat Control	13/20	18/20	14/20	12/20	14/20
LC-102	18/20	20/20	11/20	19/20	15/20
LC-105	19/20	18/20	16/20	17/20	17/20
LC-112	16/20	18/20	17/20	17/20	17/20

Graphics





Leptocheirus 28-d Survival, Growth and Reproduction Sediment Test — **New England Bioassay**

Analysis ID:	06-2079-0289	**Endpoint:**	Survival Rate	**CETIS Version:**	CETISv1.8.8
Analyzed:	03 Jun-15 9:32	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes
Batch ID:	01-5466-7590	**Test Type:**	Leptocheirus (28-d)	**Analyst:**	
Start Date:	30 Apr-15	**Protocol:**	EPA/600/R-01/020 (2001)	**Diluent:**	Not Applicable
Ending Date:	28 May-15	**Species:**	Leptocheirus plumulosus	**Brine:**	Instant Ocean
Duration:	28d 0h	**Source:**	In-House Culture	**Age:**	

Sample Code	Sample ID	Sample Date	Receive Date	Sample Age	Client Name	Project
LC-112	09-5123-6710	27 Mar-15	21 Apr-15	34d 0h	GZA GeoEnvironmental	
GZ-203	02-5461-8029	24 Mar-15	21 Apr-15	37d 0h		
GZ-207	03-2338-4998	25 Mar-15	21 Apr-15	36d 0h		
GZ-209	16-5046-1852	25 Mar-15	21 Apr-15	36d 0h		
GZ-213	17-1685-0966	25 Mar-15	21 Apr-15	36d 0h		
GZ-214	15-3950-8822	30 Mar-15	21 Apr-15	31d 0h		
GZ-217	04-7415-4404	24 Mar-15	21 Apr-15	37d 0h		
GZ-223	08-6096-2100	30 Mar-15	21 Apr-15	31d 0h		
GZ-224	13-6271-4856	30 Mar-15	21 Apr-15	31d 0h		
GZ-225	18-0414-8615	27 Mar-15	21 Apr-15	34d 0h		

Sample Code	Material Type	Sample Source	Station Location	Latitude	Longitude
LC-112	Reference sediment	Wynn - Everett MA	LC-112		
GZ-203	Site Sediment	Wynn - Everett MA	GZ-203		
GZ-207	Site Sediment	Wynn - Everett MA	GZ-207		
GZ-209	Site Sediment	Wynn - Everett MA	GZ-209		
GZ-213	Site Sediment	Wynn - Everett MA	GZ-213		
GZ-214	Site Sediment	Wynn - Everett MA	GZ-214		
GZ-217	Site Sediment	Wynn - Everett MA	GZ-217		
GZ-223	Site Sediment	Wynn - Everett MA	GZ-223		
GZ-224	Site Sediment	Wynn - Everett MA	GZ-224		
GZ-225	Site Sediment	Wynn - Everett MA	GZ-225		

Data Transform	Zeta	Alt Hyp	Trials	Seed	PMSD	Test Result
Angular (Corrected)	NA	C > T	NA	NA	22.5%	

Dunnett Multiple Comparison Test

Sample Code	vs	Sample Code	Test Stat	Critical	MSD	DF	P-Value	P-Type	Decision(α:5%)
LC-112		GZ-203	1.074	2.506	0.228	8	0.4882	CDF	Non-Significant Effect
		GZ-207	2.123	2.506	0.228	8	0.1086	CDF	Non-Significant Effect
		GZ-209	1.468	2.506	0.228	8	0.3107	CDF	Non-Significant Effect
		GZ-213	0.3998	2.506	0.228	8	0.7850	CDF	Non-Significant Effect
		GZ-214	1.961	2.506	0.228	8	0.1456	CDF	Non-Significant Effect
		GZ-217	3.417	2.506	0.228	8	0.0054	CDF	Significant Effect
		GZ-223	-0.1017	2.506	0.228	8	0.9203	CDF	Non-Significant Effect
		GZ-224	1.835	2.506	0.228	8	0.1805	CDF	Non-Significant Effect
		GZ-225	1.494	2.506	0.228	8	0.3002	CDF	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.4314632	0.04794035	9	2.315	0.0334	Significant Effect
Error	0.8282096	0.02070524	40			
Total	1.259673		49			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance	12.77	21.67	0.1732	Equal Variances
Distribution	Shapiro-Wilk W Normality	0.9893	0.9367	0.9296	Normal Distribution

Leptocheirus 28-d Survival, Growth and Reproduction Sediment Test — **New England Bioassay**

Analysis ID: 06-2079-0289 **Endpoint:** Survival Rate **CETIS Version:** CETISv1.8.8
Analyzed: 03 Jun-15 9:32 **Analysis:** Parametric-Control vs Treatments **Official Results:** Yes

Survival Rate Summary

Sample Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
LC-112	5	0.85	0.8061	0.8939	0.85	0.8	0.9	0.01581	4.16%	0.0%
GZ-203	5	0.77	0.6413	0.8987	0.8	0.6	0.85	0.04637	13.47%	9.41%
GZ-207	5	0.69	0.6091	0.7709	0.7	0.6	0.75	0.02915	9.45%	18.82%
GZ-209	5	0.73	0.5623	0.8977	0.7	0.6	0.95	0.06042	18.51%	14.12%
GZ-213	5	0.82	0.7258	0.9142	0.85	0.7	0.9	0.03391	9.25%	3.53%
GZ-214	5	0.7	0.5544	0.8456	0.75	0.55	0.8	0.05244	16.75%	17.65%
GZ-217	5	0.57	0.2903	0.8497	0.5	0.3	0.85	0.1007	39.52%	32.94%
GZ-223	5	0.85	0.7518	0.9482	0.85	0.75	0.95	0.03536	9.3%	0.0%
GZ-224	5	0.71	0.5684	0.8516	0.75	0.55	0.85	0.05099	16.06%	16.47%
GZ-225	5	0.73	0.5123	0.9477	0.75	0.45	0.9	0.07842	24.02%	14.12%

Angular (Corrected) Transformed Summary

Sample Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
LC-112	5	1.175	1.113	1.237	1.173	1.107	1.249	0.02247	4.28%	0.0%
GZ-203	5	1.077	0.9295	1.225	1.107	0.8861	1.173	0.05325	11.05%	8.32%
GZ-207	5	0.9819	0.8946	1.069	0.9912	0.8861	1.047	0.03142	7.16%	16.44%
GZ-209	5	1.041	0.8178	1.265	0.9912	0.8861	1.345	0.08055	17.29%	11.37%
GZ-213	5	1.139	1.019	1.259	1.173	0.9912	1.249	0.04319	8.48%	3.1%
GZ-214	5	0.9966	0.8381	1.155	1.047	0.8355	1.107	0.05709	12.81%	15.19%
GZ-217	5	0.8641	0.5646	1.164	0.7854	0.5796	1.173	0.1079	27.91%	26.46%
GZ-223	5	1.184	1.039	1.33	1.173	1.047	1.345	0.05243	9.9%	-0.79%
GZ-224	5	1.008	0.8498	1.166	1.047	0.8355	1.173	0.05702	12.65%	14.21%
GZ-225	5	1.039	0.7934	1.285	1.047	0.7353	1.249	0.08851	19.05%	11.57%

Survival Rate Detail

Sample Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
LC-112	0.8	0.9	0.85	0.85	0.85
GZ-203	0.85	0.8	0.85	0.6	0.75
GZ-207	0.75	0.6	0.75	0.7	0.65
GZ-209	0.95	0.6	0.75	0.65	0.7
GZ-213	0.9	0.85	0.7	0.85	0.8
GZ-214	0.6	0.8	0.8	0.75	0.55
GZ-217	0.45	0.3	0.5	0.85	0.75
GZ-223	0.75	0.8	0.95	0.9	0.85
GZ-224	0.85	0.75	0.65	0.75	0.55
GZ-225	0.45	0.9	0.75	0.85	0.7

Angular (Corrected) Transformed Detail

Sample Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
LC-112	1.107	1.249	1.173	1.173	1.173
GZ-203	1.173	1.107	1.173	0.8861	1.047
GZ-207	1.047	0.8861	1.047	0.9912	0.9377
GZ-209	1.345	0.8861	1.047	0.9377	0.9912
GZ-213	1.249	1.173	0.9912	1.173	1.107
GZ-214	0.8861	1.107	1.107	1.047	0.8355
GZ-217	0.7353	0.5796	0.7854	1.173	1.047
GZ-223	1.047	1.107	1.345	1.249	1.173
GZ-224	1.173	1.047	0.9377	1.047	0.8355
GZ-225	0.7353	1.249	1.047	1.173	0.9912

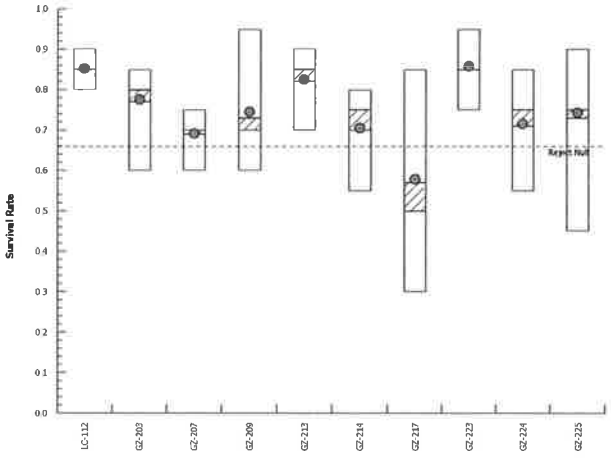
Leptocheirus 28-d Survival, Growth and Reproduction Sediment Test **New England Bioassay**

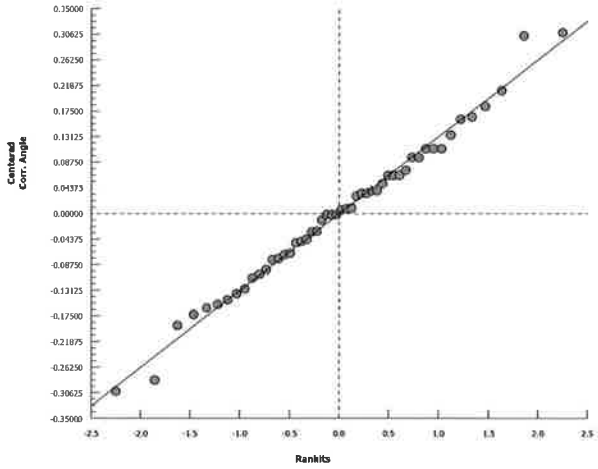
Analysis ID:	06-2079-0289	**Endpoint:**	Survival Rate	**CETIS Version:**	CETISv1.8.8
Analyzed:	03 Jun-15 9:32	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes

Survival Rate Binomials

Sample Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
LC-112	16/20	18/20	17/20	17/20	17/20
GZ-203	17/20	16/20	17/20	12/20	15/20
GZ-207	15/20	12/20	15/20	14/20	13/20
GZ-209	19/20	12/20	15/20	13/20	14/20
GZ-213	18/20	17/20	14/20	17/20	16/20
GZ-214	12/20	16/20	16/20	15/20	11/20
GZ-217	9/20	6/20	10/20	17/20	15/20
GZ-223	15/20	16/20	19/20	18/20	17/20
GZ-224	17/20	15/20	13/20	15/20	11/20
GZ-225	9/20	18/20	15/20	17/20	14/20

Graphics





Leptocheirus 28-d Survival, Growth and Reproduction Sediment Test — **New England Bioassay**

Analysis ID:	03-3836-1358	**Endpoint:**	Mean Dry Biomass-mg	**CETIS Version:**	CETISv1.8.8
Analyzed:	01 Jun-15 11:31	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes
Batch ID:	01-5466-7590	**Test Type:**	Leptocheirus (28-d)	**Analyst:**	
Start Date:	30 Apr-15	**Protocol:**	EPA/600/R-01/020 (2001)	**Diluent:**	Not Applicable
Ending Date:	28 May-15	**Species:**	Leptocheirus plumulosus	**Brine:**	Instant Ocean
Duration:	28d 0h	**Source:**	In-House Culture	**Age:**	

Sample Code	Sample ID	Sample Date	Receive Date	Sample Age	Client Name	Project
Art Control	04-5032-5421	25 Mar-15		36d 0h	GZA GeoEnvironmental	
Nat Control	11-3861-7478	24 Mar-15	21 Apr-15	37d 0h		
LC-102	14-0824-4221	26 Mar-15	21 Apr-15	35d 0h		
LC-105	19-8730-7911	26 Mar-15	21 Apr-15	35d 0h		
LC-112	09-5123-6710	27 Mar-15	21 Apr-15	34d 0h		

Sample Code	Material Type	Sample Source	Station Location	Latitude	Longitude
Art Control	Not Applicable	Wynn - Everett MA	Art Control		
Nat Control	Not Applicable	Wynn - Everett MA	Nat Control		
LC-102	Reference sediment	Wynn - Everett MA	LC-102		
LC-105	Reference sediment	Wynn - Everett MA	LC-105		
LC-112	Reference sediment	Wynn - Everett MA	LC-112		

Data Transform	Zeta	Alt Hyp	Trials	Seed	PMSD	Test Result
Untransformed	NA	C > T	NA	NA	23.5%	

Dunnett Multiple Comparison Test

Sample Code	vs	Sample Code	Test Stat	Critical	MSD	DF	P-Value	P-Type	Decision(α:5%)
LC-112		Art Control	3.749	2.305	0.333	8	0.0022	CDF	Significant Effect
		Nat Control	2.663	2.305	0.333	8	0.0244	CDF	Significant Effect
		LC-102	-1.144	2.305	0.333	8	0.9835	CDF	Non-Significant Effect
		LC-105	-2.433	2.305	0.333	8	0.9996	CDF	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	2.801481	0.7003703	4	13.39	<0.0001	Significant Effect
Error	1.046485	0.05232427	20			
Total	3.847967		24			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance	4.781	13.28	0.3106	Equal Variances
Distribution	Shapiro-Wilk W Normality	0.9342	0.8877	0.1087	Normal Distribution

Mean Dry Biomass-mg Summary

Sample Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
Art Control	5	0.8779	0.6644	1.091	0.824	0.7045	1.077	0.07691	19.59%	0.0%
Nat Control	5	1.035	0.8239	1.246	0.973	0.892	1.292	0.07604	16.43%	-17.9%
LC-102	5	1.586	1.139	2.032	1.782	1.036	1.861	0.1608	22.67%	-80.64%
LC-105	5	1.772	1.612	1.932	1.826	1.557	1.867	0.0577	7.28%	-101.9%
LC-112	5	1.42	1.123	1.717	1.514	1.046	1.617	0.107	16.85%	-61.78%

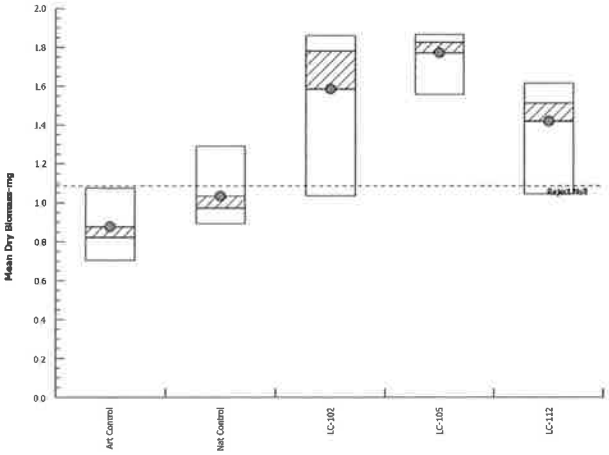
Mean Dry Biomass-mg Detail

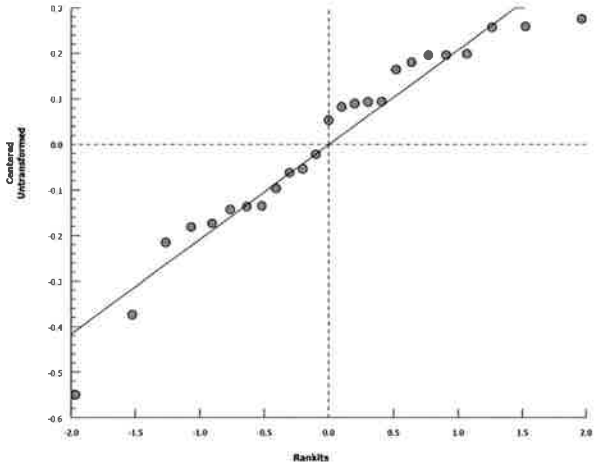
Sample Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
Art Control	0.7415	0.7045	0.824	1.042	1.077
Nat Control	0.892	1.292	0.973	0.9	1.118
LC-102	1.861	1.782	1.036	1.845	1.405
LC-105	1.826	1.751	1.557	1.867	1.862
LC-112	1.514	1.601	1.046	1.323	1.617

Leptocheirus 28-d Survival, Growth and Reproduction Sediment Test — **New England Bioassay**

Analysis ID:	03-3836-1358	**Endpoint:**	Mean Dry Biomass-mg	**CETIS Version:**	CETISv1.8.8
Analyzed:	01 Jun-15 11:31	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes

Graphics





Leptocheirus 28-d Survival, Growth and Reproduction Sediment Test — **New England Bioassay**

Analysis ID:	12-0633-2368	**Endpoint:**	Mean Dry Biomass-mg	**CETIS Version:**	CETISv1.8.8
Analyzed:	01 Jun-15 11:32	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes
Batch ID:	01-5466-7590	**Test Type:**	Leptocheirus (28-d)	**Analyst:**	
Start Date:	30 Apr-15	**Protocol:**	EPA/600/R-01/020 (2001)	**Diluent:**	Not Applicable
Ending Date:	28 May-15	**Species:**	Leptocheirus plumulosus	**Brine:**	Instant Ocean
Duration:	28d 0h	**Source:**	In-House Culture	**Age:**	

Sample Code	Sample ID	Sample Date	Receive Date	Sample Age	Client Name	Project
LC-112	09-5123-6710	27 Mar-15	21 Apr-15	34d 0h	GZA GeoEnvironmental	
GZ-203	02-5461-8029	24 Mar-15	21 Apr-15	37d 0h		
GZ-207	03-2338-4998	25 Mar-15	21 Apr-15	36d 0h		
GZ-209	16-5046-1852	25 Mar-15	21 Apr-15	36d 0h		
GZ-213	17-1685-0966	25 Mar-15	21 Apr-15	36d 0h		
GZ-214	15-3950-8822	30 Mar-15	21 Apr-15	31d 0h		
GZ-217	04-7415-4404	24 Mar-15	21 Apr-15	37d 0h		
GZ-223	08-6096-2100	30 Mar-15	21 Apr-15	31d 0h		
GZ-224	13-6271-4856	30 Mar-15	21 Apr-15	31d 0h		
GZ-225	18-0414-8615	27 Mar-15	21 Apr-15	34d 0h		

Sample Code	Material Type	Sample Source	Station Location	Latitude	Longitude
LC-112	Reference sediment	Wynn - Everett MA	LC-112		
GZ-203	Site Sediment	Wynn - Everett MA	GZ-203		
GZ-207	Site Sediment	Wynn - Everett MA	GZ-207		
GZ-209	Site Sediment	Wynn - Everett MA	GZ-209		
GZ-213	Site Sediment	Wynn - Everett MA	GZ-213		
GZ-214	Site Sediment	Wynn - Everett MA	GZ-214		
GZ-217	Site Sediment	Wynn - Everett MA	GZ-217		
GZ-223	Site Sediment	Wynn - Everett MA	GZ-223		
GZ-224	Site Sediment	Wynn - Everett MA	GZ-224		
GZ-225	Site Sediment	Wynn - Everett MA	GZ-225		

Data Transform	Zeta	Alt Hyp	Trials	Seed	PMSD	Test Result
Untransformed	NA	C > T	NA	NA	29.6%	

Dunnett Multiple Comparison Test

Sample Code	vs	Sample Code	Test Stat	Critical	MSD	DF	P-Value	P-Type	Decision(α:5%)
LC-112		GZ-203	0.01312	2.506	0.420	8	0.8971	CDF	Non-Significant Effect
		GZ-207	0.884	2.506	0.420	8	0.5789	CDF	Non-Significant Effect
		GZ-209	-0.3155	2.506	0.420	8	0.9525	CDF	Non-Significant Effect
		GZ-213	1.513	2.506	0.420	8	0.2926	CDF	Non-Significant Effect
		GZ-214	1.239	2.506	0.420	8	0.4109	CDF	Non-Significant Effect
		GZ-217	5.263	2.506	0.420	8	<0.0001	CDF	Significant Effect
		GZ-223	-0.2356	2.506	0.420	8	0.9420	CDF	Non-Significant Effect
		GZ-224	2.858	2.506	0.420	8	0.0224	CDF	Significant Effect
		GZ-225	2.385	2.506	0.420	8	0.0647	CDF	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	3.907705	0.4341894	9	6.179	<0.0001	Significant Effect
Error	2.810657	0.07026643	40			
Total	6.718362		49			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance	10.49	21.67	0.3123	Equal Variances
Distribution	Shapiro-Wilk W Normality	0.9812	0.9367	0.6049	Normal Distribution

Leptocheirus 28-d Survival, Growth and Reproduction Sediment Test — **New England Bioassay**

Analysis ID:	12-0633-2368	**Endpoint:**	Mean Dry Biomass-mg	**CETIS Version:**	CETISv1.8.8
Analyzed:	01 Jun-15 11:32	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes

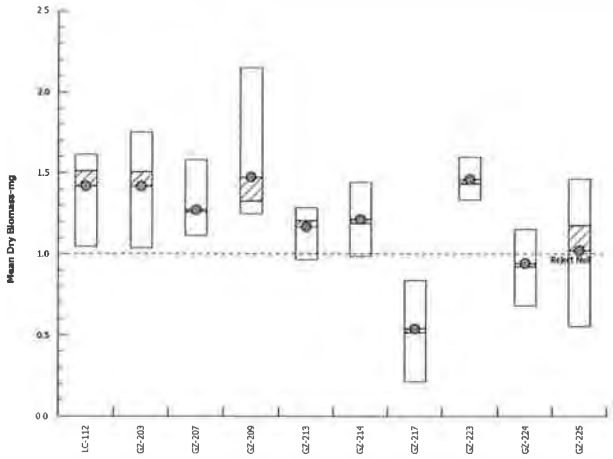
Mean Dry Biomass-mg Summary

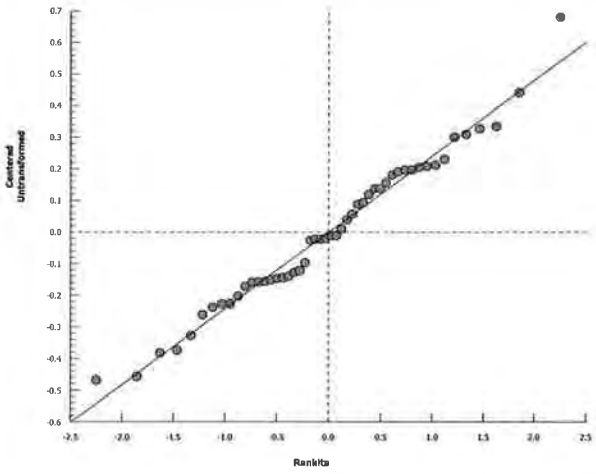
Sample Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
LC-112	5	1.42	1.123	1.717	1.514	1.046	1.617	0.107	16.85%	0.0%
GZ-203	5	1.418	1.045	1.791	1.507	1.036	1.752	0.1343	21.18%	0.15%
GZ-207	5	1.272	1.037	1.507	1.261	1.115	1.582	0.08474	14.89%	10.43%
GZ-209	5	1.473	1.001	1.946	1.326	1.246	2.152	0.1702	25.84%	-3.73%
GZ-213	5	1.167	1.014	1.319	1.206	0.9635	1.285	0.05491	10.52%	17.86%
GZ-214	5	1.213	0.9559	1.469	1.19	0.986	1.443	0.09247	17.05%	14.62%
GZ-217	5	0.538	0.2185	0.8575	0.515	0.211	0.839	0.1151	47.82%	62.12%
GZ-223	5	1.46	1.295	1.624	1.433	1.332	1.598	0.0592	9.07%	-2.78%
GZ-224	5	0.9412	0.6801	1.202	0.922	0.6795	1.154	0.09403	22.34%	33.73%
GZ-225	5	1.021	0.4812	1.56	1.177	0.552	1.463	0.1942	42.56%	28.15%

Mean Dry Biomass-mg Detail

Sample Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
LC-112	1.514	1.601	1.046	1.323	1.617
GZ-203	1.752	1.507	1.18	1.036	1.615
GZ-207	1.261	1.115	1.582	1.121	1.282
GZ-209	2.152	1.326	1.329	1.314	1.246
GZ-213	1.285	1.223	0.9635	1.206	1.155
GZ-214	0.986	1.404	1.443	1.19	1.04
GZ-217	0.3815	0.211	0.515	0.839	0.7435
GZ-223	1.338	1.433	1.598	1.598	1.332
GZ-224	1.15	0.922	1.154	0.8015	0.6795
GZ-225	0.564	1.348	1.463	1.177	0.552

Graphics





Leptocheirus 28-d Survival, Growth and Reproduction Sediment Test — **New England Bioassay**

Analysis ID:	11-2515-9797	**Endpoint:**	Reproduction	**CETIS Version:**	CETISv1.8.8
Analyzed:	03 Jun-15 9:33	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes
Batch ID:	01-5466-7590	**Test Type:**	Leptocheirus (28-d)	**Analyst:**	
Start Date:	30 Apr-15	**Protocol:**	EPA/600/R-01/020 (2001)	**Diluent:**	Not Applicable
Ending Date:	28 May-15	**Species:**	Leptocheirus plumulosus	**Brine:**	Instant Ocean
Duration:	28d 0h	**Source:**	In-House Culture	**Age:**	

Sample Code	Sample ID	Sample Date	Receive Date	Sample Age	Client Name	Project
Art Control	04-5032-5421	25 Mar-15		36d 0h	GZA GeoEnvironmental	
Nat Control	11-3861-7478	24 Mar-15	21 Apr-15	37d 0h		
LC-102	14-0824-4221	26 Mar-15	21 Apr-15	35d 0h		
LC-105	19-8730-7911	26 Mar-15	21 Apr-15	35d 0h		
LC-112	09-5123-6710	27 Mar-15	21 Apr-15	34d 0h		

Sample Code	Material Type	Sample Source	Station Location	Latitude	Longitude
Art Control	Not Applicable	Wynn - Everett MA	Art Control		
Nat Control	Not Applicable	Wynn - Everett MA	Nat Control		
LC-102	Reference sediment	Wynn - Everett MA	LC-102		
LC-105	Reference sediment	Wynn - Everett MA	LC-105		
LC-112	Reference sediment	Wynn - Everett MA	LC-112		

Data Transform	Zeta	Alt Hyp	Trials	Seed	PMSD	Test Result
Untransformed	NA	C > T	NA	NA	65.7%	

Dunnett Multiple Comparison Test

Sample Code	vs	Sample Code	Test Stat	Critical	MSD	DF	P-Value	P-Type	Decision(α:5%)
LC-112		Art Control	0.5926	2.305	1.368	8	0.5622	CDF	Non-Significant Effect
		Nat Control	1.229	2.305	1.368	8	0.2893	CDF	Non-Significant Effect
		LC-102	-0.4794	2.305	1.368	8	0.9184	CDF	Non-Significant Effect
		LC-105	0.9476	2.305	1.368	8	0.4032	CDF	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	3.419955	0.8549886	4	0.9706	0.4454	Non-Significant Effect
Error	17.61759	0.8808794	20			
Total	21.03754		24			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance	3.158	13.28	0.5317	Equal Variances
Distribution	Shapiro-Wilk W Normality	0.9286	0.8877	0.0807	Normal Distribution

Reproduction Summary

Sample Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
Art Control	5	1.73	0.7308	2.729	1.467	1	3	0.3598	46.51%	0.0%
Nat Control	5	1.352	0.5441	2.159	1.214	0.6429	2.056	0.2909	48.12%	21.85%
LC-102	5	2.366	1.085	3.647	2.05	1.278	3.818	0.4615	43.62%	-36.79%
LC-105	5	1.519	0.7234	2.315	1.5	0.8235	2.389	0.2865	42.18%	12.18%
LC-112	5	2.081	0.3887	3.774	1.588	0.9412	4.313	0.6097	65.5%	-20.34%

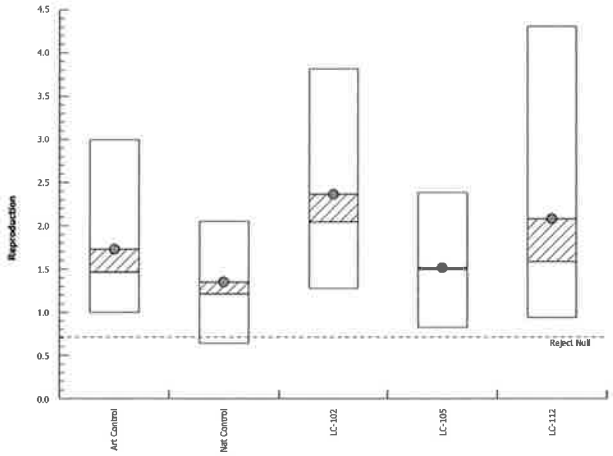
Reproduction Detail

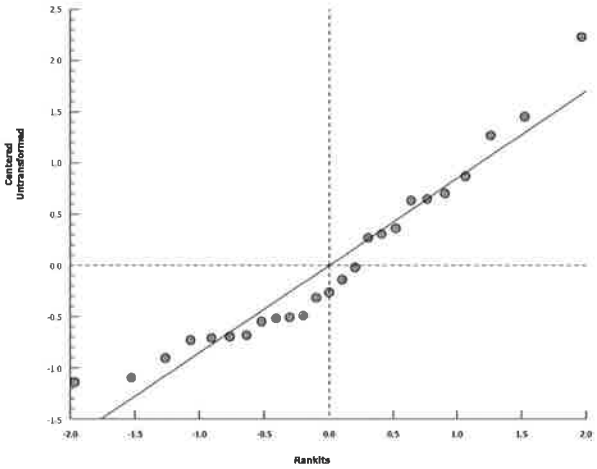
Sample Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
Art Control	1	2	1.182	3	1.467
Nat Control	0.8462	2.056	1.214	2	0.6429
LC-102	1.278	2.05	3.818	1.684	3
LC-105	1	2.389	1.5	0.8235	1.882
LC-112	4.313	2.389	1.176	0.9412	1.588

Leptocheirus 28-d Survival, Growth and Reproduction Sediment Test — **New England Bioassay**

Analysis ID:	11-2515-9797	**Endpoint:**	Reproduction	**CETIS Version:**	CETISv1.8.8
Analyzed:	03 Jun-15 9:33	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes

Graphics





Leptocheirus 28-d Survival, Growth and Reproduction Sediment Test — **New England Bioassay**

Analysis ID:	16-5606-8140	**Endpoint:**	Reproduction	**CETIS Version:**	CETISv1.8.8
Analyzed:	03 Jun-15 9:33	**Analysis:**	Nonparametric-Control vs Treatments	**Official Results:**	Yes
Batch ID:	01-5466-7590	**Test Type:**	Leptocheirus (28-d)	**Analyst:**	
Start Date:	30 Apr-15	**Protocol:**	EPA/600/R-01/020 (2001)	**Diluent:**	Not Applicable
Ending Date:	28 May-15	**Species:**	Leptocheirus plumulosus	**Brine:**	Instant Ocean
Duration:	28d 0h	**Source:**	In-House Culture	**Age:**	

Sample Code	Sample ID	Sample Date	Receive Date	Sample Age	Client Name	Project
LC-112	09-5123-6710	27 Mar-15	21 Apr-15	34d 0h	GZA GeoEnvironmental	
GZ-203	02-5461-8029	24 Mar-15	21 Apr-15	37d 0h		
GZ-207	03-2338-4998	25 Mar-15	21 Apr-15	36d 0h		
GZ-209	16-5046-1852	25 Mar-15	21 Apr-15	36d 0h		
GZ-213	17-1685-0966	25 Mar-15	21 Apr-15	36d 0h		
GZ-214	15-3950-8822	30 Mar-15	21 Apr-15	31d 0h		
GZ-217	04-7415-4404	24 Mar-15	21 Apr-15	37d 0h		
GZ-223	08-6096-2100	30 Mar-15	21 Apr-15	31d 0h		
GZ-224	13-6271-4856	30 Mar-15	21 Apr-15	31d 0h		
GZ-225	18-0414-8615	27 Mar-15	21 Apr-15	34d 0h		

Sample Code	Material Type	Sample Source	Station Location	Latitude	Longitude
LC-112	Reference sediment	Wynn - Everett MA	LC-112		
GZ-203	Site Sediment	Wynn - Everett MA	GZ-203		
GZ-207	Site Sediment	Wynn - Everett MA	GZ-207		
GZ-209	Site Sediment	Wynn - Everett MA	GZ-209		
GZ-213	Site Sediment	Wynn - Everett MA	GZ-213		
GZ-214	Site Sediment	Wynn - Everett MA	GZ-214		
GZ-217	Site Sediment	Wynn - Everett MA	GZ-217		
GZ-223	Site Sediment	Wynn - Everett MA	GZ-223		
GZ-224	Site Sediment	Wynn - Everett MA	GZ-224		
GZ-225	Site Sediment	Wynn - Everett MA	GZ-225		

Data Transform	Zeta	Alt Hyp	Trials	Seed	PMSD	Test Result
Untransformed	NA	C > T	NA	NA	88.9%	

Steel Many-One Rank Sum Test

Sample Code	vs	Sample Code	Test Stat	Critical	Ties	DF	P-Value	P-Type	Decision(α:5%)
LC-112		GZ-203	23	15	0	8	0.5498	Asymp	Non-Significant Effect
		GZ-207	22	15	0	8	0.4487	Asymp	Non-Significant Effect
		GZ-209	33	15	0	8	0.9967	Asymp	Non-Significant Effect
		GZ-213	15	15	0	8	0.0306	Asymp	Significant Effect
		GZ-214	17	15	0	8	0.0836	Asymp	Non-Significant Effect
		GZ-217	15	15	0	8	0.0306	Asymp	Significant Effect
		GZ-223	26	15	0	8	0.8143	Asymp	Non-Significant Effect
		GZ-224	15	15	0	8	0.0306	Asymp	Significant Effect
		GZ-225	23	15	0	8	0.5498	Asymp	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	37.69368	4.188186	9	3.075	0.0068	Significant Effect
Error	54.475	1.361875	40			
Total	92.16867		49			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance	42.16	21.67	<0.0001	Unequal Variances
Distribution	Shapiro-Wilk W Normality	0.8717	0.9367	<0.0001	Non-normal Distribution

Leptocheirus 28-d Survival, Growth and Reproduction Sediment Test — **New England Bioassay**

Analysis ID:	16-5606-8140	**Endpoint:**	Reproduction	**CETIS Version:**	CETISv1.8.8
Analyzed:	03 Jun-15 9:33	**Analysis:**	Nonparametric-Control vs Treatments	**Official Results:**	Yes

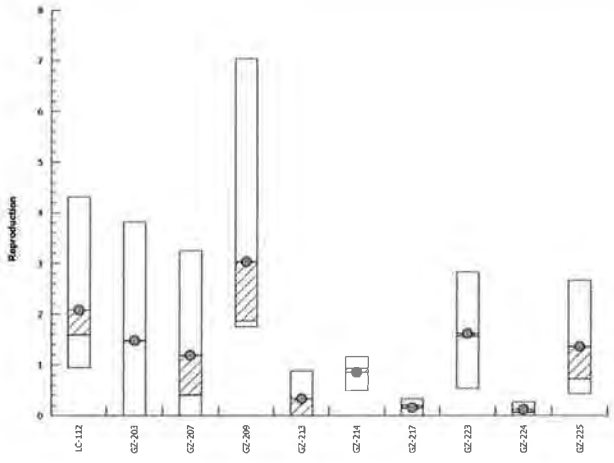
Reproduction Summary

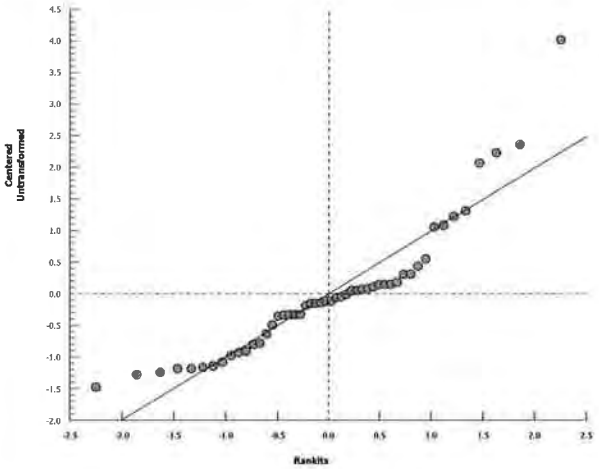
Sample Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
LC-112	5	2.081	0.3887	3.774	1.588	0.9412	4.313	0.6097	65.5%	0.0%
GZ-203	5	1.475	-0.3516	3.301	1.467	0	3.824	0.6578	99.74%	29.15%
GZ-207	5	1.183	-0.6645	3.031	0.4	0	3.25	0.6655	125.8%	43.15%
GZ-209	5	3.029	0.1956	5.863	1.867	1.75	7.053	1.021	75.34%	-45.55%
GZ-213	5	0.3294	-0.233	0.8919	0	0	0.8824	0.2026	137.5%	84.17%
GZ-214	5	0.8542	0.5219	1.186	0.9375	0.5	1.167	0.1197	31.33%	58.96%
GZ-217	5	0.1511	-0.03129	0.3335	0.2	0	0.3333	0.0657	97.21%	92.74%
GZ-223	5	1.613	0.5952	2.631	1.563	0.5294	2.833	0.3666	50.82%	22.5%
GZ-224	5	0.1184	-0.05222	0.2891	0.05882	0	0.2667	0.06146	116.0%	94.31%
GZ-225	5	1.357	0.006024	2.708	0.7222	0.4286	2.667	0.4866	80.18%	34.81%

Reproduction Detail

Sample Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
LC-112	4.313	2.389	1.176	0.9412	1.588
GZ-203	3.824	0.5	0	1.583	1.467
GZ-207	2.267	3.25	0.4	0	0
GZ-209	7.053	1.75	1.867	2.692	1.786
GZ-213	0	0.7647	0	0.8824	0
GZ-214	1.167	0.5	0.9375	0.6667	1
GZ-217	0.2222	0	0.2	0	0.3333
GZ-223	1.667	1.563	1.474	2.833	0.5294
GZ-224	0.05882	0.2667	0	0.2667	0
GZ-225	0.5556	0.7222	2.667	2.412	0.4286

Graphics





APPENDIX C

CHEMICAL ANLAYSIS

REFERENCE TOXICANT DATA

CHAIN OF CUSTODY DOCUMENTS

PHOENIX
Environmental Laboratories, Inc.

Monday, May 11, 2015

Attn: Ms. Kim Wills
New England Bioassay
a Division of GZA GeoEnvironmental
77 Batson Drive
Manchester, CT 06040

Project ID: GZA-EVERETT SEDIMENT
Sample ID#s: BJ12838 - BJ12851

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext. 200.

Sincerely yours,

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #MA-CT-007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
VT Lab Registration #VT11301

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

May 11, 2015

FOR: Attn: Ms. Kim Wills
New England Bioassay
a Division of GZA GeoEnvironmental
77 Batson Drive
Manchester, CT 06040

Sample Information		Custody Information		Date	Time
Matrix:	WATER	Collected by:		04/30/15	9:30
Location Code:	NEB	Received by:	SW	05/06/15	16:04
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBJ12838
Phoenix ID: BJ12838

Project ID: GZA-EVERETT SEDIMENT
Client ID: C35-1871-O

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Ammonia as Nitrogen	0.22	0.05	mg/L	1	05/07/15	WHM	E350.1

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.
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Phyllis Shiller, Laboratory Director
May 11, 2015
Reviewed and Released by: Deb Lawrie, Project Manager

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Analysis Report

May 11, 2015

FOR: Attn: Ms. Kim Wills
New England Bioassay
a Division of GZA GeoEnvironmental
77 Batson Drive
Manchester, CT 06040

Sample Information		Custody Information		Date	Time
Matrix:	WATER	Collected by:		04/30/15	9:30
Location Code:	NEB	Received by:	SW	05/06/15	16:04
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBJ12838
Phoenix ID: BJ12839

Project ID: GZA-EVERETT SEDIMENT
Client ID: C35-1872-O

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Ammonia as Nitrogen	1.85	0.05	mg/L	1	05/07/15	WHM	E350.1

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

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Analysis Report

May 11, 2015

FOR: Attn: Ms. Kim Wills
New England Bioassay
a Division of GZA GeoEnvironmental
77 Batson Drive
Manchester, CT 06040

Sample Information		Custody Information		Date	Time
Matrix:	WATER	Collected by:		04/30/15	9:35
Location Code:	NEB	Received by:	SW	05/06/15	16:04
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBJ12838
Phoenix ID: BJ12840

Project ID: GZA-EVERETT SEDIMENT
Client ID: C35-1873-O

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Ammonia as Nitrogen	0.95	0.05	mg/L	1	05/07/15	WHM	E350.1

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

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Analysis Report

May 11, 2015

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New England Bioassay
a Division of GZA GeoEnvironmental
77 Batson Drive
Manchester, CT 06040

Sample Information		Custody Information		Date	Time
Matrix:	WATER	Collected by:		04/30/15	9:35
Location Code:	NEB	Received by:	SW	05/06/15	16:04
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBJ12838
Phoenix ID: BJ12841

Project ID: GZA-EVERETT SEDIMENT
Client ID: C35-1874-O

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Ammonia as Nitrogen	1.10	0.05	mg/L	1	05/07/15	WHM	E350.1

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Analysis Report

May 11, 2015

FOR: Attn: Ms. Kim Wills
New England Bioassay
a Division of GZA GeoEnvironmental
77 Batson Drive
Manchester, CT 06040

Sample Information		Custody Information		Date	Time
Matrix:	WATER	Collected by:		04/30/15	9:35
Location Code:	NEB	Received by:	SW	05/06/15	16:04
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBJ12838
Phoenix ID: BJ12842

Project ID: GZA-EVERETT SEDIMENT
Client ID: C35-1875-O

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Ammonia as Nitrogen	0.47	0.05	mg/L	1	05/07/15	WHM	E350.1

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

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Analysis Report

May 11, 2015

FOR: Attn: Ms. Kim Wills
New England Bioassay
a Division of GZA GeoEnvironmental
77 Batson Drive
Manchester, CT 06040

Sample Information		Custody Information		Date	Time
Matrix:	WATER	Collected by:		04/30/15	9:40
Location Code:	NEB	Received by:	SW	05/06/15	16:04
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBJ12838
Phoenix ID: BJ12843

Project ID: GZA-EVERETT SEDIMENT
Client ID: C35-1876-O

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Ammonia as Nitrogen	0.82	0.05	mg/L	1	05/07/15	WHM	E350.1

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Analysis Report

May 11, 2015

FOR: Attn: Ms. Kim Wills
New England Bioassay
a Division of GZA GeoEnvironmental
77 Batson Drive
Manchester, CT 06040

Sample Information		Custody Information		Date	Time
Matrix:	WATER	Collected by:		04/30/15	9:40
Location Code:	NEB	Received by:	SW	05/06/15	16:04
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBJ12838
Phoenix ID: BJ12844

Project ID: GZA-EVERETT SEDIMENT
Client ID: C35-1877-O

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Ammonia as Nitrogen	1.15	0.05	mg/L	1	05/07/15	WHM	E350.1

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

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Analysis Report

May 11, 2015

FOR: Attn: Ms. Kim Wills
New England Bioassay
a Division of GZA GeoEnvironmental
77 Batson Drive
Manchester, CT 06040

Sample Information		Custody Information		Date	Time
Matrix:	WATER	Collected by:		04/30/15	9:40
Location Code:	NEB	Received by:	SW	05/06/15	16:04
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBJ12838
Phoenix ID: BJ12845

Project ID: GZA-EVERETT SEDIMENT
Client ID: C35-1878-O

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Ammonia as Nitrogen	1.06	0.05	mg/L	1	05/07/15	WHM	E350.1

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

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Analysis Report

May 11, 2015

FOR: Attn: Ms. Kim Wills
New England Bioassay
a Division of GZA GeoEnvironmental
77 Batson Drive
Manchester, CT 06040

Sample Information		Custody Information		Date	Time
Matrix:	WATER	Collected by:		04/30/15	9:40
Location Code:	NEB	Received by:	SW	05/06/15	16:04
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBJ12838
Phoenix ID: BJ12846

Project ID: GZA-EVERETT SEDIMENT
Client ID: C35-1879-O

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Ammonia as Nitrogen	0.84	0.05	mg/L	1	05/08/15	WHM	E350.1

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

May 11, 2015

FOR: Attn: Ms. Kim Wills
New England Bioassay
a Division of GZA GeoEnvironmental
77 Batson Drive
Manchester, CT 06040

Sample Information		Custody Information		Date	Time
Matrix:	WATER	Collected by:		04/30/15	9:45
Location Code:	NEB	Received by:	SW	05/06/15	16:04
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBJ12838
Phoenix ID: BJ12847

Project ID: GZA-EVERETT SEDIMENT
Client ID: C35-1880-O

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Ammonia as Nitrogen	1.87	0.05	mg/L	1	05/08/15	WHM	E350.1

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller, Laboratory Director
May 11, 2015
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587 East Middle Turnpike, P O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

May 11, 2015

FOR: Attn: Ms. Kim Wills
New England Bioassay
a Division of GZA GeoEnvironmental
77 Batson Drive
Manchester, CT 06040

Sample Information		Custody Information		Date	Time
Matrix:	WATER	Collected by:		04/30/15	9:45
Location Code:	NEB	Received by:	SW	05/06/15	16:04
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBJ12838
Phoenix ID: BJ12848

Project ID: GZA-EVERETT SEDIMENT
Client ID: C35-1881-O

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Ammonia as Nitrogen	0.76	0.05	mg/L	1	05/08/15	WHM	E350.1

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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May 11, 2015
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Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

May 11, 2015

FOR: Attn: Ms. Kim Wills
New England Bioassay
a Division of GZA GeoEnvironmental
77 Batson Drive
Manchester, CT 06040

Sample Information		Custody Information		Date	Time
Matrix:	WATER	Collected by:		04/30/15	9:45
Location Code:	NEB	Received by:	SW	05/06/15	16:04
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBJ12838
Phoenix ID: BJ12849

Project ID: GZA-EVERETT SEDIMENT
Client ID: C35-1882-O

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Ammonia as Nitrogen	0.75	0.05	mg/L	1	05/08/15	WHM	E350.1

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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May 11, 2015
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Analysis Report

May 11, 2015

FOR: Attn: Ms. Kim Wills
New England Bioassay
a Division of GZA GeoEnvironmental
77 Batson Drive
Manchester, CT 06040

Sample Information		Custody Information		Date	Time
Matrix:	WATER	Collected by:		04/30/15	9:50
Location Code:	NEB	Received by:	SW	05/06/15	16:04
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBJ12838
Phoenix ID: BJ12850

Project ID: GZA-EVERETT SEDIMENT
Client ID: C35-1883-O

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Ammonia as Nitrogen	1.33	0.05	mg/L	1	05/08/15	WHM	E350.1

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

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Analysis Report

May 11, 2015

FOR: Attn: Ms. Kim Wills
New England Bioassay
a Division of GZA GeoEnvironmental
77 Batson Drive
Manchester, CT 06040

Sample Information		Custody Information		Date	Time
Matrix:	WATER	Collected by:		04/30/15	9:50
Location Code:	NEB	Received by:	SW	05/06/15	16:04
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBJ12838
Phoenix ID: BJ12851

Project ID: GZA-EVERETT SEDIMENT
Client ID: C35-1884-O

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Ammonia as Nitrogen	0.81	0.05	mg/L	1	05/08/15	WHM	E350.1

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller, Laboratory Director
May 11, 2015
Reviewed and Released by: Deb Lawrie, Project Manager

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Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

May 11, 2015

QA/QC Data

SDG I.D.: GBJ12838

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 307065 (mg/L), QC Sample No: BJ12188 (BJ12838, BJ12839, BJ12840, BJ12841, BJ12842, BJ12843, BJ12844, BJ12845)													
Ammonia as Nitrogen	BRL	0.05	14.5	14.9	2.70	104			101			85 - 115	20
QA/QC Batch 307123 (mg/L), QC Sample No: BJ13022 (BJ12846, BJ12847, BJ12848, BJ12849, BJ12850, BJ12851)													
Ammonia as Nitrogen	BRL	0.05	26.4	26.4	0	102			98.0			85 - 115	20

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller, Laboratory Director
May 11, 2015

Criteria: None

State: CT

Sample Criteria Exceedences Report

GBJ12838 - NEB

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units

*** No Data to Display ***

Phoenix Laboratories does not assume responsibility for the data contained in this report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

Cooler: Yes ☑ No ☐
Coolant: IPK ☑ ICE ☐ No ☐
Temp 0° C Pg of

PHOENIX
Environmental Laboratories, Inc.

CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: info@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Contact Options:
☐ Fax:
☐ Phone:
☐ Email: KimberlyeWills@GZA.com

Customer: New England Bioassay
Address: 77 Batson Dr.
Manchester, CT 06042

Project: GZA-Everett Sediment
Report to: Kim Wills
Invoice to: NEB

Project P.O:

This section MUST be completed with Bottle Quantities.

Client Sample - Information - Identification

Sampler's Signature: Anne Hamm Date: 4-29-15

Matrix Code:
DW=Drinking Water **GW**=Ground Water **SW**=Surface Water **WW**=Waste Water
RW=Raw Water **SE**=Sediment **SL**=Sludge **S**=Soil **SD**=Solid **W**=Wipe
OIL=Oil **B**=Bulk **L**=Liquid

Analysis Request: Ammonia

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	Ammonia	Soil VOA Vials [ ] methanol [ ] H2O	GL Soil container ( ) oz	GL Soil container ( ) oz	40 ml VOA Vial [ ] As is [ ] HCl	GL Amber 1000ml [ ] As is [ ] H2SO4	PL As is [ ] 250ml [ ] 500ml [ ] 1000ml	PL H2SO4 [1] 250ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria Bottle
12838	C35-1871-0	Water	4-30-15	0930	✓						1				
12839	C35-1872-0	"	"	0930	✓						1				
12840	C35-1873-0			0935	✓						1				
12841	C35-1874-0			0935	✓						1				
12842	C35-1875-0			0935	✓						1				
12843	C35-1876-0			0940	✓						1				
12844	C35-1877-0			0940	✓						1				
12845	C35-1878-0			0940	✓						1				
12846	C35-1879-0			0940	✓						1				
12847	C35-1880-0			0945	✓						1				
12848	C35-1881-0			0945	✓						1				
12849	C35-1882-0	↓	↓	0945	✓						1				

Relinquished by:	Accepted by:	Date:	Time:
Tracy Coe		5-6-15	15:45
		5-6-15	10:04

Comments, Special Requirements or Regulations:

Turnaround:
☐ 1 Day*
☐ 2 Days*
☐ 3 Days*
☑ Standard
☐ Other
* SURCHARGE APPLIES

RI
☐ Direct Exposure (Residential)
☐ GW
☐ Other

CT
☐ RCP Cert
☐ GW Protection
☐ SW Protection
☐ GA Mobility
☐ GB Mobility
☐ Residential DEC
☐ I/C DEC
☐ Other

MA
☐ MCP Certification
☐ GW-1
☐ GW-2
☐ GW-3
☐ S-1
☐ S-2
☐ S-3
☐ MWRA eSMART
☐ Other

State where samples were collected: _____

Data Format
☐ Excel
☐ PDF
☐ GIS/Key
☐ EQuIS
☐ Other

Data Package
☐ Tier II Checklist
☐ Full Data Package*
☐ Phoenix Std Report
☐ Other

* SURCHARGE APPLIES

Cooler: Yes ☑ No ☐
Coolant: IPK ☑ ICE ☐ No ☐
Temp 0° C Pg of

PHOENIX
Environmental Laboratories, Inc.

CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: info@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Contact Options:
☐ Fax:
☐ Phone:
☐ Email: Kimberly.Wills@GZA.com

Customer: New England Biogassay
Address: 77 Batson Dr.
Manchester, CT 06042

Project: GZA - Everett Sediment
Report to: Kim Wills
Invoice to: NEB

Project P.O:

This section MUST be completed with Bottle Quantities.

Client Sample - Information - Identification

Sampler's Signature: Anna Hennin Date: 4-29-15

Matrix Code:
DW=Drinking Water **GW**=Ground Water **SW**=Surface Water **WW**=Waste Water
RW=Raw Water **SE**=Sediment **SL**=Sludge **S**=Soil **SD**=Solid **W**=Wipe
OIL=Oil **B**=Bulk **L**=Liquid

Analysis Request

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	Ammonia	Soil VOA Vials [ ] methanol [ ] H2O	GL Soil container ( ) oz	GL Soil container ( ) oz	40 ml VOA Vial [ ] As is [ ] HCl	GL Amber 1000ml [ ] As is [ ] H2SO4	PL As is [ ] 250ml [ ] 500ml [ ] 1000ml	PL H2SO4 [ ] 250ml [ ] 500ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria Bottle
12850	C35-1883-0	Water	4-30-15	0950	✓						1				
12851	C35-1884-0	Water	4-30-15	0950	✓						1				

Relinquished by:	Accepted by:	Date:	Time:
		5-6-15	1545
		5-6-15	16:04

Comments, Special Requirements or Regulations:

Turnaround:
☐ 1 Day*
☐ 2 Days*
☐ 3 Days*
☑ Standard
☐ Other
* SURCHARGE APPLIES

RI
☐ Direct Exposure (Residential)
☐ GW
☐ Other

CT
☐ RCP Cert
☐ GW Protection
☐ SW Protection
☐ GA Mobility
☐ GB Mobility
☐ Residential DEC
☐ I/C DEC
☐ Other

MA
☐ MCP Certification
☐ GW-1
☐ GW-2
☐ GW-3
☐ S-1
☐ S-2
☐ S-3
☐ MWRA eSMART
☐ Other

State where samples were collected: _____

Data Format
☐ Excel
☐ PDF
☐ GIS/Key
☐ EQuIS
☐ Other

Data Package
☐ Tier II Checklist
☐ Full Data Package*
☐ Phoenix Std Report
☐ Other

* SURCHARGE APPLIES

PHOENIX
Environmental Laboratories, Inc.

Wednesday, June 03, 2015

Attn: Ms. Kim Wills
New England Bioassay
a Division of GZA GeoEnvironmental
77 Batson Drive
Manchester, CT 06040

Project ID: GZA WYNN SEDIMENT
Sample ID#s: BJ23413 - BJ23426

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext. 200.

Sincerely yours,

Phyllis Shiller

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #MA-CT-007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
VT Lab Registration #VT11301

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

June 03, 2015

FOR: Attn: Ms. Kim Wills
New England Bioassay
a Division of GZA GeoEnvironmental
77 Batson Drive
Manchester, CT 06040

Sample Information		Custody Information		Date	Time
Matrix:	WATER	Collected by:	AH	05/28/15	13:00
Location Code:	NEB	Received by:	LK	05/29/15	15:36
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBJ23413
Phoenix ID: BJ23413

Project ID: GZA WYNN SEDIMENT
Client ID: C35-1871-8

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Ammonia as Nitrogen	0.23	0.05	mg/L	1	06/02/15	WHM	E350.1

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.
This report must not be reproduced except in full as defined by the attached chain of custody.

Phyllis Shiller, Laboratory Director
June 03, 2015
Reviewed and Released by: Deb Lawrie, Project Manager

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

June 03, 2015

FOR: Attn: Ms. Kim Wills
New England Bioassay
a Division of GZA GeoEnvironmental
77 Batson Drive
Manchester, CT 06040

Sample Information		Custody Information		Date	Time
Matrix:	WATER	Collected by:	AH	05/28/15	13:20
Location Code:	NEB	Received by:	LK	05/29/15	15:36
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBJ23413
Phoenix ID: BJ23414

Project ID: GZA WYNN SEDIMENT
Client ID: C35-1872-8

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Ammonia as Nitrogen	0.20	0.05	mg/L	1	06/02/15	WHM	E350.1

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller, Laboratory Director
June 03, 2015
Reviewed and Released by: Deb Lawrie, Project Manager

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Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

June 03, 2015

FOR: Attn: Ms. Kim Wills
New England Bioassay
a Division of GZA GeoEnvironmental
77 Batson Drive
Manchester, CT 06040

Sample Information		Custody Information		Date	Time
Matrix:	WATER	Collected by:	AH	05/28/15	13:20
Location Code:	NEB	Received by:	LK	05/29/15	15:36
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBJ23413
Phoenix ID: BJ23415

Project ID: GZA WYNN SEDIMENT
Client ID: C35-1873-8

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Ammonia as Nitrogen	0.24	0.05	mg/L	1	06/02/15	WHM	E350.1

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller, Laboratory Director
June 03, 2015
Reviewed and Released by: Deb Lawrie, Project Manager

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Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

June 03, 2015

FOR: Attn: Ms. Kim Wills
New England Bioassay
a Division of GZA GeoEnvironmental
77 Batson Drive
Manchester, CT 06040

Sample Information		Custody Information		Date	Time
Matrix:	WATER	Collected by:	AH	05/28/15	13:25
Location Code:	NEB	Received by:	LK	05/29/15	15:36
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBJ23413
Phoenix ID: BJ23416

Project ID: GZA WYNN SEDIMENT
Client ID: C35-1874-8

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Ammonia as Nitrogen	0.27	0.05	mg/L	1	06/02/15	WHM	E350.1

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller, Laboratory Director
June 03, 2015
Reviewed and Released by: Deb Lawrie, Project Manager

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Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

June 03, 2015

FOR: Attn: Ms. Kim Wills
New England Bioassay
a Division of GZA GeoEnvironmental
77 Batson Drive
Manchester, CT 06040

Sample Information		Custody Information		Date	Time
Matrix:	WATER	Collected by:	AH	05/28/15	13:30
Location Code:	NEB	Received by:	LK	05/29/15	15:36
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBJ23413
Phoenix ID: BJ23417

Project ID: GZA WYNN SEDIMENT
Client ID: C35-1875-8

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Ammonia as Nitrogen	0.28	0.05	mg/L	1	06/02/15	WHM	E350.1

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

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June 03, 2015
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587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

June 03, 2015

FOR: Attn: Ms. Kim Wills
New England Bioassay
a Division of GZA GeoEnvironmental
77 Batson Drive
Manchester, CT 06040

Sample Information		Custody Information		Date	Time
Matrix:	WATER	Collected by:	AH	05/28/15	13:30
Location Code:	NEB	Received by:	LK	05/29/15	15:36
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBJ23413
Phoenix ID: BJ23418

Project ID: GZA WYNN SEDIMENT
Client ID: C35-1876-8

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Ammonia as Nitrogen	0.20	0.05	mg/L	1	06/02/15	WHM	E350.1

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Analysis Report

June 03, 2015

FOR: Attn: Ms. Kim Wills
New England Bioassay
a Division of GZA GeoEnvironmental
77 Batson Drive
Manchester, CT 06040

Sample Information		Custody Information		Date	Time
Matrix:	WATER	Collected by:	AH	05/28/15	13:30
Location Code:	NEB	Received by:	LK	05/29/15	15:36
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBJ23413
Phoenix ID: BJ23419

Project ID: GZA WYNN SEDIMENT
Client ID: C35-1877-8

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Ammonia as Nitrogen	0.20	0.05	mg/L	1	06/02/15	WHM	E350.1

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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June 03, 2015
Reviewed and Released by: Deb Lawrie, Project Manager

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Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

June 03, 2015

FOR: Attn: Ms. Kim Wills
New England Bioassay
a Division of GZA GeoEnvironmental
77 Batson Drive
Manchester, CT 06040

Sample Information		Custody Information		Date	Time
Matrix:	WATER	Collected by:	AH	05/28/15	13:30
Location Code:	NEB	Received by:	LK	05/29/15	15:36
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBJ23413
Phoenix ID: BJ23420

Project ID: GZA WYNN SEDIMENT
Client ID: C35-1878-8

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Ammonia as Nitrogen	0.18	0.05	mg/L	1	06/02/15	WHM	E350.1

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller, Laboratory Director
June 03, 2015
Reviewed and Released by: Deb Lawrie, Project Manager

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Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

June 03, 2015

FOR: Attn: Ms. Kim Wills
New England Bioassay
a Division of GZA GeoEnvironmental
77 Batson Drive
Manchester, CT 06040

Sample Information		Custody Information		Date	Time
Matrix:	WATER	Collected by:	AH	05/28/15	13:30
Location Code:	NEB	Received by:	LK	05/29/15	15:36
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBJ23413
Phoenix ID: BJ23421

Project ID: GZA WYNN SEDIMENT
Client ID: C35-1879-8

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Ammonia as Nitrogen	0.11	0.05	mg/L	1	06/02/15	WHM	E350.1

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller, Laboratory Director
June 03, 2015
Reviewed and Released by: Deb Lawrie, Project Manager

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

June 03, 2015

FOR: Attn: Ms. Kim Wills
New England Bioassay
a Division of GZA GeoEnvironmental
77 Batson Drive
Manchester, CT 06040

Sample Information		Custody Information		Date	Time
Matrix:	WATER	Collected by:	AH	05/28/15	13:35
Location Code:	NEB	Received by:	LK	05/29/15	15:36
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBJ23413
Phoenix ID: BJ23422

Project ID: GZA WYNN SEDIMENT
Client ID: C35-1880-8

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Ammonia as Nitrogen	0.11	0.05	mg/L	1	06/02/15	WHM	E350.1

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller, Laboratory Director
June 03, 2015
Reviewed and Released by: Deb Lawrie, Project Manager

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

June 03, 2015

FOR: Attn: Ms. Kim Wills
New England Bioassay
a Division of GZA GeoEnvironmental
77 Batson Drive
Manchester, CT 06040

Sample Information		Custody Information		Date	Time
Matrix:	WATER	Collected by:	AH	05/28/15	13:35
Location Code:	NEB	Received by:	LK	05/29/15	15:36
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBJ23413
Phoenix ID: BJ23423

Project ID: GZA WYNN SEDIMENT
Client ID: C35-1881-8

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Ammonia as Nitrogen	0.20	0.05	mg/L	1	06/02/15	WHM	E350.1

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller, Laboratory Director
June 03, 2015
Reviewed and Released by: Deb Lawrie, Project Manager

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

June 03, 2015

FOR: Attn: Ms. Kim Wills
New England Bioassay
a Division of GZA GeoEnvironmental
77 Batson Drive
Manchester, CT 06040

Sample Information		Custody Information		Date	Time
Matrix:	WATER	Collected by:	AH	05/28/15	13:35
Location Code:	NEB	Received by:	LK	05/29/15	15:36
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBJ23413
Phoenix ID: BJ23424

Project ID: GZA WYNN SEDIMENT
Client ID: C35-1882-8

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Ammonia as Nitrogen	0.11	0.05	mg/L	1	06/02/15	WHM	E350.1

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller, Laboratory Director
June 03, 2015
Reviewed and Released by: Deb Lawrie, Project Manager

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

June 03, 2015

FOR: Attn: Ms. Kim Wills
New England Bioassay
a Division of GZA GeoEnvironmental
77 Batson Drive
Manchester, CT 06040

Sample Information		Custody Information		Date	Time
Matrix:	WATER	Collected by:	AH	05/28/15	13:35
Location Code:	NEB	Received by:	LK	05/29/15	15:36
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBJ23413
Phoenix ID: BJ23425

Project ID: GZA WYNN SEDIMENT
Client ID: C35-1883-8

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Ammonia as Nitrogen	0.09	0.05	mg/L	1	06/02/15	WHM	E350.1

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller, Laboratory Director
June 03, 2015
Reviewed and Released by: Deb Lawrie, Project Manager

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

June 03, 2015

FOR: Attn: Ms. Kim Wills
New England Bioassay
a Division of GZA GeoEnvironmental
77 Batson Drive
Manchester, CT 06040

Sample Information		Custody Information		Date	Time
Matrix:	WATER	Collected by:	AH	05/28/15	13:40
Location Code:	NEB	Received by:	LK	05/29/15	15:36
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBJ23413
Phoenix ID: BJ23426

Project ID: GZA WYNN SEDIMENT
Client ID: C35-1884-8

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Ammonia as Nitrogen	0.10	0.05	mg/L	1	06/02/15	WHM	E350.1

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller, Laboratory Director
June 03, 2015
Reviewed and Released by: Deb Lawrie, Project Manager

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

June 03, 2015

QA/QC Data

SDG I.D.: GBJ23413

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 309394 (mg/L), QC Sample No: BJ23619 (BJ23413, BJ23414, BJ23415, BJ23416, BJ23417, BJ23418, BJ23419, BJ23420, BJ23421, BJ23422, BJ23423, BJ23424, BJ23425, BJ23426)													
Ammonia as Nitrogen	BRL	0.05	17	14.3	17.3	111			99.0			85 - 115	20

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller, Laboratory Director
June 03, 2015

Sample Criteria Exceedences Report

GBJ23413 - NEB

Criteria: None

State: CT

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units

*** No Data to Display ***

Phoenix Laboratories does not assume responsibility for the data contained in this report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

Cooler: Yes ☐ No ☐
Coolant: IPK ☑ ICE ☐ No ☐
Temp 5 °C Pg of

PHOENIX
Environmental Laboratories, Inc.

CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: info@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Contact Options:
☐ Fax:
☐ Phone:
☑ Email: Kimberly.wills@GZA.com

Customer: New England Bioassay
Address: 77 Batson Dr.
Manchester, CT 06042

Project: GZA/Wynn Sediment
Report to: Kim Wills
Invoice to: NEB

Project P.O:

This section MUST be completed with Bottle Quantities.

Client Sample - Information - Identification

Sampler's Signature: Annette Nie Date: 5-28-15

Matrix Code:
DW=Drinking Water **GW**=Ground Water **SW**=Surface Water **WW**=Waste Water
RW=Raw Water **SE**=Sediment **SL**=Sludge **S**=Soil **SD**=Solid **W**=Wipe
OIL=Oil **B**=Bulk **L**=Liquid

Analysis Request

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	Ammonia	Soil VOA Vials [ ] methanol [ ] H2O	GL Soil container ( ) oz	GL Soil container ( ) oz	40 ml VOA Vial [ ] As is [ ] HCl	GL Amber 1000ml [ ] As is [ ] H2SO4	PL As is [ ] 250ml [ ] 500ml [ ] 1000ml	PL H2SO4 [✓] 250ml [ ] 500ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria Bottle
23413	C35 - 1871-8	Water	5-28-15	1300	✓						1				
23414	C35 - 1872-8	↓	↓	1320	✓						1				
23415	C35 - 1873-8			1320	✓						1				
23416	C35 - 1874-8			1325	✓						1				
23417	C35 - 1875-8			1330	✓						1				
23418	C35 - 1876-8			1330	✓						1				
23419	C35 - 1877-8			1330	✓						1				
23420	C35 - 1878-8			1330	✓						1				
23421	C35 - 1879-8			1330	✓						1				
23422	C35 - 1880-8			1335	✓						1				
23423	C35 - 1881-8			1335	✓						1				
23424	C35 - 1882-8	↓	↓	1335	✓						1				

Relinquished by:	Accepted by:	Date:	Time:
		5-29-15	1505
	Rebecca Peltier	5-29-15	1536

Comments, Special Requirements or Regulations:

Turnaround:
☐ 1 Day*
☐ 2 Days*
☐ 3 Days*
☑ Standard
☐ Other
* SURCHARGE APPLIES

RI
☐ Direct Exposure (Residential)
☐ GW
☐ Other

CT
☐ RCP Cert
☐ GW Protection
☐ SW Protection
☐ GA Mobility
☐ GB Mobility
☐ Residential DEC
☐ I/C DEC
☐ Other

MA
☐ MCP Certification
☐ GW-1
☐ GW-2
☐ GW-3
☐ S-1
☐ S-2
☐ S-3
☐ MWRA eSMART
☐ Other

State where samples were collected: _____

Data Format
☐ Excel
☐ PDF
☐ GIS/Key
☐ EQuIS
☐ Other

Data Package
☐ Tier II Checklist
☐ Full Data Package*
☐ Phoenix Std Report
☐ Other
* SURCHARGE APPLIES

Cooler: Yes [✓] No [ ]
Coolant: IPK [✓] ICE [ ] No [ ]
Temp 5 °C Pg of

CHAIN OF CUSTODY RECORD

PHOENIX Environmental Laboratories, Inc.

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: info@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Contact Options:
[ ] Fax:
[ ] Phone:
[✓] Email: Kimberly.Wills@GZA.com

Customer: New England Bioassay
Address: 77 Batson Dr.
Manchester, CT 06042

Project: GZA / Wynn Sediment
Report to: Kim Wills
Invoice to: NEB

Project P.O:

This section MUST be completed with Bottle Quantities.

Client Sample - Information - Identification

Sampler's Signature: [signature] Date: 5-28-15

Matrix Code:
DW=Drinking Water **GW**=Ground Water **SW**=Surface Water **WW**=Waste Water
RW=Raw Water **SE**=Sediment **SL**=Sludge **S**=Soil **SD**=Solid **W**=Wipe
OIL=Oil **B**=Bulk **L**=Liquid

Analysis Request

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	Ammonia	Soil VOA Vials [ ] methanol [ ] H2O	GL Soil container ( ) oz	GL Soil container ( ) oz	40 ml VOA Vial [ ] As is [ ] HCl	GL Amber 1000ml [ ] As is [ ] H2SO4	PL As is [ ] 250ml [ ] 500ml [ ] 1000ml	PL H2SO4 [✓] 250ml [ ] 500ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria Bottle
23425	C35 - 1883-8	Water	5-28-15	1335	✓						1				
23426	C35 - 1884-8	Water	5-28-15	1340	✓						1				

Relinquished by:	Accepted by:	Date:	Time:
[signature]	[signature]	5-29-15	1505
[signature]	[signature]	5-29-15	15:36

Comments, Special Requirements or Regulations:

Turnaround:
[ ] 1 Day*
[ ] 2 Days*
[ ] 3 Days*
[✓] Standard
[ ] Other
* SURCHARGE APPLIES

RI
[ ] Direct Exposure (Residential)
[ ] GW
[ ] Other

CT
[ ] RCP Cert
[ ] GW Protection
[ ] SW Protection
[ ] GA Mobility
[ ] GB Mobility
[ ] Residential DEC
[ ] I/C DEC
[ ] Other

MA
[ ] MCP Certification
[ ] GW-1
[ ] GW-2
[ ] GW-3
[ ] S-1
[ ] S-2
[ ] S-3
[ ] MWRA eSMART
[ ] Other

State where samples were collected: _____

Data Format
[ ] Excel
[ ] PDF
[ ] GIS/Key
[ ] EQuIS
[ ] Other

Data Package
[ ] Tier II Checklist
[ ] Full Data Package*
[ ] Phoenix Std Report
[ ] Other
* SURCHARGE APPLIES

Sterling Analytical, Inc.
15 Agawam Avenue
West Springfield, MA 01089
Phone (413) 214-6541 Fax (413) 214-6842
email-madhu@sterlinganalytical.com

Visit our website: www.sterlinganalytical.com

Mass Certification - MA-00071
Conn Certification - PH-0520

Report Date May 14, 2015

Customer	Contact	Laboratory Supervisor	eMail
New England Bioassay	K. Wills	Madhu Shah	madhu@sterlinganalytical.com

Sample Description
Analysis of Solid Samples

Samples Analyzed

Enclosed are Report No(s): 50158 to 50171

Reported on dry basis.

Thank you for your business

madhu shah — 5/14/2015

Madhu Shah, Laboratory Supervisor — **Date**

ALL the information contained in this report has been reviewed for accuracy and checked against all quality control requirements outlined in each applicable method.
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Sample	Description	Source	Taken/Time	Received
50158	C35-1871	New England Bioassay	4/29/15	5/6/15

Parameter	Results		MDL	Method	Analyzed/Time	Tech
Total Organic Carbon	2,684	mg/kg	100.00	SW846 9060 Mod(1)	05/08/15	sjr

Sample	Description	Source	Taken/Time	Received
50159	C35-1872	New England Bioassay	4/29/15	5/6/15

Parameter	Results		MDL	Method	Analyzed/Time	Tech
Total Organic Carbon	4,016	mg/kg	100.00	SW846 9060 Mod(1)	05/08/15	sjr

Sample	Description	Source	Taken/Time	Received
50160	C35-1873	New England Bioassay	4/29/15	5/6/15

Parameter	Results		MDL	Method	Analyzed/Time	Tech
Total Organic Carbon	76,630	mg/kg	100.00	SW846 9060 Mod(1)	05/08/15	sjr

Sample	Description	Source	Taken/Time	Received
50161	C35-1874	New England Bioassay	4/29/15	5/6/15

Parameter	Results		MDL	Method	Analyzed/Time	Tech
Total Organic Carbon	72,860	mg/kg	100.00	SW846 9060 Mod(1)	05/08/15	sjr

Sample	Description	Source	Taken/Time	Received
50162	C35-1875	New England Bioassay	4/29/15	5/6/15

Parameter	Results		MDL	Method	Analyzed/Time	Tech
Total Organic Carbon	57,480	mg/kg	100.00	SW846 9060 Mod(1)	05/08/15	sjr

Sample	Description	Source	Taken/Time	Received
50163	C35-1876	New England Bioassay	4/29/15	5/6/15

Parameter	Results		MDL	Method	Analyzed/Time	Tech
Total Organic Carbon	55,480	mg/kg	100.00	SW846 9060 Mod(1)	05/08/15	sjr

Sample	Description	Source	Taken/Time	Received
50164	C35-1877	New England Bioassay	4/29/15	5/6/15

Parameter	Results		MDL	Method	Analyzed/Time	Tech
Total Organic Carbon	59,800	mg/kg	100.00	SW846 9060 Mod(1)	05/08/15	sjr

Sample	Description	Source	Taken/Time	Received
50165	C35-1878	New England Bioassay	4/29/15	5/6/15

Parameter	Results		MDL	Method	Analyzed/Time	Tech
Total Organic Carbon	67,070	mg/kg	100.00	SW846 9060 Mod(1)	05/08/15	sjr

Sample	Description	Source	Taken/Time	Received
50166	C35-1879	New England Bioassay	4/29/15	5/6/15

Parameter	Results		MDL	Method	Analyzed/Time	Tech
Total Organic Carbon	39,090	mg/kg	100.00	SW846 9060 Mod(1)	05/08/15	sjr

Sample	Description	Source	Taken/Time	Received
50167	C35-1880	New England Bioassay	4/29/15	5/6/15

Parameter	Results		MDL	Method	Analyzed/Time	Tech
Total Organic Carbon	46,330	mg/kg	100.00	SW846 9060 Mod(1)	05/11/15	sjr

Sample	Description	Source	Taken/Time	Received
50168	C35-1881	New England Bioassay	4/29/15	5/6/15

Parameter	Results		MDL	Method	Analyzed/Time	Tech
Total Organic Carbon	42,940	mg/kg	100.00	SW846 9060 Mod(1)	05/11/15	sjr

Sample	Description	Source	Taken/Time	Received
50169	C35-1882	New England Bioassay	4/29/15	5/6/15

Parameter	Results		MDL	Method	Analyzed/Time	Tech
Total Organic Carbon	55,880	mg/kg	100.00	SW846 9060 Mod(1)	05/11/15	sjr

Sample	Description	Source	Taken/Time	Received
50170	C35-1883	New England Bioassay	4/29/15	5/6/15

Parameter	Results		MDL	Method	Analyzed/Time	Tech
Total Organic Carbon	33,040	mg/kg	100.00	SW846 9060 Mod(1)	05/11/15	sjr

Sample	Description	Source	Taken/Time	Received
50171	C35-1884	New England Bioassay	4/29/15	5/6/15

Parameter	Results		MDL	Method	Analyzed/Time	Tech
Total Organic Carbon	48,350	mg/kg	100.00	SW846 9060 Mod(1)	05/11/15	sjr

CHAIN OF CUSTODY

RESULTS NEEDED BY DATE: 5-28-15

Sterling Analytical, 15 Agawam Avenue, West Springfield, MA 01089
Phone: (413) 214-6541 • Fax: (413) 214-6842

Email: madhu@sterlinganalytical.com

----- SEND TEST RESULTS TO: -----

NAME (PLEASE PRINT): Kim Wills | PHONE NO.: 860-643-9560
COMPANY: New England Biossay
ADDRESS: 77 Batson Dr, Manchester, CT 06042

SOURCE: GZA - Everett Wynn Casino
SAMPLER'S NAME: Anne Henrici | SIGNATURE: Anne Henrici | DATE: 4-29-15

DESCRIPTION	SAMPLE MATRIX	DATE	TIME	SAMPLE TYPE: GRAB	SAMPLE TYPE: COMPOSITE	NO. OF CONTAINERS	ANALYSIS REQUIRED: Total Organ. Carbon	PRESERVATIVES: HCL	PRESERVATIVES: HNO_3	PRESERVATIVES: H_2SO_4	PRESERVATIVES: NaOH	PRESERVATIVES: NONE	COMMENTS
C35-1871	Sediment	4-29-15	1650	✓		1	✓					✓	
C35-1872	"	"	1700	✓		1	✓					✓	
C35-1873			1500	✓		1	✓					✓	
C35-1874			1505	✓		1	✓					✓	
C35-1875			1515	✓		1	✓					✓	
C35-1876			1530	✓		1	✓					✓	
C35-1877			1530	✓		1	✓					✓	
C35-1878			1550	✓		1	✓					✓	
C35-1879			1600	✓		1	✓					✓	
C35-1880			1630	✓		1	✓					✓	
C35-1881	↓	↓	1700	✓		1	✓					✓	

	DATE	TIME		DATE	TIME
RELINQUISHED BY: Anne Coe	5-6-15	0855	RECEIVED BY:	5/6/15	6:42
RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	DATE	TIME
RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	DATE	TIME

ORIGINAL - RETAINED BY LAB ***YELLOW*** - RETURNED TO REQUESTER BY LAB

CHAIN OF CUSTODY

STERLING ANALYTICAL

RESULTS NEEDED BY DATE: 5-28-15

Sterling Analytical, 15 Agawam Avenue, West Springfield, MA 01089
Phone: (413) 214-6541 • Fax: (413) 214-6842

Email: madhu@sterlinganalytical.com

----- SEND TEST RESULTS TO: -----

NAME (PLEASE PRINT)	PHONE NO.
Kim Wills	860 643-9560
COMPANY: New England Biogssay	
ADDRESS: 77 Batson Dr., Manchester, CT, 06042	

SOURCE: GZA - Everett Wynn Casino

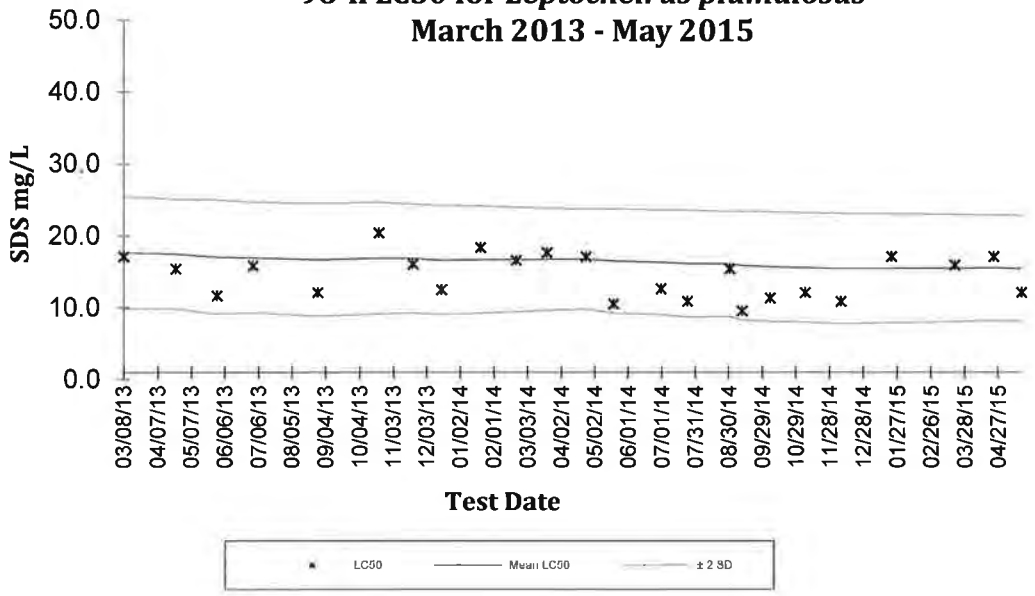
SAMPLER'S NAME	SIGNATURE	DATE
Anne Henrici	Anne Henrici	4-29-15

DESCRIPTION	SAMPLE MATRIX	DATE	TIME	SAMPLE TYPE: GRAB	SAMPLE TYPE: COMPOSITE	NO. OF CONTAINERS	ANALYSIS REQUIRED: Total org. Carbon	PRESERVATIVES: HCL	PRESERVATIVES: HNO_3	PRESERVATIVES: H_2SO_4	PRESERVATIVES: NaOH	PRESERVATIVES: NONE	COMMENTS
C35-1882	Sediment	4-29-15	1725	✓		1	✓					✓	
C35-1883	↓	↓	1715	✓		1	✓					✓	
C35-1884	↓	↓	1715	✓		1	✓					✓	

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
Jen a Col	5-6-15	0855		5/6/15	
RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME

ORIGINAL - RETAINED BY LAB ***YELLOW*** - RETURNED TO REQUESTER BY LAB

New England Bioassay
Sodium Dodecyl Sulfate(SDS):
96-h LC50 for *Leptocheirus plumulosus*
March 2013 - May 2015



Test ID	Date	LC50	Mean LC50	STD	2STD	2STD	CV%
13-686	3/8/2013	17.1	17.6	3.9	9.8	25.5	22.2
13-880	4/23/2013	15.4	17.5	3.8	9.9	25.1	21.8
13-1121	5/30/2013	11.7	17.1	4.0	9.1	25.0	23.3
13-1376	7/1/2013	15.9	17.0	3.8	9.3	24.7	22.6
13-1977	8/28/2013	12.1	16.7	3.9	8.9	24.5	23.5
13-2191	10/21/2013	20.4	16.9	3.9	9.1	24.7	23.0
13-2410	11/21/2013	16.1	16.8	3.8	9.3	24.4	22.4
13-2552	12/16/2013	12.5	16.6	3.8	9.0	24.2	22.9
14-125	1/20/2014	18.3	16.7	3.7	9.3	24.2	22.3
14-220	2/21/2014	16.6	16.7	3.6	9.4	24.0	21.7
14-379	3/20/2014	17.7	16.7	3.5	9.6	23.8	21.2
14-707	4/24/2014	17.1	16.8	3.5	9.8	23.7	20.7
14-802	5/19/2014	10.5	16.5	3.6	9.2	23.7	22.0
14-1005	6/30/2014	12.6	16.3	3.6	9.1	23.6	22.2
14-1169	7/24/2014	10.9	16.1	3.7	8.7	23.6	23.0
14-1394	8/31/2014	15.4	16.1	3.6	8.8	23.4	22.6
14-1434	9/11/2014	9.5	15.9	3.8	8.3	23.4	23.9
14-1658	10/6/2014	11.3	15.7	3.8	8.1	23.3	24.3
14-1928	11/6/2014	12.1	15.6	3.8	8.0	23.2	24.4
14-2030	12/8/2014	10.9	15.4	3.8	7.8	23.1	24.8
15-12	1/22/2015	17.1	15.5	3.8	7.9	23.1	24.4
15-332	3/19/2015	15.9	15.5	3.7	8.1	23.0	24.0
15-542	4/23/2015	17.1	15.5	3.7	8.2	22.9	23.7
15-621	5/18/2015	12.1	15.5	3.7	8.1	22.8	23.8

New England Bioassay
A division of GZA GeoEnvironmental, Inc.
77 Batson Drive Manchester, CT 06042
Phone: 860-643-9560 Fax: 860-646-7169

Chain of Custody

Company Name: GZA GeoEnvironmental
Project Name/#: 171521.13 Task 1
Invoice To: David E. Leone PO#:
Samples Collected By (Print): Alice Blaney, Dan Scanlon

Report To: Tim Briggs
Address: GZA Norwood
Phone: (781) 278-5824 Fax: ( )
Email: timothy.briggs@gza.com

#	SAMPLE IDENTIFICATIONS	Date Sampled	Time Sampled	Composite	Grab	Chemical Analysis - Attach Permit Specifications
1	GZ-225 C35-1884	3-27-15	8:49		X	
351873 2	LC-102 (Reference)	3-26-15	10:30		X	
351874 3	LC-105 (Reference)	3-26-15	11:45		X	
351875 4	LC-112 (Reference)	3-27-15	11:16		X	

If you are uncertain of the following test parameters, please attach a copy of the appropriate pages from your permit

ANALYSIS	1	2	3	4
SAMPLE TYPE				
Stormwater (if yes, proceed to relinquish section)				
POTW Effluent				
Groundwater				
Non-Contact Cooling Water				
Industrial Effluent				
Other _____				
PROTOCOL TYPE				
Definitive LC50				
Pass/Fail (Screening or NOAEL)				
Chronic				
INVERTEBRATE TYPE & AGE				
Leptocheirus plumulosus 28 Day Survival/Biomass	Y/N	Y/N	Y/N	Y
Ceriodaphnia dubia (<24 hrs)				

ANALYSIS	1	2	3	4
VERTEBRATE (FISH) TYPE & AGE (if applicable)				
Pimephales promelas (_____ hours/days)				
Cyprinodon variegatus (_____ hours/days)				
Menidia beryllina (_____ hours/days)				
VERTEBRATE (FISH) TEST DURATION (if applicable)				
24 hours				
48 hours				
96 hours				
7 days				
TEMPERATURE (if specified)				
20°C				
25°C				
MISCELLANEOUS (if applicable)				
SALINITY (if saltwater testing) _____ ppt				
Dilution water HARDNESS (_____ mg/L as $CaCO_3$)				

Relinquished by:	Date: 4-17-15 Time: 17:30	Accepted by: Custody Seal	Date: 4-17-15 Time: 17:30
Relinquished by:	Date: 4-21-15 Time: 10:02	Accepted by:	Date: 4-21-15 Time: 10:02
Relinquished by:	Date: 4-21-15 Time: 1220	Accepted by:	Date: 4.21-15 Time: 1220

REMARKS/NOTES:

New England Bioassay
A division of GZA GeoEnvironmental, Inc.
77 Batson Drive Manchester, CT 06042
Phone: 860-643-9560 Fax: 860-646-7169

Chain of Custody

Company Name: GZA GeoEnvironmental
Project Name/#: 171521.13 Task 1
Invoice To: David E. Leone PO#:
Samples Collected By (Print): Alice Blaney, Dan Scanlon

Report To: Tim Briggs
Address: GZA Norwood
Phone: (781) 278-5824 Fax: ( )
Email: timothy.briggs@gza.com

#	SAMPLE IDENTIFICATIONS	Date Sampled	Time Sampled	Composite	Grab	Chemical Analysis - Attach Permit Specifications
1	GZ-203 C35-1876	3/24/15	12:30		X	
2	GZ-207 C35-1877	3-25-15	10:45		X	
3	GZ-209 C35-1878	3-25-15	9:30		X	
4	GZ-213 C35-1879	3-25-15	13:52		Y	

If you are uncertain of the following test parameters, please attach a copy of the appropriate pages from your permit

ANALYSIS	1	2	3	4
SAMPLE TYPE				
Stormwater (if yes, proceed to relinquish section)				
POTW Effluent				
Groundwater				
Non-Contact Cooling Water				
Industrial Effluent				
Other _____				
PROTOCOL TYPE				
Definitive LC50				
Pass/Fail (Screening or NOAEL)				
Chronic				
INVERTEBRATE TYPE & AGE				
Leptocheirus plumulosus 28 Day Survival/Biomass	X	X	X	X
Ceriodaphnia dubia (<24 hrs)				

ANALYSIS	1	2	3	4
VERTEBRATE (FISH) TYPE & AGE (if applicable)				
Pimephales promelas (_____ hours/days)				
Cyprinodon variegatus (_____ hours/days)				
Menidia beryllina (_____ hours/days)				
VERTEBRATE (FISH) TEST DURATION (if applicable)				
24 hours				
48 hours				
96 hours				
7 days				
TEMPERATURE (if specified)				
20°C				
25°C				
MISCELLANEOUS (if applicable)				
SALINITY (if saltwater testing) _____ ppt				
Dilution water HARDNESS (_____ mg/L as $CaCO_3$)				

Relinquished by:	Date: 4-17-15 Time: 17:30	Accepted by: Custody Seal	Date: 4-17-15 Time: 17:30
Relinquished by:	Date: 4-21-15 Time: 10:02	Accepted by:	Date: 4-21-15 Time: 1002
Relinquished by:	Date: 4-21-15 Time: 1220	Accepted by:	Date: 4-21-15 Time: 1220

REMARKS/NOTES:

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Chain of Custody

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Phone: (781) 278-5824 Fax: ( )
Email: timothy.briggs@gza.com

#	SAMPLE IDENTIFICATIONS	Date Sampled	Time Sampled	Composite	Grab	Chemical Analysis - Attach Permit Specifications
1	GZ-214 C35 1880	3-30-15	10:10		X	
2	GZ-217 C35 1881	3-24-15	16:10		X	
3	GZ-223 C35 1882	3-30-15	9:18		X	
4	GZ-224 C35 1883	3-30-15	9:45		X	

If you are uncertain of the following test parameters, please attach a copy of the appropriate pages from your permit

ANALYSIS	1	2	3	4
SAMPLE TYPE				
Stormwater (if yes, proceed to relinquish section)				
POTW Effluent				
Groundwater				
Non-Contact Cooling Water				
Industrial Effluent				
Other				
PROTOCOL TYPE				
Definitive LC50				
Pass/Fail (Screening or NOAEL)				
Chronic				
INVERTEBRATE TYPE & AGE				
Leptocheirus plumulosus 28 Day Survival/Biomass	X	X	X	X
Ceriodaphnia dubia (<24 hrs)				

ANALYSIS	1	2	3	4
VERTEBRATE (FISH) TYPE & AGE (if applicable)				
Pimephales promelas (_____ hours/days)				
Cyprinodon variegatus (_____ hours/days)				
Menidia beryllina (_____ hours/days)				
VERTEBRATE (FISH) TEST DURATION (if applicable)				
24 hours				
48 hours				
96 hours				
7 days				
TEMPERATURE (if specified)				
20°C				
25°C				
MISCELLANEOUS (if applicable)				
SALINITY (if saltwater testing) _____ ppt				
Dilution water HARDNESS (_____ mg/L as $CaCO_3$)				

Relinquished by:	Date: 4-17-15 Time: 17:30	Accepted by: Custody Seal	Date: 4-17-15 Time: 17:30
Relinquished by:	Date: 4-21-15 Time: 10:02	Accepted by:	Date: 4-21-15 Time: 1002
Relinquished by:	Date: 4-21-15 Time: 1220	Accepted by:	Date: 4-21-15 Time: 1220

REMARKS/NOTES:

APPENDIX G

PAST ECOLOGICAL ASSESSMENTS

To assess the potential risk to benthic invertebrates due to exposure to sediment contaminants, Menzie-Cura submitted five water-side samples and three Mystic river reference samples to a toxicity testing laboratory for 28-day tests using *Leptocheirus plumulosus*; endpoints measured were survival, growth, and reproduction. They also collected soft-shell clams (*Mya arenaria*) for tissue analyses, and compared chemical concentrations in clam tissue to concentrations from the literature that may be associated with toxic effects to benthic invertebrates. Four of the five toxicity test samples showed significantly reduced survival, growth, or reproduction compared to the reference samples. Concentrations of arsenic in soft-shell clam tissue exceeded literature-derived toxicity reference values. Based on these results, Menzie-Cura concluded that contaminants in the sediment presented a significant risk of harm to benthic invertebrates.

Menzie-Cura performed food web assessments for common wildlife species that may feed on benthic invertebrates that have taken up sediment contaminants into their body tissues. Species evaluated were the herring gull (*Larus argentatus*) and raccoon (*Procyon lotor*). Menzie-Cura concluded that sediment contaminants of the water-side do not present a significant risk to wildlife that may feed on benthic invertebrates at the disposal site.

Menzie-Cura developed a list of disposal site-related contaminants of concern by comparing contaminant concentrations in sediment to those in the three reference samples collected from downstream in the Mystic River. GZA performed a detailed evaluation of sediment data, and concluded that arsenic, lead and mercury are the primary contaminants of concern in sediment (see Section 4.1). The contaminant list developed by Menzie-Cura is discussed in Section 4.1 within the context of GZA's evaluation of disposal site-related contaminants of concern.

2.2.2 Human Health Risk Characterization

GEI did not perform a quantitative human health risk assessment as part of its Phase II. GEI considered human access to sediment as limited due to the presence of a partial fence and bulkheads. It also cited an October 11, 2011, Massachusetts Department of Public Health (DPH) P6 fish advisory restricting fish consumption for the stretch of the Mystic River located between the outlet of Lower Mystic Lake and Amelia Earhart Dam (approximately 600 feet upstream of the disposal site) due to contamination by PCBs, and the pesticides dichlorodiphenyltrichloroethane (DDT) and chlordane. Based on the limited access to sediment and the fish advisory for the Mystic River, GEI concluded that human exposure to sediment contaminants was unlikely.

2.3 ECOLOGICAL RESOURCE AND HABITAT DESCRIPTIONS

2.3.1 Aquatic Habitat of the water-side and Lower Mystic River

MassDEP has categorized the Lower Mystic River as a Class SB water body under the Massachusetts Surface Water Quality Standards (314 CMR 4.00). A Class SB water body is a marine surface water classification designated for protection as fish habitat, for other aquatic life and wildlife (including a consideration of their reproduction, migration, growth and other critical functions), and for primary and secondary recreation. The Lower Mystic River is closed to shellfish harvesting due to high bacterial counts.

All of the Inner Boston Harbor/Lower Mystic River is designated as Essential Fish Habitat (EFH) by the National Marine Fisheries Service (NMFS) under the Federal Magnuson Fisheries Conservation and Management Act of 1976. As such, the Lower Mystic River is under the jurisdiction of the New England Fisheries Management Council (NEFMC). According to the NEFMC, the harbor provides EFH for at least one life stage for 23 managed fish species. In addition, the Lower Mystic River may support several fish species that could trigger Massachusetts Department of Marine Fisheries (DMF) Time of Year (TOY) restrictions for dredging and construction activities. Such species include alewife (*Alosa pseudoharengus*), blueback herring (*A. aestivalis*), American shad (*A. sapidissima*), white perch (*Marone americana*), American eel (*Anguilla rastrata*), and Winter Flounder (*Pseudopleuronectus americanus*). TOY restrictions are intended to protect sensitive life stages of fish species including spawning and early development (larval and fry stages).

Since 1989, the Massachusetts Water Resources Authority (MWRA) has monitored water quality parameters in the Inner Boston Harbor and its contributing waters. Data summarized from the two MWRA stations closest to the study area (Station 52, approximately 3,000 feet downstream, and Station 69, approximately 1,000 feet upstream) are indicative of a shallow estuarine habitat, where salinity and temperature fluctuate over wide ranges. Mean salinity values indicate that the area is highly saline most of the time, although salinity fluctuates from nearly freshwater to ocean water salinities. Turbidity is generally low, with some localized events over 50 Nephelometric Turbidity Units (NTU), compared to background values around 5 NTU.

As discussed further below, since approximately 2000, the benthic community of the Lower Mystic River has been the subject of several studies associated with monitoring Confined Aquatic Disposal (CAD) cells for dredged sediments that are contaminated or otherwise unsuitable for open water disposal. As part of that monitoring program, in June 2000, ENSR (2001) performed a survey of the benthic community found in the sand caps placed on the CAD cells and in reference locations in the river outside of the CAD cell footprints. Observations of microbial mats of sulfur-fixing bacteria in the Lower Mystic River were common; these mats are indicators of anoxic (lack of oxygen) conditions at the sediment-water interface. These conditions are likely related to high rates of nitrogen loading and the presence of organic compounds in the water column. Because benthic infauna (i.e., benthic organisms that burrow into the sediment) depend upon oxygenated water at the sediment-water interface, water quality conditions that promote the growth of microorganisms that deplete oxygen in bottom waters negatively impact the development of the benthic community.

2.3.2 Shellfish and Benthic Invertebrate Community

In August 2013, April 2014, and September 2015, GZA biologists conducted detailed shellfish surveys of the inter-tidal and sub-tidal water-side and adjacent portions of the Mystic River. Those surveys were conducted in support of EFH Assessments (GZA, 2015a and 2015b) performed during the Massachusetts Environmental Policy Act (MEPA) review process for the proposed casino development at the Wynn property. The EFH Assessments were prepared to aid the U.S. Army Corps of Engineers and NEFMC in their review of the proposed Wynn Resort development in Everett, which includes dredging in the head of the bay for navigational purposes. The EFH Assessments can also be used to evaluate the

additional work in the water-side site that may be implemented to remediate sediment contamination under the MCP.

In 2013 and 2014 GZA excavated 14 shallow observation plots in the intertidal areas of the southwest shoal, and the north and west shores of the bay to characterize the benthic community. Relatively few viable shellfish were found within the entire inter-tidal area of the water-side site. Only nine individuals of living soft-shell clams (*Mya arenaria*) were found in the inter-tidal area, and all of these individuals were juveniles less than 10 mm in size. One area with a dense concentration of intact dead soft-shell clam shells was observed within the inter-tidal sediments of the southwest shoal area. This concentration of shells appeared to be an intact clam bed of mixed age-classes (i.e., intact articulated bivalve shells, at a uniform depth, with the shell orientation and spacing expected in a living clam bed). The observations of an apparently intact clam bed with 100% mortality of older clams suggests a relatively rapid mortality event within the recent past.

The reason for the apparent rapid die-off of soft-shell clams in the study area is unknown; however, there was a large scale die-off of clams in Boston Harbor in the vicinity of Logan Airport in late Summer or Fall of 2010. That die-off is thought to have been related to the soft-shell clam disease neoplasia[2]. There is evidence to suggest that the susceptibility of soft-shell clams to neoplasia may be increased by exposure to heavy metals, PCBs and PAHs (Bőttger et al., 2013).

In 2015 GZA made observations of soft-shell clams present in the intertidal area of the eastern shore of the bay, and found similar conditions, but with higher densities of living clams; 2% to 10% of the shells observed contained living clams.

Other observations in the inter-tidal zone included live razor clams (*Ensis directus*) and siphon holes, and occasional spent oyster (*Crassostrea virginica*) shells.

To survey the sub-tidal areas, GZA used a camera mounted to a submersible Remotely Operated Vehicle (ROV) to make visual observations, and evaluated six benthic grab samples collected using an Ekman dredge sampler. Living blue mussels (*Mytilus edulis*) were observed on rock and wood attachment sites in intertidal portions of the southwest shoal and near the eastern shore of the bay; however, they were largely absent from the west and north shores of the bay. Viable polychaetes (bloodworms; *Glycera* spp.) were observed within the sediments, but no viable Mollusca species were observed except for some surface snails (Crepidula, Llyanassa, and *Littorina* spp.). Green crabs (*Carcinus maenas*; a non-native species introduced in the 1800s) were present in low numbers in the sub-tidal areas, but again primarily near the Mystic River channel. No sea scallop (*Placopecten magellanicus*) or surf clam (*Spisula solidissima*) (living or spent shells) were found during these surveys.

GZA did not conduct a fish survey, but GZA field personnel did observe several flounder (*Paralichthys* sp.) and sculpin (*Cottus* sp.) during the ROV survey.

During the period from 1998 through 2008, eleven CAD cells were constructed in the greater Boston Inner Harbor area as part of the Boston Harbor Navigation Improvement Project and the Boston Harbor Inner Harbor Dredge Maintenance Project. These CAD cells

[2] A diffuse tumor of the clam circulatory system.

were constructed to contain dredge material that was deemed unsuitable for open water disposal, usually because of elevated levels of sediment contaminants. Eight of those CAD cells were constructed in the Lower Mystic River between the Alford Street (Route 99) bridge and the Tobin Bridge. These CAD cells span a reach of the Lower Mystic River between 0.3 and 1.2 miles seaward from the mouth of the bay. One cell was constructed in the Chelsea River and two were constructed in the Boston Inner Harbor just seaward of the confluence of the Mystic and Chelsea Rivers. Ten of these CAD cells have been capped using sand from dredging operations at the Cape Cod Canal.

The New England District of the U.S. Army Corps of Engineers implements a Disposal Area Monitoring System (DAMOS) that has been monitoring the performance of the Mystic River CAD cells in terms of cap stability, sedimentation over the cap, mixing of cap and ambient sediment, and recolonization by benthic infauna.

These monitoring efforts include video surveys of the sub-tidal sediments within the river. Epi-benthic organisms (those that live on the sediment surface) were commonly observed, including flounder and other small and medium size bottom fish, shrimp and crabs. However, the benthic infaunal community of the Lower Mystic River was found to be highly stressed, and in a persistent state of early succession.

Mixing of surficial sediment from benthic infaunal burrow activities (i.e., bioturbation) was monitored by measuring the depth of reduction-oxidation features (referred to as apparent redox potential discontinuity; aRPD) in the surficial sediment. Burrowing depths and benthic infauna abundance were evaluated by measuring sediment-surface water boundary layer roughness (which can increase with greater infauna activity and by the activity of larger individuals), and direct observations of individual benthic infauna, tubes and feeding voids in the sediment profile. These measurements were performed both within the CAD cell caps, and in nearby reference areas that had not been dredged or capped in the recent past.

During its June 2000 survey, ENSR (2001) noted the low biodiversity of the infaunal community of the Boston Inner Harbor and Lower Mystic River, both in the CAD cell caps and at reference stations. Mean aRPD depths (means calculated for individual cap areas) were 2.44 centimeters (cm) or less. However, because of the degraded state of the benthic environment, ENSR also concluded that the impact of the dredging, filling, and capping associated with the CAD cells was far less than if the Mystic River and Boston Inner Harbor area had provided higher quality benthic habitat conditions.

Surveys of the infaunal community were also conducted in 2004 (ENSR, 2007) and 2009 (USACE, 2012), with results similar to those of the 2000 survey. The 2009 survey found the average aRPD depth was less than 2.6 cm, with a maximum observed depth of 5 cm. These conditions were attributed to periodic low oxygen or anoxic conditions at the sediment-water interface due to nutrient and organic loading in the river, and frequent physical disturbances to the surficial sediment.

The executive summary of the 2009 monitoring report (USACE, 2012) stated:

> "The biological mixing zone, estimated by measuring the oxidized layer at the surface of sediment cores, averaged less than 2.6 cm for both CAD cell stations and reference cores. The shallow biological mixing documented in 2009 supported

earlier findings of harbor-wide conditions limiting benthic recolonization to a state of perpetual early succession throughout the harbor. Very fine layering was also apparent at the surface of both CAD cell and reference cores further supporting the persistence of shallow sediment mixing in Boston Harbor."

In other words, there is strong evidence that the sub-tidal, benthic infaunal communities of the Mystic River and Boston Inner Harbor are in poor condition, based on the surveys performed as part of the Army Corps of Engineer's monitoring efforts for the CAD cells. The poor state of the infaunal community in the Mystic River was attributed to nutrient and organic loading that results in low oxygen or anoxic conditions at the sediment-water interface, and frequent physical disturbances of the surficial sediment.

3.0 FIELD INVESTIGATION

GZA performed a sediment coring and sampling program within the study area in August 2013 and March-April 2015. GZA conducted surface water and groundwater seep sampling in May 2015. The following sections discuss the methods and result of these sampling programs.

3.1 SURFACE WATER & GROUNDWATER SEEPS

Neither GEI nor Menzie-Cura analyzed surface water samples for potential contaminants of concern. To evaluate whether groundwater discharge may be resulting in potentially harmful concentrations of disposal site-related contaminants, GZA collected near-shore surface water samples and samples of groundwater visibly discharging at seeps in the inter-tidal zone.

3.1.1 Field Program

Four near-shore surface water samples and two groundwater seep samples were collected on May 21 and 22, 2015, at the locations shown on Figure 2. Field measurements of temperature, pH, dissolved oxygen, conductivity, and turbidity were made at each sample location.

Samples were collected during low tide. Surface water samples were collected using a peristaltic pump from shallow water (less than one foot deep) near the shore. Samples were collected in a manner that limited the disturbance of the sediment at the collection site, and the entrainment of suspended sediment with the water samples. The samples collected for metals analyses were filtered in the field using a 0.45 micrometer (µm) filter; the SVOC and EPH samples were not filtered.

During low tide, groundwater seeps visibly discharge from preferential flow paths through the inter-tidal sediment. Samples of seep discharge were collected by digging a small depression in the sediment at various seep locations, waiting 30 to 45 minutes for suspended sediment in the depression to dissipate, and then collecting water samples with a peristaltic pump.