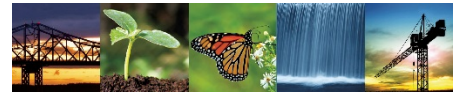




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249 Vanderbilt Avenue  
Norwood, MA 02062  
781.278.3700  
www.gza.com



December 21, 2015  
GZA File No: 01.00171521.42

Massachusetts Department of Environmental Protection  
Bureau of Waste Site Cleanup  
Northeast Regional Office  
205B Lowell Street  
Wilmington, Massachusetts 01887

Re: Release Abatement Measure Status Report No. 1 and  
RAM Plan Modification  
Pre-Construction Remediation Activities  
(Former) Everett Staging Yard  
1 Horizon Way  
Everett, Massachusetts  
Release Tracking Number 3-13341

To Whom It May Concern:

GZA GeoEnvironmental, Inc. (GZA), on behalf of Wynn MA, LLC (Wynn MA), has prepared this Release Abatement Measure (RAM) Status Report to document the status of pre-construction RAM activities completed as of November 14, 2015 on the land-side portion of the above-referenced Disposal Site (the Site). In addition, we have included a RAM Plan Modification to clarify procedures for the handling of excavated material, and to allow for exploratory test pits in support of future utility relocation.

#### EXECUTIVE SUMMARY

Soil, groundwater, and sediment at the Site have been contaminated by historic activities, including the former use of the Site as a chemical manufacturing facility. On August 18, 2015, Wynn MA and GZA submitted a RAM Plan documenting Massachusetts Contingency Plan (MCP) Response Actions to be completed prior to the redevelopment of the Site. The objective of the activities described in the RAM Plan is to reduce the risks associated with soil and groundwater contamination in the three areas of the Site previously identified as the A-5 Area, the CES-2 Area, and the Low pH Area. Soil containing elevated concentrations of arsenic and lead in the A-5 Area will be excavated and disposed of off-Site. Elevated concentrations of arsenic in soil and groundwater in the CES-2 Area will be addressed through the excavation and disposal of soil off-Site. Soil and groundwater in the Low pH Area will be treated using in-situ solidification/stabilization (ISS) to both reduce the ability of groundwater to flow through the Area, and raise the pH to limit the further mobilization of metals from soil to groundwater.

RAM activities performed as of November 14, 2015, include:

- Mobilization of necessary equipment and personnel;
  - Installation of the perimeter air monitoring system;
  - Installation of sediment and erosion controls;
  - Establishment of groundwater recharge, materials management and decontamination areas;
  - Initiation of pre-trenching for obstruction removal in areas where sheet piles will be installed;
  - Initiation of sheet pile installation; and
- A limited volume of soil excavation.



As requested by MassDEP, this submittal also includes a RAM Plan Modification to clarify the procedures for handling excavated material, and to allow for exploratory test pits in support of future utility relocations. These modifications do not substantially alter or expand the previous RAM Plan.

## INTRODUCTION

A Site Locus Map is presented as Figure 1; an Exploration Location Plan is included as Figure 2; and the areas that are subject to the provisions of the RAM Plan are delineated on Figure 3. This RAM Status Report has been prepared in accordance with 310 CMR 40.0445 of the MCP, and with the Limitations in Appendix A. This RAM Status Report will be submitted electronically through the Massachusetts Department of Environmental Protection's (MassDEP's) eDEP online filing system. A copy of the RAM Transmittal Form BWSC-106 is included in Appendix B.

## DESCRIPTION OF RELEASE, SITE CONDITIONS AND SURROUNDING RECEPTORS

The following sections provide a description of the Site and surrounding area conditions and the Site's regulatory history, including a description of the release being addressed by the RAM.

### SITE AND SURROUNDING AREA CONDITIONS

The RAM activities address certain conditions on the land-side portion of the Site, which includes approximately 25 acres of land within the City of Everett (Figure 1). The latitude and longitude for the approximate center of the land-side portion of the Site are 42.395 degrees north and 71.069 degrees west, respectively. The Universal Transverse Mercator (UTM) coordinates are 4,695,683 meters north and 329,684 meters east. Access to the land-side portion of the Site is limited by the presence of a chain-link fence with two gates: one gate is in the eastern portion of the Site, along Horizon Way, and the second gate is located on the northern portion of the Site across an extension of Horizon Way. The ground surface at the Site is generally bituminous pavement (center), unpaved, or compacted coarse gravel. The ground surface at the land-side portion of the Site is generally flat with a gentle slope toward the southwest. Based on an April 2013 survey prepared by Harry R. Feldman, Inc. (Professional Land Surveyors), ground surface elevations on the land-side portion of the Site range from approximately 8 to 13 feet NAVD88.

The Site is adjoined to the northeast by a vehicle maintenance and repair facility operated by the Massachusetts Bay Transportation Authority (MBTA); to the southeast by properties along Alford Street, including a vacant commercial building and facilities operated by the Boston Water and Sewer Commission (BWSC) and the Massachusetts Water Resources Authority (MWRA); to the southwest by the Mystic River; and to the northwest by railroad tracks for the MBTA Commuter Rail, beyond which are several large commercial/retail buildings associated with the Gateway Center.

The Site is located within the Boston Basin, a regional depression of bedrock consisting primarily of Cambridge Argillite, a partially metamorphosed siltstone. Site subsurface conditions generally consist of fill over a variable sequence of naturally deposited organics, sand and gravel, and silty clay over weathered rock and bedrock. Filling over naturally deposited materials occurred in the area of the Site from the late 1800s through the early 1960s. More recent naturally deposited sediments along the shoreline include sand, silt, and organics.



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Depth to groundwater ranges from approximately 4 to 10 feet. Groundwater at the Site flows generally toward the east on the southern portion of the Site and generally toward the south on the northern portion of the Site.

According to a Massachusetts Geographic Information System (MassGIS) map, the Site is not located in or within 500 feet of a Zone II public water supply, a potentially productive aquifer, a Zone A surface water body, an Interim Wellhead Protection Area, a protected wetlands habitat, or an Area of Critical Environmental Concern. Protected open space associated with Gateway Park is located approximately 400 feet to the northwest of the Site.

#### SITE AND REGULATORY HISTORY

Investigations conducted between 1995 and the present have identified several contaminants in soil, groundwater, and sediments at the Disposal Site, including metals, volatile organic compounds (VOCs), volatile petroleum hydrocarbon (VPH) fractions and target analytes, semi-volatile organic compounds (SVOCs), extractable petroleum hydrocarbon (EPH) fractions and target analytes, and polychlorinated biphenyls (PCBs). The sources of contamination at the Disposal Site include past industrial operations, leakage from a former aboveground storage tank (AST), and the placement of contaminated fill. According to historic reports, the Site was occupied by the Cochrane Chemical Company, the Merrimac Chemical Company and the Monsanto Chemical Company from the late 1800s until the late 1960s. The buildings on the land-side portion of the Site were razed in the 1970s. The land-side portion of the Site has been used primarily as a material storage and staging yard since the mid-1990s, when rock and fine-grained sediment ("tunnel muck") from the construction of the Deer Island Outfall was placed on it in a 1- to 7-foot thick layer. There are currently no buildings at the Site.

In 1995, Consulting Engineers and Scientists, Inc. (CES) of Lakeville, Massachusetts, performed a limited subsurface investigation at the Site prior to it being used as the tunnel muck stockpile area. Arsenic and lead concentrations in soil samples collected during the investigation exceeded the applicable MCP Reportable Concentrations (RCS-2). On January 18, 1996, O'Donnell Sand and Gravel ("O'Donnell"), the property owner at the time, submitted a Release Notification Form (RNF) to MassDEP, and MassDEP assigned RTN 3-13341 to the release. Later in 1996, the excavated tunnel muck and rock were stockpiled and/or spread across the upland portion of the Site. In mid-1999, tunnel muck from the Site was used to cap a separate portion of the former Monsanto property, located across the railroad tracks and west of the Site, as part of the construction of the Gateway Center Mall, but a 1- to 7-foot thick layer of the tunnel muck remains at the Site.

In December 1996, CES conducted a Phase I Initial Site Investigation (ISI). Arsenic and lead concentrations detected in soil samples exceeded the applicable RCS-2 standards, and dissolved arsenic and lead detected in groundwater samples exceeded the RCGW-2 standard. In January 1997, on behalf of O'Donnell, CES submitted a Phase I ISI and Tier Classification (Phase I report) to MassDEP. The Disposal Site was classified as a Tier II Disposal Site. The Phase I report identified arsenic, lead, and low pH as contaminants of concern (COCs). O'Donnell submitted a Phase II Extension Request to MassDEP in February 1999 and sold the property to Mystic Landing, LLC ("Mystic Landing") in 2001.

In 2001, on behalf of Mystic Landing, Rizzo Associates (a predecessor to Tetra Tech Rizzo, Inc. of Framingham, Massachusetts ("Tetra Tech Rizzo")) performed a limited subsurface investigation at the Site, including the collection and analysis of soil and groundwater samples. The findings of the subsurface investigation were similar to CES's findings. Between 2005 and 2007, Tetra Tech Rizzo



conducted additional subsurface investigations, including the collection and analysis of soil, groundwater and sediment samples. The results of these investigations were also generally consistent with those from previous sampling rounds.

In June and July 2007, Williams Environmental, Inc. (Williams) conducted a supplemental subsurface investigation at the Site, including the excavation of 40 test pits and the collection of soil, groundwater and sediment samples. As with the results for previous analyses of environmental media conducted at the Site, lead and arsenic were the contaminants detected at the highest concentrations and with the greatest frequency.

In December 2007, on behalf of Mystic Landing, Tetra Tech Rizzo submitted a Phase II Comprehensive Site Assessment (Phase II CSA) and Tier II Extension Request to MassDEP. The Human Health Risk Assessment included in Tetra Tech Rizzo's CSA concluded that there was No Significant Risk (NSR) and No Substantial Hazard associated with the current use of the Site as a construction material storage yard or for similar uses that did not disturb the surficial layer of tunnel muck.

FBT Everett Realty, LLC (FBT) purchased the Site from Mystic Landing in October 2009. On February 11, 2010, GEI Consultants, Inc. (GEI) submitted an Eligible Person Certification and Revised Tier Classification Submittal to MassDEP on behalf of FBT. The Disposal Site remained a Tier II Disposal Site based on the Revised Tier Classification Submittal and, pursuant to 310 CMR 40.0570, the deadlines for conducting response actions at the Disposal Site were re-established.

In February 2012, GEI submitted a Phase II CSA based only on data previously developed by others because GEI's access to the Site was reportedly denied by the Site occupant. As part of the Phase II CSA, GEI conducted a Method 3 Risk Characterization which concluded that a Condition of NSR to human health existed at the Site for most of the then current uses of the Site, but that NSR could not be demonstrated for foreseeable future Site uses. NSR could not be demonstrated for future commercial workers or future visitors exposed to Site-wide soils, for future construction workers exposed to Site-wide soils or shallow groundwater, or for utility workers exposed to soil, shallow groundwater, or ambient air within a potential utility trench in a specific area near the northern corner of the Site.

Because of the delay in obtaining access to the Site, FBT filed a Notification of Delay with MassDEP, requesting that the deadline for the Phase III – Remedial Action Plan (RAP) be extended from February 2013 to June 2013, and that the deadline for the Phase IV – Remedy Implementation Plan (RIP) be extended from February 2014 to June 2014. FBT subsequently filed a second Notification of Delay requesting that the Phase III RAP deadline be extended to September 2013, and the Phase IV deadline be extended to June 11, 2015.

GEI conducted additional soil and groundwater investigations in December 2012 and March 2013. These investigations included the installation of a series of soil borings and monitoring wells on the land-side portion of the Site, and the collection and analysis of soil and groundwater samples. The results of the additional investigations were generally consistent with those previously documented. GEI also conducted a bench scale evaluation of in-situ solidification/stabilization (ISS) of soils as a remedial alternative for certain areas of the Site. On August 30, 2013, FBT filed a Phase III RAP for the Site outlining the selected Remedial Action Alternatives (RAAs). The Phase III RAP identified three areas of concern to be addressed to reach a Permanent Solution under the MCP on the land-side portion of the Site. These areas are depicted on Figure 3, and are described as follows:



- **A-5 Area:** The A-5 area is situated in the northern portion of the Site in the vicinity of previous exploration location A-5, where elevated lead and arsenic concentrations were detected in a soil sample obtained in 2007. No specific source for the elevated arsenic and lead levels has been identified, and the impacts appear to be random and related to fill material. Groundwater samples collected from this area have not indicated concentrations of metals above the applicable Method 1 GW-3 Standards.
- **CES-2 Area:** The CES 2 area is situated in the northern portion of the peninsula, in the vicinity of previous exploration CES-2. Elevated concentrations of arsenic have been detected in both soil and groundwater in this area. Unlike the Low pH area (see below), soil and groundwater pH levels in the CES-2 area are relatively neutral.
- **Low pH Area:** The Low pH Area includes the southern corner of the peninsula where the pH has been measured to be at or below 4. As indicated in the Phase III RAP, a plot of dissolved lead concentrations against pH indicates a strong correlation between pH levels below 4 and dissolved lead concentrations above the Upper Concentration Limited (UCL).

On January 2, 2015, Wynn MA acquired the portion of the Site in Everett, Massachusetts. On February 5, 2015, Wynn MA filed an Eligible Person Submittal and a Revised Tier II Classification with MassDEP for RTN 3-13341. The Eligible Person Submittal outlined plans to address the three areas described above, along with future land-side remediation coincident with redevelopment, as part of RAM Plans.

On August 18, 2015, Wynn MA and GZA submitted a RAM Plan documenting proposed MCP Response Actions to be completed in the A-5, CES-2 and Low pH Areas.

#### **RELEASE ABATEMENT MEASURE STATUS REPORT**

The following sections of this document are intended to address the specific requirements for RAM Status Reports as outlined in the MCP at 310 CMR 40.0445 (2) (a) through (e).

##### ***(a) The Status of Response Actions***

Mobilization of equipment and material to the Site began during the week of October 19, 2015. Site preparation activities began later that week with the removal of brush and other debris from the remediation, materials management and decontamination pad areas. The AirLogics perimeter air monitoring system was installed on October 27, 2015, prior to intrusive activities. Approximate locations of air monitoring stations are depicted on Figure 3. Additional details concerning AirLogics are presented below.

Erosion and sedimentation controls, including staked straw bales and silt fencing, were placed along the top of Coastal Bank in the Low pH and CES-2 areas in accordance with the Wetlands Protection Act (WPA) Order of Conditions issued authorizing these RAM activities (MassDEP File # 022-0095).

During the emplacement of erosion and sediment controls along the southern tip of the peninsula in the Low pH Area, it became apparent that recent erosion of the shoreline had moved the top of Coastal Bank inland from the location previously mapped. The alignment of the erosion and sedimentation



controls was moved inland approximately 5 feet to be consistent with the top of Coastal Bank as observed in the field.

Observations of the prominence at the northern end of the Low pH Area, along the southeastern shoreline of the peninsula, indicate that this feature is a former pier constructed of timber poles, likely situated on a concrete base (see pre-trenching discussion below). Given the nature of this structure, it will be excluded from the ISS area. However, this feature will be removed during subsequent construction activities.

The final extent of remediation in the Low pH Area will be documented in the next RAM Status Report or RAM Completion Report, pending the installation of the sheet pile wall and ISS completion. These two areas are shown on Figure 3.

Groundwater recharge areas for future dewatering discharge have been established for the CES-2 Area along the northwestern property boundary, and for the A-5 area in the northeastern corner of the property. These areas were constructed as shallow, open excavations. The CES-2 recharge area measures approximately 280 feet (west to east) by 60 feet (north to south); the A-5 recharge area measures approximately 125 feet (west to east) by 50 feet (north to south). In areas where the trench excavation penetrated the tunnel muck to expose potentially contaminated soils below, several inches of tunnel muck was spread across the floor of the excavation to serve as a barrier to direct contact with the underlying soils.

Materials management areas (MMAs) for the temporary storage of excavated soils were installed on the peninsula between the ISS and CES-2 Areas, and in the northern portion of the Site south of the A-5 Area. These two areas are shown on Figure 3.

Pre-trenching for sheet pile installation began during the week of November 9. On that day, an abandoned steel underground storage tank (UST) was uncovered during pre-trenching for the CES-2 excavation sheet pile wall. The UST measured approximately 6 feet by 27 feet, with an estimated volume of 5,000 gallons. The tank was encountered at a depth of approximately 6.5 feet below the existing ground surface, beneath an approximately 1-foot thick concrete slab. The UST appeared to be filled with a mixture of soil and groundwater that exhibited a petroleum-like odor. Representative samples of the soil and groundwater from within the UST were obtained and submitted to ESS Laboratory (ESS) of Cranston, Rhode Island for analysis of VOCs, SVOCs, pH, total petroleum hydrocarbons (TPH), polychlorinated biphenyls (PCBs), MCP 14 metals, conductivity and/or reactivity. The analytical report is included as Appendix C. The Everett Fire Department has been notified of the UST, which will be removed in accordance with applicable regulations prior to sheet pile installation.

In addition, multiple obstructions have been removed from both the CES-2 Area and Low pH Area during the pre-trenching activities. These obstructions include abandoned cast-iron utilities, concrete pile caps and other concrete remnants, and timber members or piles. The obstructions were stockpiled in the peninsula MMA for future characterization and off-Site disposal. As previously noted, a significant concrete structure was observed beneath and adjacent to the prominence at the northern tip of the Low pH Area; this feature is likely the base for a crane formerly situated along the shoreline.

Installation of sheet piling was initiated in the CES-2 Area on November 11, 2015.





On November 12, 2015, excavation of the A-5 Area was initiated. Excavated material from this area is stockpiled within the northern MMA pending treatment for Toxicity Characteristic Leaching Procedure (TCLP) lead stabilization and off-Site disposal.

**(b) Any Significant New Site Information or Data**

Significant new Site information or data was not generated during the current reporting period; however, the following section summarizes monitoring data collected during the reporting period.

Perimeter Air Monitoring Data

Perimeter dust and VOC monitoring is being conducted on a continuous, 24-hour basis. The automated perimeter air monitoring system consists of eight individual AirLogics SolarLite monitoring stations with associated analytical instrumentation, a meteorological station, a computer control system, and an alarm system linked to the analytical instrumentation by an integrated communication/telemetry package. The meteorological station is used to identify which stations are upwind, downwind, or crosswind of Site activities on a real-time basis.

The data collected by the AirLogics system is used to evaluate compliance with the Site perimeter limits for total VOCs and dust developed as part of the RAM Plan, and to identify any need to suspend or modify remediation activities as a result of RAM-related air emissions.

The analytical instrumentation within each perimeter station consists of a photoionization detector (PID) for the measurement of total VOCs (TVOCs), and a respirable particulate meter for the measurement of dust as a surrogate for polynuclear aromatic hydrocarbons (PAHs) and metals. The PIDs, along with the Respirable Particulate Meters, are housed in weather-tight enclosures. The system operates on solar power, and is configured with on-board battery backup.

The system has been configured to generate 15-minute time-weighted averages of TVOC and particulate levels. The system has been programmed based on action levels for TVOCs of 1 part per million by volume (ppmv) and for Respirable Particulate Matter (up to 10 micrometers in size (PM10)) of either 75 µg/m<sup>3</sup> over upwind background (for the CES-2 Area) or 150 µg/m<sup>3</sup> over upwind background (for the A-5 and Low pH Areas), along with warning level alarms set at lower thresholds designed to provide project personnel with an advance warning of potential air quality issues.

Weekly summary sheets for the weeks beginning November 2 and November 9, 2015, are included in Appendix D. No action levels were exceeded for either TVOCs or PM10 during the monitoring period.

CES-2 Baseline Groundwater Recharge Area Sampling

In preparation for the eventual discharge of treated groundwater to the CES-2 groundwater recharge area, baseline groundwater sampling of wells in the vicinity of the recharge area was conducted on October 1, 2015. Wells W-4, RIZ-105, B/MW-207 and RIZ-5 were sampled using USEPA low stress (low flow) sampling. Samples were submitted to ESS for analysis for dissolved RCRA-8 metals. Analytical results are included in Appendix E. Future groundwater samples from the vicinity of the recharge trench will be collected during active dewatering, and results will be compared to the baseline sampling data.



**(c) Details of and/or Plans for the Management of Remediation Waste, Remedial Wastewater and/or Remedial Additives**

The following sections present plans for the management of remediation waste, remedial wastewater and remedial additives.

Remediation Waste

Remediation waste generated during the current monitoring period is limited to a small volume of soil associated with the A-5 Area excavation. Based on the data from the initial investigations at the Site, these soils contain lead levels exceeding the Toxicity Characteristic Leaching Procedure (TCLP) criterion, and will require on-Site treatment prior to transport and disposal off-Site. Specific details regarding the treatment, confirmatory testing and off-Site disposal of these soils will be included in the next RAM Status Report, or the RAM Completion Report.

Groundwater Management

Dewatering effluent will be managed by on-Site treatment and upgradient discharge to an on-Site recharge area or by off-Site transport and disposal. Dewatering is anticipated for the CES-2 Area, and may also be required, but is not expected, for the A-5 Area. No dewatering is anticipated for the Low pH Area.

Dewatering effluent from the CES-2 Area that is recharged on-Site will be treated, as necessary, to meet MCP GW-3 standards. The effluent discharged to the on-Site recharge area will be sampled and tested for dissolved lead, dissolved arsenic, and pH on approximately day 1, day 3, day 6, and weekly for the first month of discharge, and at approximately 30-day intervals after that. In accordance with the MCP (310 CMR 40.0045[4][a]&[b]), hydraulic containment of groundwater will be maintained so that the up-gradient discharge of dewatering effluent to the recharge area is contained or recaptured within the boundaries of the Site. As previously noted, baseline groundwater samples for this area were obtained on October 10, 2015. As of November 14, 2015, no dewatering activities had been conducted in the CES-2 Area. Subsequent RAM Status Reports and/or the RAM Completion Report will include a Remedial Monitoring Report for the operation of the groundwater treatment system associated with dewatering of the CES-2 Area in accordance with 310 CMR 40.0445(5).

Application of Remedial Additives

The ISS process to be employed at the Site will include the application of Portland cement, which can be considered a Remedial Additive, and since the Mystic River adjoins the Site to the southwest, as required by 310 CMR 40.0046(3)(a)(4) and 40.0046(3)(b), the RAM Plan included a written plan for the application of Remedial Additives within 50 feet of the Mystic River. As of November 14, 2015, no Remedial Additives had been applied. Subsequent RAM Status Reports and/or the RAM Completion Report will include a Remedial Monitoring Report for the application of remedial additives in accordance with 310 CMR 40.0445(5).





***(d) Any other information that the Department during its review and evaluation of a Status Report determines to be necessary to complete said Status Report, in view of Site specific circumstances and conditions***

At the request of Mr. Andrew Clark of MassDEP, this status report includes a RAM Plan Modification (see below) to clarify soil management procedures during remediation.

***(e) An LSP Opinion as to whether the Release Abatement Measure is being conducted in conformance with the Release Abatement Measure Plan and any conditions of approval established by the Department***

The LSP Opinion concerning whether the Release Abatement Measure is being conducted in conformance with the RAM Plan is included on the Transmittal Form (BWSC106) attached to this RAM Status Report as Appendix A.

**RAM PLAN MODIFICATION**

At the request of Mr. Andrew Clark of MassDEP, this RAM Plan Modification has been prepared to clarify procedures in place for the management of contaminated soils from the CES-2 Area, Low pH Area and groundwater recharge areas, and to provide an estimate of the volume of contaminated soil that will be excavated as part of the RAM activities in these areas. Information concerning soil handling in the noted remediation areas, as well as the groundwater recharge areas, is presented in the sections below. In addition, this RAM Plan Modification includes provisions for exploratory test pits to assess the status and location of existing underground utilities at the Site. As the modifications listed below do not substantially alter or expand the previous RAM Plan, in accordance with 310 CMR 40.1405(6)(e)(2) this submittal is not subject to an additional comment period.

CES-2 Area: The remedial objectives for the CES-2 Area are the removal of potential source materials, the reduction of groundwater concentrations to below MCP upper concentration limits (UCLs), and the reduction of risk to future construction workers. The target remediation zone in the CES-2 Area is from 6 to 15 feet below ground surface (bgs); this remediation zone was defined as part of the Phase II and Phase III activities conducted by GEI Consultants, Inc. The concentrations of arsenic, which is the primary risk driver in the CES-2 Area, show an increase with depth, with the most heavily impacted zone located from 6 to 15 feet bgs. Included in this zone were concentrations of arsenic above the acute risk concentration threshold of 2,684 mg/kg.

As discussed in the RAM Plan, overburden material from the top 6 feet of the CES-2 Area was excavated and stockpiled on-Site for later re-use. Soils from the upper 6 feet are characterized by samples from previous samples S-26 (0-0.5 feet), BOR-12 (0-3 feet), CES-2-A (0-4 feet), CES-2-B (0-4 feet), and CES-2-D (0-4 feet), and at least in part by samples CES-2-A (4-8 feet), CES-2-B (4-8 feet), CES-2-C (4-8 feet) and CES-2-D (4-8 feet). The average arsenic concentration in these listed samples is 80.9 mg/kg, vs. an average arsenic concentration in the target remediation zone of greater than 2,000 mg/kg. However, the concentration of arsenic in the tunnel muck, as represented by samples S-26 (0-0.5 feet) and BOR-12 (0-3 feet), is 13.9 mg/kg.

During the excavation of the overburden material from the CES-2 Area, approximately 1,900 cubic yards of tunnel muck were segregated from the underlying fill material based on visual observation



and stockpiled within the MMA on the peninsula. Approximately 3,200 cubic yards of the fill material from the interval between the bottom of the tunnel muck and the top of the target remediation zone was transported to the MMA to the east of the groundwater recharge area, but this material was placed on 20-mil polyethylene sheeting and covered with the 10-mil polyethylene sheeting. These materials will be reused as backfill within the CES-2 Area upon completion of excavation of the target remediation zone, unless determined to be geotechnically unsuitable. During backfilling operations, the underlying fill materials will be placed within the excavation first, and will be covered with tunnel muck or clean borrow to an elevation consistent with pre-remediation grades. In the event that the underlying fill material is observed to be unstable during backfilling, tunnel muck may be placed in layers to improve stability.

Approximately 4,500 cubic yards of impacted soil from the CES-2 target remediation zone will be excavated for off-Site disposal. These soils have been precharacterized through a soil boring program completed prior to excavation; precharacterization data for the target remediation zone is included on Table 1. Analytical results indicated exceedances of soil disposal facility acceptance criteria for TCLP lead and/or arsenic in certain samples. Excavated soil from the CES-2 target remediation zone requiring on-Site treatment prior to transport and disposal off-Site will be transported to the MMA for treatment and confirmatory sampling. Treatment will consist of the application of stabilizing reagents to stockpiled soils and mixing of those soils in individual cells of no great than approximately 350 cubic yards.

After mixing, representative samples of the materials will be collected for additional TCLP analysis. Should TCLP concentrations remain above disposal facility acceptance criteria, the materials will be retreated. Following the receipt of acceptable post-treatment TCLP analytical results, these soils will be transported off-Site for disposal. Soils from the CES-2 target remediation zone not requiring on-Site treatment will either be live-loaded, or temporarily stored in the MMA before being transported off-Site for disposal. All soil from the CES-2 target remediation zone stored on-Site will be placed on 20-mil polyethylene sheeting and covered with the 10-mil polyethylene sheeting unless actively being handled or treated.

Low pH Area: The remedial objectives for the Low pH Area are treatment of potential source materials, reduction of groundwater concentrations to below MCP UCLs, and adjustment of groundwater pH to greater than approximately 4. The target remediation zone in the Low pH Area is from 4 to 15 feet bgs. Derivation of the target remediation zone was completed as part of Phase II and Phase III activities conducted by GEI, as well as additional work completed by GZA on behalf of Wynn and documented in the RAM Plan.

As the main concern within the Low pH Area was groundwater, overburden material was removed to limit ISS of unsaturated materials. As discussed in the RAM Plan, overburden material from the top 4 feet of the Low pH Area was excavated and stockpiled on-Site for later re-use as backfill material. Soils from the upper 4 feet are characterized by samples from previous samples S-15 (0-0.5'), S-16 (0-0.5'), S-17 (0-0.5'), S-19 (0-0.5'), B217 (0-2'), BOR-11 (0-3'), SHORE-3 (0-3'), SHORE-4 (0-3'), SHORE-8 (0-3'), SHORE-9 (0-3'), C-14 (4') and at least in part by sample TP301 (0-5'). The average arsenic and lead concentrations in these soils are 19 mg/kg and 218 mg/kg, respectively; the average concentrations of arsenic and lead in the tunnel muck, as represented by samples S-15 (0-0.5'), S-16 (0-0.5'), S-17 (0-0.5'), S-19 (0-0.5'), B217 (0-2'), BOR-11 (0-3') and SHORE-3 (0-3'), are 6.5 mg/kg and 69.2 mg/kg, respectively.



During the excavation of the overburden material from the Low pH Area, approximately 2,500 cubic yards of tunnel muck were segregated from the underlying fill material based on visual observation and stockpiled within the MMA on the peninsula. Approximately 4,500 cubic yards of the fill material below the tunnel muck was also transported to the MMA on the peninsula, but this material was placed on 20-mil polyethylene sheeting and covered with 10-mil polyethylene sheeting. These materials will be reused as backfill within the Low pH Area or CES-2 Area upon completion of ISS within the target remediation zone, unless determined to be geotechnically unsuitable. During backfilling operations, the underlying fill materials will be placed within the excavation first, and will be covered with tunnel muck or clean borrow to an elevation consistent with pre-remediation grades. Approximately 19,000 cubic yards of soil from the Low pH Area target remediation zone will be treated using ISS, as described in the RAM Plan.

Groundwater Recharge Areas: As documented above, groundwater recharge areas for future dewatering discharge have been established for the CES-2 Area along the northwestern property boundary, and for the A-5 area in the northeastern corner of the property. These areas were constructed as shallow, open trenches. The CES-2 recharge area measures approximately 280 feet (west to east) by 60 feet (north to south); the A-5 recharge area measures approximately 125 feet (west to east) by 50 feet (north to south). The total volume of excavated soil from the groundwater recharge areas is estimated to be approximately 2,600 cubic yards. The excavated materials were stockpiled immediately adjacent to the groundwater recharge trenches.

The intent for these trenches was for them to be situated completely within the tunnel muck; however, upon excavation, it was observed that the thickness of tunnel muck was more variable than anticipated, and underlying fill materials were encountered. In areas where the trench excavation penetrated the tunnel muck to expose potentially contaminated soils below, several inches of tunnel muck was spread back across the floor of the excavation to serve as a barrier to direct contact with the underlying soils. As noted by MassDEP during Site visits, stockpiled materials in several areas exhibited signs of the comingling of tunnel muck with underlying fill materials. In response, all stockpiles associated with the groundwater recharge trenches were covered with polyethylene sheeting. Upon completion of remediation activities requiring dewatering, the trenches will be backfilled using the stockpiled materials. During backfilling operations, the underlying fill materials, including those comingled with tunnel muck, will be placed within the excavation first, and will be covered with tunnel muck or clean borrow to an elevation consistent with pre-remediation grades. Following backfilling operations, a visual survey of the area will be conducted to observe for signs of underlying fill material at the ground surface. Should visual evidence suggest that fill material has been emplaced at the surface, the material will either be excavated for characterization and off-Site disposal, or covered with additional clean material.

GZA notes that the groundwater recharge areas are within the footprint of the proposed future parking garage, and will therefore be re-excavated during construction. These materials will ultimately be disposed of off-Site. These future activities will be documented in a forthcoming RAM Plan for construction. This second RAM Plan will also outline future plans for the peninsula, including both the CES-2 Area and Low pH Area. Upon completion of construction activities, these areas will be covered, either with clean fill and landscaping or pavement, walkways or other impervious surfaces to reduce the potential for exposure to underlying residual contamination.

Underground Utility Test Pits: In order to assess the location and condition of certain underground utility lines at the Site, exploratory test pits will be conducted. During the excavation of these test pits,



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tunnel muck, if present, will be segregated from underlying fill materials based on visual observations. The underlying fill materials will then be stockpiled on polyethylene sheeting immediately adjacent to the excavation. Should dewatering be required, the water will be collected for processing through the existing groundwater treatment system. Upon completion of each test pit, the excavation will be backfilled, with soil emplaced at the approximate depth from which it was originally removed.

We trust this information suits your needs. Please feel free to contact the undersigned with any questions or concerns.

Very truly yours,

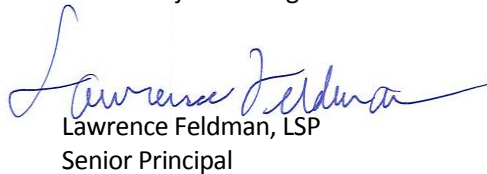
GZA GEOENVIRONMENTAL, INC.



David E. Leone  
Senior Project Manager



Albert J. Ricciardelli  
Consultant/Reviewer



Lawrence Feldman, LSP  
Senior Principal

Attachments:

Table 1	Precharacterization Data
Figure 1	Site Locus
Figure 2	Site Plan
Figure 3	Proposed Pre-Construction Release Abatement Measure (RAM) Remediation Areas
Appendix A	Limitations
Appendix B	Transmittal Form BWSC106
Appendix C	UST Laboratory Analytical Results
Appendix D	AirLogics Weekly Reports
Appendix E	Groundwater Laboratory Analytical Data

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**TABLE**

TABLE 1  
PRECHARACTERIZATION SOIL DATA  
A-5 and CES-2 Areas  
Phase One Remediation  
Wynn Casino  
Everett, Massachusetts

Sample Date Sample ID Sample Depth	CES-2 Area														
	02/23/2015 GZ-301 6ft-10ft 6ft - 10ft	02/23/2015 GZ-301 10ft-15ft 10ft - 15ft	02/23/2015 GZ-302 6ft-10ft 6ft - 10ft	02/23/2015 GZ-302 10ft-15ft 10ft - 15ft	02/23/2015 GZ-303 6ft-10ft 6ft - 10ft	02/23/2015 GZ-303 10ft-15ft 10ft - 15ft	02/23/2015 GZ-304 6ft-10ft 6ft - 10ft	02/23/2015 GZ-304 10ft-15ft 10ft - 15ft	02/23/2015 GZ-305 6ft-10ft 6ft - 10ft	02/23/2015 GZ-305 10ft-15ft 10ft - 15ft	02/23/2015 GZ-306 6ft-10ft 6ft - 10ft	02/23/2015 GZ-306 10ft-15ft 10ft - 15ft	02/27/2015 GZ-307 6ft-10ft 6ft - 10ft	02/27/2015 GZ-307 10ft-15ft 10ft - 15ft	02/27/2015 GZ-308 6ft-10ft 6ft - 10ft
8260 Volatile Organic Compounds (low level)															
Total VOCs	ND	ND	ND	0.023	0.0403	0.102	0.0974	0.1537	0.0701	0.0825	0.1244	0.0611	ND	0.0305	0.0403
80260B Volatile Organic Compounds (methanol)															
Total VOCs	-	-	0.476	-	-	-	-	-	-	-	-	-	-	-	-
Method 8270 Semi-Volatile Organic Compounds (SVOCs)															
Total SVOCs	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.09
8100M Total Petroleum Hydrocarbons															
Total Petroleum Hydrocarbons	<43.7	<50.7	<44.3	<49.3	181	133	2410	117	<48.2	<64.9	<47.2	76.4	<48.5	71.1	164
8082A Polychlorinated Biphenyls (PCBs)															
Total PCBs	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.354	ND
8151A Herbicides (via gas chromatography)															
2,4,5-T	<0.046	<0.057	<0.044	<0.057	<0.045	<0.057	<0.048	<0.067	<0.053	<0.073	<0.046	<0.046	<0.10	<0.11	<0.094
2,4-D	<0.23	<0.29	<0.22	<0.28	<0.23	<0.28	<0.24	<0.34	<0.26	<0.36	<0.23	<0.23	<0.51	<0.54	<0.47
2,4-DB	<0.017	<0.021	<0.016	<0.021	<0.017	<0.021	<0.018	<0.025	<0.027	<0.027	<0.017	<0.017	<0.038	<0.041	<0.035
Dalapon	<1.4	<1.7	<1.3	<1.7	<1.4	<1.7	<1.4	<2.0	<1.6	<2.2	<1.4	<1.4	<3.1	<3.2	<2.8
Dicamba	<0.068	<0.086	<0.066	<0.085	<0.068	<0.072	<0.10	<0.079	<0.11	<0.069	<0.069	<0.069	<0.15	<0.16	<0.14
Dichlorprop	<0.15	<0.19	<0.14	<0.18	<0.15	<0.18	<0.16	<0.22	<0.17	<0.24	<0.15	<0.15	<0.33	<0.35	<0.30
Dinoseb	<0.23	<0.29	<0.22	<0.28	<0.23	<0.28	<0.24	<0.36	<0.26	<0.36	<0.23	<0.23	<0.51	<0.54	<0.47
MCPA	<57	<72	<55	<71	<57	<71	<60	<84	<66	<91	<57	<57	<130	<140	<120
MCPP	<57	<72	<55	<71	<57	<71	<60	<84	<66	<91	<57	<57	<130	<140	<120
Silvex (2,4,5-TP)	<0.046	<0.057	<0.044	<0.057	<0.045	<0.057	<0.048	<0.067	<0.053	<0.073	<0.046	<0.046	<0.10	<0.11	<0.094
8081B Organochlorine Pesticides (via gas chromatography)															
4,4'-DDD	<0.0020	<0.0025	<0.0019	<0.0025	<0.0020	<0.0024	<0.0020	<0.0028	<0.0023	<0.0030	<0.0020	<0.0020	<0.0021	<0.0022	<0.0020
4,4'-DDE	<0.0020	<0.0025	<0.0019	<0.0025	<0.0020	<0.0024	<0.0020	<0.0028	<0.0023	<0.0030	<0.0020	<0.0020	<0.0021	<0.0022	<0.0020
4,4'-DDT	<0.0020	<0.0025	<0.0019	<0.0025	<0.0020	<0.0024	<0.0020	<0.0028	<0.0023	<0.0030	<0.0020	<0.0020	<0.0021	<0.0022	<0.0020
Aldrin	<0.0020	<0.0025	<0.0019	<0.0025	<0.0020	<0.0024	<0.0020	<0.0028	<0.0023	<0.0030	<0.0020	<0.0020	<0.0021	<0.0022	<0.0020
alpha-BHC	<0.0020	<0.0025	<0.0019	<0.0025	<0.0020	<0.0024	<0.0020	<0.0028	<0.0023	<0.0030	<0.0020	<0.0020	<0.0021	<0.0022	<0.0020
beta-BHC	<0.0020	<0.0025	<0.0019	<0.0025	<0.0020	<0.0024	<0.0020	<0.0028	<0.0023	<0.0030	<0.0020	<0.0020	<0.0021	<0.0022	<0.0020
Chlordane (technical)	<0.020	<0.025	<0.019	<0.025	<0.020	<0.024	<0.020	<0.028	<0.023	<0.030	<0.020	<0.020	<0.021	<0.022	<0.020
delta-BHC	<0.0020	<0.0025	<0.0019	<0.0025	<0.0020	<0.0024	<0.0020	<0.0028	<0.0023	<0.0030	<0.0020	<0.0020	<0.0021	<0.0022	<0.0020
Dieldrin	<0.0020	<0.0025	<0.0019	<0.0025	<0.0020	<0.0024	<0.0020	<0.0028	<0.0023	<0.0030	<0.0020	<0.0020	<0.0021	<0.0022	<0.0020
Endosulfan I	<0.0020	<0.0025	<0.0019	<0.0025	<0.0020	<0.0024	<0.0020	<0.0028	<0.0023	<0.0030	<0.0020	<0.0020	<0.0021	<0.0022	<0.0020
Endosulfan II	<0.0020	<0.0025	<0.0019	<0.0025	<0.0020	<0.0024	<0.0020	<0.0028	<0.0023	<0.0030	<0.0020	<0.0020	<0.0021	<0.0022	<0.0020
Endosulfan sulfate	<0.0020	<0.0025	<0.0019	<0.0025	<0.0020	<0.0024	<0.0020	<0.0028	<0.0023	<0.0030	<0.0020	<0.0020	<0.0021	<0.0022	<0.0020
Endrin	<0.0020	<0.0025	<0.0019	<0.0025	<0.0020	<0.0024	<0.0020	<0.0028	<0.0023	<0.0030	<0.0020	<0.0020	<0.0021	<0.0022	<0.0020
Endrin ketone	<0.0020	<0.0025	<0.0019	<0.0025	<0.0020	<0.0024	<0.0020	<0.0028	<0.0023	<0.0030	<0.0020	<0.0020	<0.0021	<0.0022	<0.0020
gamma-BHC (Lindane)	<0.0020	<0.0025	<0.0019	<0.0025	<0.0020	<0.0024	<0.0020	<0.0028	<0.0023	<0.0030	<0.0020	<0.0020	<0.0021	<0.0022	<0.0020
Heptachlor	<0.0020	<0.0025	<0.0019	<0.0025	<0.0020	<0.0024	<0.0020	<0.0028	<0.0023	<0.0030	<0.0020	<0.0020	<0.0021	<0.0022	<0.0020
Heptachlor epoxide	<0.0020	<0.0025	<0.0019	<0.0025	<0.0020	<0.0024	<0.0020	<0.0028	<0.0023	<0.0030	<0.0020	<0.0020	<0.0021	<0.0022	<0.0020
Hexachlorobenzene	<0.0020	<0.0025	<0.0019	<0.0025	<0.0020	<0.0024	<0.0020	<0.0028	<0.0023	<0.0030	<0.0020	<0.0020	<0.0021	<0.0022	<0.0020
Methoxychlor	<0.0020	<0.0025	<0.0019	<0.0025	<0.0020	<0.0024	<0.0020	<0.0028	<0.0023	<0.0030	<0.0020	<0.0020	<0.0021	<0.0022	<0.0020
Total Metals															
Arsenic	19.6	166	907	707	169	2820	746	269	439	1000	3930	1990	65.9	72.1	138
Barium	46.4	18.7	111	59.6	56.7	740	13.1	25.9	33.3	20.1	42.3	448	41.3	71.8	220
Cadmium	<1.93	<2.14	<13.9	<8.77	<4.78	<13.0	<18.0	<7.65	<5.63	<10.1	130	<11.0	<1.53	28.6	<3.90
Chromium	9.2	16.9	7.61	18	41.3	25.7	31.2	24.1	19.3	19.4	12.7	25.1	11.8	29.4	11
Lead	35	104	121	155	926	3070	41.6	43.1	415	120	100	1600	347	6270	158
Mercury	0.23	0.21	0.779	0.382	2.53	1.69	3.41	0.126	16.4	0.279	0.298	1.11	0.695	0.327	1.68
Selenium	<9.63	<10.7	<11.1	<8.77	<9.57	<13.0	<12.0	<15.3	<11.3	<15.3	<11.5	<14.7	<7.65	<7.33	<7.80
Silver	<1.93	<2.14	<2.23	<1.75	<1.91	12.3	<2.39	<3.06	<2.25	<2.69	<2.30	3.15	<1.53	10.4	<1.56
TCLP Metals															
Arsenic (mg/L)	-	0.692	0.273	1.77	0.439	0.441	3.5	0.228	<0.500	16	<0.500	8.26	-	-	<0.500
Cadmium (mg/L)	-	-	-	-	-	-	-	-	-	-	<0.0100	-	-	<0.100	-
Lead (mg/L)	-	0.128	<0.050	1.77	1.02	0.986	-	-	<0.050	0.563	<0.050	0.46	<0.500	0.635	<0.500
Mercury (mg/L)	-	-	-	-	-	-	-	-	<0.00050	-	-	-	-	-	-
Selenium (mg/L)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Classical Chemistry															
Conductivity (umhos/cm)	1920	1140	6390	1240	1870	790	1900	3240	115	1250	768	200	497	1630	189
Corrosivity (pH)	6.89	7.18	7.09	6.58	7.07	7.34	7.05	7.91	6.26	5.7	6.29	<2.0	7.02	6.76	6.23
Flashpoint (°F)	>200	>200	>200	>200	>200	>200	>200	>200	>200	>200	>200	>200	>200	>200	>200
Reactive Cyanide (mg/kg)	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Reactive Sulfide (mg/kg)	<2.0	<2.0		<2.0	<2.0		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0

Notes:  
1. Samples collected in February 2015 were collected by GZA personnel and analyzed by ESS Laboratory in Cranston, Rhode Island.  
2. Results are presented in mg/kg dry weight unless otherwise noted.  
3. ND = individual VOC/SVOC/PCB analytes not detected above laboratory reporting limits, refer to laboratory analytical reports; "-" means the samples was not analyzed for the particular analyte.



TABLE 1  
PRECHARACTERIZATION SOIL DATA  
A-5 and CES-2 Areas  
Phase One Remediation  
Wynn Casino  
Everett, Massachusetts

Sample Date Sample ID Sample Depth	CES-2 Area					A-5 Area							
	02/27/2015 GZ-308 10ft - 15ft 10ft - 15ft	02/27/2015 GZ-309 6ft - 10ft 6ft - 10ft	02/27/2015 GZ-309 10ft - 15ft 10ft - 15ft	02/27/2015 GZ-310 6ft - 10ft 6ft - 10ft	02/27/2015 GZ-310 10ft - 15ft 10ft - 15ft	2/23/2015 D02S01S02A 0.0 ft - 3.3ft	2/23/2015 D02S02S04A 3.3ft - 6.6ft	2/23/2015 D02S04S05 6.6ft - 10.0ft	2/25/2015 D03S01S02A 0.0ft - 3.3ft	2/26/2015 D03S02S03 3.3ft - 6.0ft	2/26/2015 D03S05 8.0ft - 10.0ft	2/19/2015 E02S01S02A 0.0ft - 3.3ft	2/19/2015 E02S04S03 3.3ft - 6.0ft
8260 Volatile Organic Compounds (low level)													
Total VOCs	0.0312	0.0261	0.1402	0.0067	0.1815	ND	ND	ND	ND	ND	ND	ND	ND
80260B Volatile Organic Compounds (methanol)													
Total VOCs	-	-	-	-	-	-	-	-	-	-	-	-	-
Method 8270 Semi-Volatile Organic Compounds (SVOCs)													
Total SVOCs	82.2	489.31	13.78	2.65	3.09	ND	ND	ND	ND	ND	ND	ND	ND
8100M Total Petroleum Hydrocarbons													
Total Petroleum Hydrocarbons	464	1410	407	94.3	164	761	210	71.4	310	885	<46.5	933	966
8082A Polychlorinated Biphenyls (PCBs)													
Total PCBs	0.347	ND	ND	ND	ND	ND	59.2	1.76	0.152	1.224	ND	1.94	25.04
8151A Herbicides (via gas chromatography)													
2,4,5-T	<0.13	<0.10	<0.16	<0.11	<0.074	<0.056	<0.056	<0.067	<0.052	<0.054	-	<0.26	<0.34
2,4-D	<0.64	<0.51	<0.79	<0.54	<0.37	<0.056	<0.056	<0.067	<0.052	<0.054	-	<0.26	<0.34
2,4-DB	<0.048	<0.038	<0.059	<0.040	<0.028	<0.056	<0.056	<0.067	<0.052	<0.054	-	<0.26	<0.34
Dalapon	<3.8	<3.0	<4.7	<3.2	<2.2	<0.68	<0.67	<0.81	<0.63	<0.65	-	<3.2	<4.1
Dicamba	<0.19	<0.15	<0.24	<0.16	<0.11	<0.056	<0.056	<0.067	<0.052	<0.054	-	<0.26	<0.34
Dichlorprop	<0.42	<0.33	<0.51	<0.35	<0.24	<0.056	<0.056	<0.067	<0.052	<0.054	-	<0.26	<0.34
Dinoseb	<0.64	<0.51	<0.79	<0.54	<0.37	<0.34	<0.34	<0.40	<0.31	<0.33	-	<1.6	<2.1
MCPA	<160	<130	<200	<130	<93	<14	<13	<16	<13	<13	-	<63	<82
MCPP	<160	<130	<200	<130	<93	<14	<13	<16	<13	<13	-	<63	<82
Silvex (2,4,5-TP)	<0.13	<0.10	<0.16	<0.11	<0.074	<0.056	<0.056	<0.067	<0.052	<0.054	-	<0.26	<0.34
8081B Organochlorine Pesticides (via gas chromatography)													
4,4'-DDD	<0.0027	<0.0042	<0.0033	<0.0045	<0.0031	<0.0020	<0.0020	<0.0047	<0.0093	<0.0094	-	<0.019	<0.0048
4,4'-DDE	<0.0027	<0.0042	<0.0033	<0.0045	<0.0031	<0.0020	<0.0020	<0.0047	<0.0093	<0.0094	-	<0.019	<0.0048
4,4'-DDT	<0.0027	<0.0042	<0.0033	<0.0045	<0.0031	<0.0020	<0.0020	<0.0047	<0.0093	<0.0094	-	<0.019	<0.0048
Aldrin	<0.0027	<0.0042	<0.0033	<0.0045	<0.0031	<0.0020	<0.0020	<0.0047	<0.0093	<0.0094	-	<0.019	<0.0048
alpha-BHC	<0.0027	<0.0042	<0.0033	<0.0045	<0.0031	<0.0020	<0.0020	<0.0047	<0.0093	<0.0094	-	<0.019	<0.0048
beta-BHC	<0.0027	<0.0042	<0.0033	<0.0045	<0.0031	<0.0020	<0.0020	<0.0047	<0.0093	<0.0094	-	<0.019	<0.0048
Chlordane (technical)	<0.027	<0.042	<0.033	<0.045	<0.031	<0.020	<0.020	<0.047	<0.093	<0.094	-	<0.019	<0.0048
delta-BHC	<0.0027	<0.0042	<0.0033	<0.0045	<0.0031	<0.0020	<0.0020	<0.0047	<0.0093	<0.0094	-	<0.019	<0.0048
Dieldrin	<0.0027	<0.0042	<0.0033	<0.0045	<0.0031	<0.0020	<0.0020	<0.0047	<0.0093	<0.0094	-	<0.019	<0.0048
Endosulfan I	<0.0027	<0.0042	<0.0033	<0.0045	<0.0031	<0.0020	<0.0020	<0.0047	<0.0093	<0.0094	-	<0.019	<0.0048
Endosulfan II	<0.0027	<0.0042	<0.0033	<0.0045	<0.0031	<0.0020	<0.0020	<0.0047	<0.0093	<0.0094	-	<0.019	<0.0048
Endosulfan sulfate	<0.0027	<0.0042	<0.0033	<0.0045	<0.0031	<0.0020	<0.0020	<0.0047	<0.0093	<0.0094	-	<0.019	<0.0048
Endrin	<0.0027	<0.0042	<0.0033	<0.0045	<0.0031	<0.0020	<0.0020	<0.0047	<0.0093	<0.0094	-	<0.019	<0.0048
Endrin ketone	<0.0027	<0.0042	<0.0033	<0.0045	<0.0031	<0.0020	<0.0020	<0.0047	<0.0093	<0.0094	-	<0.019	<0.0048
gamma-BHC (Lindane)	<0.0027	<0.0042	<0.0033	<0.0045	<0.0031	<0.0020	<0.0020	<0.0047	<0.0093	<0.0094	-	<0.019	<0.0048
Heptachlor	<0.0027	<0.0042	<0.0033	<0.0045	<0.0031	<0.0020	<0.0020	<0.0047	<0.0093	<0.0094	-	<0.019	<0.0048
Heptachlor epoxide	<0.0027	<0.0042	<0.0033	<0.0045	<0.0031	<0.0020	<0.0020	<0.0047	<0.0093	<0.0094	-	<0.019	<0.0048
Hexachlorobenzene	<0.0027	<0.0042	<0.0033	<0.0045	<0.0031	<0.0020	<0.0020	<0.0047	<0.0093	<0.0094	-	<0.019	<0.0048
Methoxychlor	<0.0027	<0.0042	<0.0033	<0.0045	<0.0031	<0.0020	<0.0020	<0.0047	<0.0093	<0.0094	-	<0.019	<0.0048
Total Metals													
Arsenic	326	2720	4910	14800	408	<5.73	95.1	29.7	15.0	32.7	12.4	32.1	67.3
Barium	505	195	194	165	50.9	33.3	165	10.2	45.6	148	74.2	89.1	143
Cadmium	9.7	<36.2	<47.6	<415	<15.6	<1.15	<1.48	<1.32	<1.42	7.66	<1.54	<1.35	<1.49
Chromium	12.6	10.9	35.5	13.5	37.1	17.5	78.1	7.04	40.8	25.4	46.9	19.9	21.4
Lead	1020	2980	11200	13300	445	<11.5	1860	84.4	170	651	41.9	341	606
Mercury	1.67	11.1	166	205	8.24	0.299	30.9	0.494	1.15	4.39	14.0	2.49	4.72
Selenium	9.71	13	279	166	<10.4	<5.73	14.0	<6.60	<7.09	<6.70	<7.70	<6.75	<7.47
Silver	21.4	7.32	8.55	12.3	<2.09	<1.15	1.90	<1.32	<1.42	<1.34	<1.54	<1.35	<1.49
TCLP Metals													
Arsenic (mg/L)	<0.500	<0.500	5.95	<0.500	12	-	-	-	-	-	-	-	-
Cadmium (mg/L)	-	<0.100	<0.150	<0.100	-	-	-	-	-	-	-	-	-
Lead (mg/L)	<0.500	0.876	5.59	2.11	9.79	-	20.4	-	0.204	-	-	0.561	0.710
Mercury (mg/L)	-	<0.00050	<0.00050	<0.00050	0.00681	-	0.00083	-	-	<0.00050	<0.00050	-	<0.00050
Selenium (mg/L)	-	-	<0.500	<0.500	-	-	-	-	-	-	-	-	-
Classical Chemistry													
Conductivity (umhos/cm)	1470	260	1390	570	2480	193	586	899	281	1380	1430	231	503
Corrosivity (pH)	6.72	5.52	5.15	4.61	6.38	8.87	7.28	6.66	9.64	7.94	7.19	7.75	7.26
Flashpoint (°F)	>200	>200	>200	>200	>200	>200	>200	>200	>200	>200	-	>200	>200
Reactive Cyanide (mg/kg)	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	-	<2.0	<2.0	-	<2.0	<2.0
Reactive Sulfide (mg/kg)	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	-	<2.0	<2.0	-	<2.0	<2.0

Notes:  
1. Samples collected in February 2015 were collected by GZA personnel and analyzed by ESS Laboratory in Cranston, Rhode Island.  
2. Results are presented in mg/kg dry weight unless otherwise noted.  
3. ND = individual VOC/SVOC/PCB analytes not detected above laboratory reporting limits, refer to laboratory analytical reports; "-," means the samples was not analyzed for the particular analyte.



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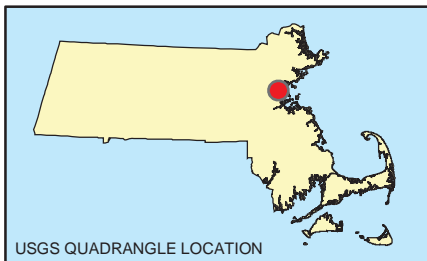


**FIGURES**





Copyright © 2013 National Geographic Society, i-cubed



SOURCE : THIS MAP CONTAINS THE ESRI ARCGIS ONLINE USA TOPOGRAPHIC MAP SERVICE, PUBLISHED DECEMBER 12, 2009 BY ESRI ARCGIS SERVICES AND UPDATED AS NEEDED. THIS SERVICE USES UNIFORM NATIONALLY RECOGNIZED DATUM AND CARTOGRAPHY STANDARDS AND A VARIETY OF AVAILABLE SOURCES FROM SEVERAL DATA PROVIDERS.

Data Supplied by :



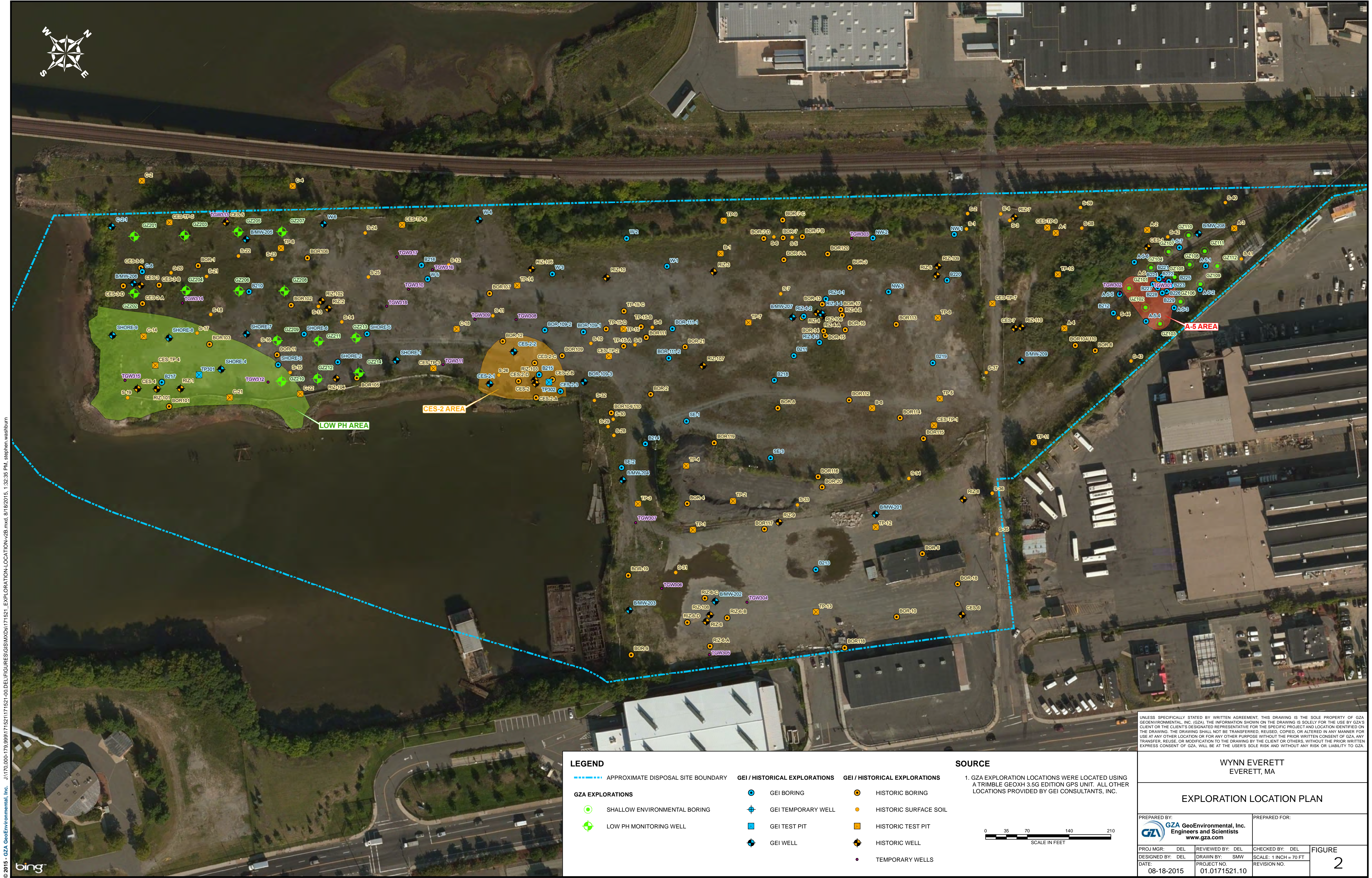
PROJ. MGR.: DEL  
DESIGNED BY: DEL  
REVIEWED BY: LF  
OPERATOR: EMD  
DATE: 10-14-2014

## LOCUS PLAN

1 HORIZON WAY  
EVERETT, MASSACHUSETTS

JOB NO.  
01.0171521.05  
FIGURE NO.  
1





© 2015 - GZA GeoEnvironmental, Inc. J:\170.000-79.998\171521\171521-00\DEL\FIGURES\GIS\MXDs\171521\_EXPLORATION\LOCATION+2B.mxd, 8/18/2015, 1:32:35 PM, stephen.washburn

LEGEND

- APPROXIMATE DISPOSAL SITE BOUNDARY
- GZA EXPLORATIONS**
- SHALLOW ENVIRONMENTAL BORING
  - LOW PH MONITORING WELL

- GEI / HISTORICAL EXPLORATIONS**
- GEI BORING
  - GEI TEMPORARY WELL
  - GEI TEST PIT
  - GEI WELL

- GEI / HISTORICAL EXPLORATIONS**
- HISTORIC BORING
  - HISTORIC SURFACE SOIL
  - HISTORIC TEST PIT
  - HISTORIC WELL
  - TEMPORARY WELLS

SOURCE

1. GZA EXPLORATION LOCATIONS WERE LOCATED USING A TRIMBLE GEOXH 3.5G EDITION GPS UNIT. ALL OTHER LOCATIONS PROVIDED BY GEI CONSULTANTS, INC.



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			
EXPLORATION LOCATION PLAN			
PREPARED BY: GZA GeoEnvironmental, Inc. Engineers and Scientists www.gza.com		PREPARED FOR:	
PROJ MGR: DEL	REVIEWED BY: DEL	CHECKED BY: DEL	FIGURE 2
DESIGNED BY: DEL	DRAWN BY: SMW	SCALE: 1 INCH = 70 FT	
DATE: 08-18-2015	PROJECT NO: 01.0171521.10	REVISION NO:	









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**APPENDIX A**

**LIMITATIONS**





## **GEOHYDROLOGICAL LIMITATIONS**

### Use of Report

1. GZA GeoEnvironmental, Inc. (GZA) prepared this report on behalf of, and for the exclusive use of our Client for the stated purpose(s) and location(s) identified in the Proposal for Services and/or Report. Use of this report, in whole or in part, at other locations, or for other purposes, may lead to inappropriate conclusions; and we do not accept any responsibility for the consequences of such use(s). Further, reliance by any party not expressly identified in the agreement, for any use, without our prior written permission, shall be at that party's sole risk, and without any liability to GZA.

### Standard of Care

2. GZA's findings and conclusions are based on the work conducted as part of the Scope of Services set forth in the Proposal for Services and/or Report and reflect our professional judgment. These findings and conclusions must be considered not as scientific or engineering certainties, but rather as our professional opinions concerning the limited data gathered during the course of our work. Conditions other than described in this report may be found at the subject location(s).
3. GZA's services were performed using the degree of skill and care ordinarily exercised by qualified professionals performing the same type of services, at the same time, under similar conditions, at the same or a similar property. No warranty, expressed or implied, is made. Specifically, GZA does not and cannot represent that the Site contains no hazardous material, oil, or other latent condition beyond that observed by GZA during its study. Additionally, GZA makes no warranty that any response action or recommended action will achieve all of its objectives or that the findings of this study will be upheld by a local, state or federal agency.
4. In conducting our work, GZA relied upon certain information made available by public agencies, Client and/or others. GZA did not attempt to independently verify the accuracy or completeness of that information. Inconsistencies in this information which we have noted, if any, are discussed in the Report.

### Subsurface Conditions

5. The generalized soil profile(s) provided in our Report are based on widely-spaced subsurface explorations and are intended only to convey trends in subsurface conditions. The boundaries between strata are approximate and idealized, and were based on our assessment of subsurface conditions. The composition of strata, and the transitions between strata, may be more variable and more complex than indicated. For more specific information on soil conditions at a specific location refer to the exploration logs. The nature and extent of variations between these explorations may not become evident until further exploration or construction. If variations or other latent conditions then become evident, it will be necessary to reevaluate the conclusions and recommendations of this report.

6. Water level readings have been made, as described in this Report, in and monitoring wells at the specified times and under the stated conditions. These data have been reviewed and interpretations have been made in this report. Fluctuations in the level of the groundwater however occur due to temporal or spatial variations in areal recharge rates, soil heterogeneities, the presence of subsurface utilities, and/or natural or artificially induced perturbations. The observed water table may be other than indicated in the Report.

#### Compliance with Codes and Regulations

7. We used reasonable care in identifying and interpreting applicable codes and regulations necessary to execute our scope of work. These codes and regulations are subject to various, and possibly contradictory, interpretations. Interpretations and compliance with codes and regulations by other parties is beyond our control.

#### Screening and Analytical Testing

8. GZA collected environmental samples at the locations identified in the Report. These samples were analyzed for the specific parameters identified in the report. Additional constituents, for which analyses were not conducted, may be present in soil, groundwater, surface water, sediment and/or air. Future Site activities and uses may result in a requirement for additional testing.
9. Our interpretation of field screening and laboratory data is presented in the Report. Unless otherwise noted, we relied upon the laboratory's QA/QC program to validate these data.
10. Variations in the types and concentrations of contaminants observed at a given location or time may occur due to release mechanisms, disposal practices, changes in flow paths, and/or the influence of various physical, chemical, biological or radiological processes. Subsequently observed concentrations may be other than indicated in the Report.

#### Interpretation of Data

11. Our opinions are based on available information as described in the Report, and on our professional judgment. Additional observations made over time, and/or space, may not support the opinions provided in the Report.

#### Additional Information

12. In the event that the Client or others authorized to use this report obtain additional information on environmental or hazardous waste issues at the Site not contained in this report, such information shall be brought to GZA's attention forthwith. GZA will evaluate such information and, on the basis of this evaluation, may modify the conclusions stated in this report.

### Additional Services

13. GZA recommends that we be retained to provide services during any future investigations, design, implementation activities, construction, and/or property development/ redevelopment at the Site. This will allow us the opportunity to: i) observe conditions and compliance with our design concepts and opinions; ii) allow for changes in the event that conditions are other than anticipated; iii) provide modifications to our design; and iv) assess the consequences of changes in technologies and/or regulations.

### Conceptual Site Model

14. Our opinions were developed, in part, based upon a comparison of site data to conditions anticipated within our Conceptual Site Model (CSM). The CSM is based on available information, and professional judgment. There are rarely sufficient data to develop a unique CSM. Therefore observations over time, and/or space, may vary from those depicted in the CSM provided in this report. In addition, the CSM should be evaluated and refined (as appropriate) whenever significant new information and/or data is obtained.

### Risk Characterization

15. Our risk evaluation was performed in accordance with generally accepted practices of appropriate Federal and/or state regulatory agencies, and of other consultants undertaking similar studies at the same time, for similar purposes, and under similar circumstances. The findings of the risk evaluation are dependent on the numerous assumptions and uncertainties inherent in the risk characterization process. Sources of the uncertainty may include Site conditions; Site use; the nature, extent, concentration and distribution of contaminants; and the available toxicity and/or health/risk based regulatory information. Consequently, the findings of the risk characterization are not an absolute characterization of actual risks; but rather serve to highlight potential incremental risks associated with activities indicated in the Report. Actual risks may be other than indicated in the Report.



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## **APPENDIX B**

TRANSMITTAL FORM BWSC106



Massachusetts Department of Environmental Protection  
Bureau of Waste Site Cleanup

BWSC 106

RELEASE ABATEMENT MEASURE (RAM)  
TRANSMITTAL FORM

Release Tracking Number

3 - 13341

Pursuant to 310 CMR 40.0444 - 0446 (Subpart D)

**A. SITE LOCATION:**

1. Site Name/Location Aid: EVERETT STAGING YARD  
2. Street Address: 1 HORIZON WAY  
3. City/Town: EVERETT 4. Zip Code: 021490000

5. Check here if the disposal site that is the source of the release is Tier Classified. Check the current Tier Classification Category.

☐ a. Tier I

☐ b. Tier ID

☐ c. Tier II

**B. THIS FORM IS BEING USED TO:** (check all that apply)

1. List Submittal Date of Initial RAM Plan (if previously submitted): 8/18/2015  
(mm/dd/yyyy)

☐ 2. Submit an **Initial Release Abatement Measure (RAM) Plan**.

☐ a. Check here if the RAM is being conducted as part of the construction of a permanent structure. If checked, you must specify what type of permanent structure is to be erected in or in the immediate vicinity of the area where the RAM is to be conducted.

b. Specify type of permanent structure: (check all that apply) ☐ i. School ☐ ii. Residential ☐ iii. Commercial  
☐ iv. Industrial ☐ v. Other Specify: \_\_\_\_\_

☐ 3. Submit a **Modified RAM Plan** of a previously submitted RAM Plan.

☐ 4. Submit a **RAM Status Report**.

☐ 5. Submit a **Remedial Monitoring Report**. (This report can only be submitted through eDEP, concurrent with a RAM Status Report.)

a. Type of Report: (check one) ☐ i. Initial Report ☐ ii. Interim Report ☐ iii. Final Report

b. Frequency of Submittal:

☐ i. A Remedial Monitoring Report(s) submitted every six months, concurrent with a RAM Status Report.  
☐ ii. A Remedial Monitoring Report(s) submitted annually, concurrent with a RAM Status Report.

c. Number of Remedial Systems and/or Monitoring Programs: \_\_\_\_\_

A separate BWSC106A, RAM Remedial Monitoring Report, must be filled out for each Remedial System and/or Monitoring Program addressed by this transmittal form.

☐ 6. Submit a **RAM Completion Statement**.

☐ 7. Submit a **Revised RAM Completion Statement**.

8. Provide Additional RTNs:

☐ a. Check here if this RAM Submittal covers additional Release Tracking Numbers (RTNs). RTNs that have been previously linked to a Primary Tier Classified RTN do not need to be listed here. This section is intended to allow a RAM to cover more than one unclassified RTN and not show permanent linkage to a Primary Tier Classified RTN.

b. Provide the additional Release Tracking Number(s) covered by this RAM Submittal.  -   -

☐ 9. Include in the **RAM Plan** or **Modified RAM Plan** a **Plan for the Application of Remedial Additives** near a sensitive receptor, pursuant to 310 CMR 40.0046(3).

(All sections of this transmittal form must be filled out unless otherwise noted above)



Massachusetts Department of Environmental Protection  
Bureau of Waste Site Cleanup

**BWSC 106**

**RELEASE ABATEMENT MEASURE (RAM)  
TRANSMITTAL FORM**

Release Tracking Number

3 - 13341

Pursuant to 310 CMR 40.0444 - 0446 (Subpart D)

**C. RELEASE OR THREAT OF RELEASE CONDITIONS THAT WARRANT RAM:**

1. Media Impacted and Receptors Affected: (check all that apply)

- ☐ a. Paved Surface    ☐ b. Basement    ☐ c. School  
☐ d. Public Water Supply    ☐ e. Surface Water    ☐ f. Zone 2    ☐ g. Private Well    ☐ h. Residence    ☐ i. Soil  
☒ j. Ground Water    ☐ k. Sediments    ☐ l. Wetland    ☐ m. Storm Drain    ☐ n. Indoor Air    ☐ o. Air  
☐ p. Soil Gas    ☐ q. Sub-Slab Soil Gas    ☐ r. Critical Exposure Pathway    ☐ s. NAPL    ☐ t. Unknown  
☐ u. Others    Specify: \_\_\_\_\_

2. Sources of the Release or TOR: (check all that apply)

- ☐ a. Transformer    ☐ b. Fuel Tank    ☐ c. Pipe  
☐ d. OHM Delivery    ☐ e. AST    ☐ f. Drums    ☐ g. Tanker Truck    ☐ h. Hose    ☐ i. Line  
☐ j. UST    Describe: \_\_\_\_\_    ☐ k. Vehicle    ☐ l. Boat/Vessel  
☐ m. Unknown    ☒ n. Other: HISTORIC FILL AND MANUFACTURING

3. Type of Release or TOR: (check all that apply)

- ☐ a. Dumping    ☐ b. Fire    ☐ c. AST Removal    ☐ d. Overfill  
☐ e. Rupture    ☐ f. Vehicle Accident    ☐ g. Leak    ☐ h. Spill    ☐ i. Test Failure    ☐ j. TOR Only  
☐ k. UST Removal    Describe: \_\_\_\_\_  
☐ l. Unknown    ☒ m. Other: HISTORIC FILL AND MANUFACTURING

4. Identify Oils and Hazardous Materials Released: (check all that apply)

- ☒ a. Oils    ☐ b. Chlorinated Solvents  
☒ c. Heavy Metals    ☒ d. Others    Specify: LOW PH IN GROUNDWATER

**D. DESCRIPTION OF RESPONSE ACTIONS:** (check all that apply, for volumes list cumulative amounts)

- ☐ 1. Assessment and/or Monitoring Only    ☐ 2. Temporary Covers or Caps  
☐ 3. Deployment of Absorbent or Containment Materials    ☐ 4. Temporary Water Supplies  
☐ 5. Structure Venting System/HVAC Modification System    ☐ 6. Temporary Evacuation or Relocation of Residents  
☐ 7. Product or NAPL Recovery    ☐ 8. Fencing and Sign Posting  
☐ 9. Groundwater Treatment Systems    ☐ 10. Soil Vapor Extraction  
☒ 11. Remedial Additives    ☐ 12. Air Sparging  
☐ 13. Active Exposure Pathway Mitigation System    ☐ 14. Passive Exposure Pathway Mitigation System  
☐ 15. Monitored Natural Attenuation    ☐ 16. In-Situ Chemical Oxidation





Massachusetts Department of Environmental Protection  
Bureau of Waste Site Cleanup

**BWSC 106**

**RELEASE ABATEMENT MEASURE (RAM)  
TRANSMITTAL FORM**

Release Tracking Number

3 - 13341

Pursuant to 310 CMR 40.0444 - 0446 (Subpart D)

**D. DESCRIPTION OF RESPONSE ACTIONS (cont.):** (check all that apply, for volumes list cumulative amounts)

☒ 17. Excavation of Contaminated Soils

☒ a. Re-use, Recycling or Treatment      ☒ i. On Site      Estimated volume in cubic yards      34000  
☐ ii. Off Site      Estimated volume in cubic yards      \_\_\_\_\_  
    iiia. Receiving Facility: \_\_\_\_\_ Town: \_\_\_\_\_ State: \_\_\_\_\_  
    iiib. Receiving Facility: \_\_\_\_\_ Town: \_\_\_\_\_ State: \_\_\_\_\_  
    iii. Describe: APPROX. 19,000 CY SUBJECT TO IN-SITU SOLIDIFICATION/STABILIZATION OF SOILS; REMAINING 15,000 CY INCLUDES MATERIAL EXCAVATED TO REACH TARGET REMEDIATION ZONES THAT WILL BE RE-USED ON-SITE.

☐ b. Store      ☐ i. On Site      Estimated volume in cubic yards      \_\_\_\_\_  
☐ ii. Off Site      Estimated volume in cubic yards      \_\_\_\_\_  
    iiia. Receiving Facility: \_\_\_\_\_ Town: \_\_\_\_\_ State: \_\_\_\_\_  
    iiib. Receiving Facility: \_\_\_\_\_ Town: \_\_\_\_\_ State: \_\_\_\_\_  
☒ c. Landfill      ☐ i. Cover      Estimated volume in cubic yards      \_\_\_\_\_  
    Receiving Facility: \_\_\_\_\_ Town: \_\_\_\_\_ State: \_\_\_\_\_  
   ☒ ii. Disposal      Estimated volume in cubic yards      8800  
    Receiving Facility: TBD      Town: TBD      State: MA

☐ 18. Removal of Drums, Tanks or Containers:

a. Describe Quantity and Amount:

b. Receiving Facility: \_\_\_\_\_ Town: \_\_\_\_\_ State: \_\_\_\_\_  
c. Receiving Facility: \_\_\_\_\_ Town: \_\_\_\_\_ State: \_\_\_\_\_

☐ 19. Removal of Other Contaminated Media:

a. Specify Type and Volume:

b. Receiving Facility: \_\_\_\_\_ Town: \_\_\_\_\_ State: \_\_\_\_\_  
c. Receiving Facility: \_\_\_\_\_ Town: \_\_\_\_\_ State: \_\_\_\_\_

☐ 20. Other Response Actions:

Describe:

☐ 21. Use of Innovative Technologies:

Describe:



Massachusetts Department of Environmental Protection  
Bureau of Waste Site Cleanup

**RELEASE ABATEMENT MEASURE (RAM)  
TRANSMITTAL FORM**

Pursuant to 310 CMR 40.0444 - 0446 (Subpart D)

**BWSC 106**

Release Tracking Number

3 - 13341

**E. LSP SIGNATURE AND STAMP :**

I attest under the pains and penalties of perjury that I have personally examined and am familiar with this transmittal form, including any and all documents accompanying this submittal. In my professional opinion and judgment based upon application of (i) the standard of care in 309 CMR 4.02(1), (ii) the applicable provisions of 309 CMR 4.02(2) and (3), and 309 CMR 4.03(2), and (iii) the provisions of 309 CMR 4.03(3), to the best of my knowledge, information and belief,

> if Section B of this form indicates that a **Release Abatement Measure Plan** is being submitted, the response action(s) that is (are) the subject of this submittal (i) has (have) been developed in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000 and (iii) comply(ies) with the identified provisions of all orders, permits, and approvals identified in this submittal;

> if Section B of this form indicates that a **Release Abatement Measure Status Report** and/or **Remedial Monitoring Report** is being submitted, the response action(s) that is (are) the subject of this submittal (i) is (are) being implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000 and (iii) comply (ies) with the identified provisions of all orders, permits, and approvals identified in this submittal;

> if Section B of this form indicates that a **Release Abatement Measure Completion Statement** is being submitted, the response action(s) that is (are) the subject of this submittal (i) has (have) been developed and implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000 and (iii) comply(ies) with the identified provisions of all orders, permits, and approvals identified in this submittal:

I am aware that significant penalties may result, including, but not limited to, possible fines and imprisonment, if I submit information which I know to be false, inaccurate or materially incomplete.

1. LSP #:	8107		
2. First Name:	LAWRENCE	3. Last Name:	FELDMAN
4. Telephone:	781-278-3700	5. Ext.:	6. Email:
7. Signature:	LAWRENCE FELDMAN		
8. Date:	12/21/2015	9. LSP Stamp:	
	(mm/dd/yyyy)		





Massachusetts Department of Environmental Protection  
*Bureau of Waste Site Cleanup*

**BWSC 106**

**RELEASE ABATEMENT MEASURE (RAM)  
TRANSMITTAL FORM**

Release Tracking Number

3 - 13341

Pursuant to 310 CMR 40.0444 - 0446 (Subpart D)

**F. PERSON UNDERTAKING RAM:**

1. Check all that apply: ☐ a. change in contact name ☐ b. change of address ☐ c. change in the person undertaking response actions

2. Name of Organization: WYNN MA LLC

3. Contact First Name: ROBERT 4. Last Name: DESALVIO

5. Street: 101 STATION LANDING, 2ND FLOOR 6. Title: PRESIDENT

7. City/Town: MEDFORD 8. State: MA 9. ZIP Code: 021550000

10. Telephone: 857-770-7801 11. Ext.:  12. Email:

**G. RELATIONSHIP TO RELEASE OR THREAT OF RELEASE OF PERSON UNDERTAKING RAM:**

☐ Check here to change relationship

☐ 1. RP or PRP ☐ a. Owner ☐ b. Operator ☐ c. Generator ☐ d. Transporter

☐ e. Other RP or PRP Specify: ELIGIBLE OWNER/OPERATOR

☐ 2. Fiduciary, Secured Lender or Municipality with Exempt Status (as defined by M.G.L. c. 21E, s. 2)

☐ 3. Agency or Public Utility on a Right of Way (as defined by M.G.L. c. 21E, s. 5(j))

☐ 4. Any Other Person Undertaking RAM Specify Relationship:

**H. REQUIRED ATTACHMENT AND SUBMITTALS:**

- ☐ 1. Check here if any Remediation Waste, generated as a result of this RAM, will be stored, treated, managed, recycled or reused at the site following submission of the RAM Completion Statement. You must submit a Phase IV Remedy Implementation Plan along with the appropriate transmittal form (BWSC108).
- ☐ 2. Check here if the Response Action(s) on which this opinion is based, if any, are (were) subject to any order(s), permit(s) and/or approval(s) issued by DEP or EPA. If the box is checked, you MUST attach a statement identifying the applicable provisions thereof.
- ☐ 3. Check here to certify that the Chief Municipal Officer and the Local Board of Health have been notified of the implementation of a Release Abatement Measure.
- ☐ 4. Check here if any non-updatable information provided on this form is incorrect, e.g. Release Address/Location Aid. Send corrections to bwsc.edep@state.ma.us.
- ☐ 5. If a RAM Compliance Fee is required for this RAM, check here to certify that a RAM Compliance Fee was submitted to DEP, P. O. Box 4062, Boston, MA 02211.
- ☐ 6. Check here to certify that the LSP Opinion containing the material facts, data, and other information is attached.



Massachusetts Department of Environmental Protection  
Bureau of Waste Site Cleanup

**BWSC 106**

**RELEASE ABATEMENT MEASURE (RAM)  
TRANSMITTAL FORM**

Release Tracking Number

3 - 13341

Pursuant to 310 CMR 40.0444 - 0446 (Subpart D)

**I. CERTIFICATION OF PERSON UNDERTAKING RAM:**

1. I, ROBERT DESALVIO, attest under the pains and penalties of perjury (i) that I have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this transmittal form, (ii) that, based on my inquiry of those individuals immediately responsible for obtaining the information, the material information contained in this submittal is, to the best of my knowledge and belief, true, accurate and complete, and (iii) that I am fully authorized to make this attestation on behalf of the entity legally responsible for this submittal. I/the person or entity on whose behalf this submittal is made am/is aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate, or incomplete information.

2. By: ROBERT DESALVIO 3. Title: PRESIDENT  
(Signature)

4. For: WYNN MA LLC 5. Date: 12/21/2015  
(Name of person or entity recorded in Section F) (mm/dd/yyyy)

6. Check here if the address of the person providing certification is different from address recorded in Section F.

7. Street: \_\_\_\_\_  
8. City/Town: \_\_\_\_\_ 9. State: \_\_\_\_\_ 10. ZIP Code: \_\_\_\_\_  
11. Telephone: \_\_\_\_\_ 12. Ext.: \_\_\_\_\_ 13. Email: \_\_\_\_\_

**YOU ARE SUBJECT TO AN ANNUAL COMPLIANCE ASSURANCE FEE OF UP TO \$10,000 PER  
BILLABLE YEAR FOR THIS DISPOSAL SITE. YOU MUST LEGIBLY COMPLETE ALL RELEVANT  
SECTIONS OF THIS FORM OR DEP MAY RETURN THE DOCUMENT AS INCOMPLETE. IF YOU SUBMIT AN INCOMPLETE FORM,  
YOU MAY BE PENALIZED FOR MISSING A REQUIRED DEADLINE**

Date Stamp (DEP USE ONLY:)

Received by DEP on  
12/21/2015 4:06:48 PM



*Proactive by Design*



## **APPENDIX C**

### UST LABORATORY ANALYTICAL DATA



*CERTIFICATE OF ANALYSIS*

Matt Smith  
GZA GeoEnvironmental, Inc.  
249 Vanderbilt Avenue  
Norwood, MA 02062

**RE: Wynn Everett - MCP (01.0171521.41)**  
**ESS Laboratory Work Order Number: 1511224**

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 4:43 pm, Nov 18, 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: 1511224

**SAMPLE RECEIPT**

The following samples were received on November 10, 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.

**Question 1: All samples for EPH were analyzed for a subset of the required MCP list per the client's request.**

**Revision 1 November 18, 2015: This report has been revised to include PCB results.**

Lab Number	Sample Name	Matrix	Analysis
1511224-01	UST Contents 1	Ground Water	6010C, 7010, 7470A, 8082A, 8100M, 8260B, 8270D, 9040



*CERTIFICATE OF ANALYSIS*

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

ESS Laboratory Work Order: 1511224

**PROJECT NARRATIVE**

**8082A Polychlorinated Biphenyls (PCB)**

1511224-01 Surrogate recovery(ies) below lower control limit (S-).  
Decachlorobiphenyl [2C] (15% @ 30-150%)

**8100M Total Petroleum Hydrocarbons**

CYK0235-CCV1 Continuing Calibration %Diff/Drift is above control limit (CD+).  
Hexatriacontane (C36) (45% @ 25%)

CYK0235-CCV2 Continuing Calibration %Diff/Drift is above control limit (CD+).  
Hexatriacontane (C36) (51% @ 25%)

**8260B Volatile Organic Compounds**

1511224-01 pH > 2 (PH+)  
CYK0161-CCV1 Continuing Calibration %Diff/Drift is above control limit (CD+).  
Carbon Disulfide (42% @ 20%), Methylene Chloride (28% @ 20%)

CYK0161-CCV1 Continuing Calibration %Diff/Drift is below control limit (CD-).  
Bromomethane (28% @ 20%), Tetrachloroethene (22% @ 20%)

**8270D Semi-Volatile Organic Compounds**

CK51314-BSD1 Relative percent difference for duplicate is outside of criteria (D+).  
2,4,5-Trichlorophenol (24% @ 20%), 2,4,6-Trichlorophenol (23% @ 20%), 2,4-Dichlorophenol (25% @ 20%), 2,4-Dimethylphenol (25% @ 20%), 2-Chlorophenol (29% @ 20%), 2-Methylphenol (27% @ 20%), 2-Nitrophenol (26% @ 20%), 3+4-Methylphenol (28% @ 20%), Acetophenone (21% @ 20%), Phenol (28% @ 20%)

CYK0222-CCV1 Calibration required quadratic regression (Q).  
2,4-Dinitrophenol (122% @ 80-120%)

CYK0222-CCV1 Continuing Calibration %Diff/Drift is above control limit (CD+).  
2,4-Dinitrophenol (22% @ 20%), Di-n-octylphthalate (24% @ 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 - MCP

ESS Laboratory Work Order: 1511224

**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: 1511224

**MassDEP Analytical Protocol Certification Form**

MADEP RTN: \_\_\_\_\_

This form provides certification for the following data set: **1511224-01**

Matrices: ☒ Ground Water/Surface Water      ( ) Soil/Sediment      ( ) Drinking Water      ( ) Air      ( ) Other: \_\_\_\_\_

**CAM Protocol** (check all that apply below):

<input checked="" type="checkbox"/> 8260 VOC CAM II A	<input checked="" type="checkbox"/> 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	<input checked="" type="checkbox"/> 7010 Metals CAM III C	<input checked="" type="checkbox"/> 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	<input checked="" type="checkbox"/> 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's 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 <input checked="" type="checkbox"/> No ( )
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	Yes <input checked="" type="checkbox"/> 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 <input checked="" type="checkbox"/> 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 <input checked="" type="checkbox"/> 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 <input checked="" type="checkbox"/> No ( )

**Responses to Questions G, H and I below are required for Presumptive Certainty's status**

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

**\*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  
Printed Name: Laurel Stoddard

Date: November 16, 2015  
Position: Laboratory Director



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Wynn Everett - MCP  
Client Sample ID: UST Contents 1  
Date Sampled: 11/10/15 10:30  
Percent Solids: N/A

ESS Laboratory Work Order: 1511224  
ESS Laboratory Sample ID: 1511224-01  
Sample Matrix: Ground Water  
Units: ug/L

Extraction Method: 3005A/200.7

**Total Metals**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Antimony	20.7 (2.5)		7010		1	KJK	11/13/15 5:51	50	25	CK51125
Arsenic	2540 (25.0)		6010C		1	KJK	11/11/15 20:58	50	25	CK51125
Barium	161 (25.0)		6010C		1	KJK	11/11/15 20:58	50	25	CK51125
Beryllium	ND (0.5)		6010C		1	KJK	11/11/15 20:58	50	25	CK51125
Cadmium	22.7 (2.5)		6010C		1	KJK	11/11/15 20:58	50	25	CK51125
Chromium	ND (10.0)		6010C		1	KJK	11/11/15 20:58	50	25	CK51125
Lead	322 (10.0)		6010C		1	KJK	11/11/15 20:58	50	25	CK51125
Mercury	24.5 (2.00)		7470A		10	JC	11/11/15 21:18	20	40	CK51126
Nickel	ND (25.0)		6010C		1	KJK	11/11/15 20:58	50	25	CK51125
Selenium	7.3 (5.0)		7010		1	KJK	11/13/15 1:48	50	25	CK51125
Silver	ND (5.0)		6010C		1	KJK	11/11/15 20:58	50	25	CK51125
Thallium	2.3 (1.0)		7010		1	KJK	11/13/15 19:16	50	25	CK51125
Vanadium	19.8 (10.0)		6010C		1	KJK	11/11/15 20:58	50	25	CK51125
Zinc	117 (25.0)		6010C		1	KJK	11/11/15 20:58	50	25	CK51125



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Wynn Everett - MCP  
Client Sample ID: UST Contents 1  
Date Sampled: 11/10/15 10:30  
Percent Solids: N/A  
Initial Volume: 1000  
Final Volume: 1  
Extraction Method: 3510C

ESS Laboratory Work Order: 1511224  
ESS Laboratory Sample ID: 1511224-01  
Sample Matrix: Ground Water  
Units: ug/L  
Analyst: TJ  
Prepared: 11/18/15 10:28  
Cleanup Method: 3665A

**8082A Polychlorinated Biphenyls (PCB)**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.10)		8082A		1	11/18/15 14:24		CK51812
Aroclor 1221	ND (0.10)		8082A		1	11/18/15 14:24		CK51812
Aroclor 1232	ND (0.10)		8082A		1	11/18/15 14:24		CK51812
Aroclor 1242	ND (0.10)		8082A		1	11/18/15 14:24		CK51812
Aroclor 1248	ND (0.10)		8082A		1	11/18/15 14:24		CK51812
Aroclor 1254	ND (0.10)		8082A		1	11/18/15 14:24		CK51812
Aroclor 1260	ND (0.10)		8082A		1	11/18/15 14:24		CK51812
Aroclor 1262	ND (0.10)		8082A		1	11/18/15 14:24		CK51812
Aroclor 1268	ND (0.10)		8082A		1	11/18/15 14:24		CK51812

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
Surrogate: Decachlorobiphenyl	30 %		30-150
Surrogate: Decachlorobiphenyl [2C]	15 %	S-	30-150
Surrogate: Tetrachloro-m-xylene	54 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	31 %		30-150



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Wynn Everett - MCP  
Client Sample ID: UST Contents 1  
Date Sampled: 11/10/15 10:30  
Percent Solids: N/A  
Initial Volume: 1000  
Final Volume: 1  
Extraction Method: 3510C

ESS Laboratory Work Order: 1511224  
ESS Laboratory Sample ID: 1511224-01  
Sample Matrix: Ground Water  
Units: ug/L  
Analyst: ZLC  
Prepared: 11/13/15 10:40

**8100M Total Petroleum Hydrocarbons**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Total Petroleum Hydrocarbons	14100 (100)		8100M		1	11/13/15 17:11	CYK0235	CK51313
<hr/>								
		<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				
Surrogate: O-Terphenyl		91 %		40-140				





*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Wynn Everett - MCP  
Client Sample ID: UST Contents 1  
Date Sampled: 11/10/15 10:30  
Percent Solids: N/A  
Initial Volume: 5  
Final Volume: 5  
Extraction Method: 5030B

ESS Laboratory Work Order: 1511224  
ESS Laboratory Sample ID: 1511224-01  
Sample Matrix: Ground Water  
Units: ug/L  
Analyst: MD

**8260B Volatile Organic Compounds**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1,1,2-Tetrachloroethane	ND (1.0)		8260B		1	11/12/15 7:07	CYK0161	CK51139
1,1,1-Trichloroethane	ND (1.0)		8260B		1	11/12/15 7:07	CYK0161	CK51139
1,1,2,2-Tetrachloroethane	ND (0.5)		8260B		1	11/12/15 7:07	CYK0161	CK51139
1,1,2-Trichloroethane	ND (1.0)		8260B		1	11/12/15 7:07	CYK0161	CK51139
1,1-Dichloroethane	ND (1.0)		8260B		1	11/12/15 7:07	CYK0161	CK51139
1,1-Dichloroethene	ND (1.0)		8260B		1	11/12/15 7:07	CYK0161	CK51139
1,1-Dichloropropene	ND (2.0)		8260B		1	11/12/15 7:07	CYK0161	CK51139
1,2,3-Trichlorobenzene	ND (1.0)		8260B		1	11/12/15 7:07	CYK0161	CK51139
1,2,3-Trichloropropane	ND (1.0)		8260B		1	11/12/15 7:07	CYK0161	CK51139
1,2,4-Trichlorobenzene	ND (1.0)		8260B		1	11/12/15 7:07	CYK0161	CK51139
1,2,4-Trimethylbenzene	ND (1.0)		8260B		1	11/12/15 7:07	CYK0161	CK51139
1,2-Dibromo-3-Chloropropane	ND (5.0)		8260B		1	11/12/15 7:07	CYK0161	CK51139
1,2-Dibromoethane	ND (1.0)		8260B		1	11/12/15 7:07	CYK0161	CK51139
1,2-Dichlorobenzene	ND (1.0)		8260B		1	11/12/15 7:07	CYK0161	CK51139
1,2-Dichloroethane	ND (1.0)		8260B		1	11/12/15 7:07	CYK0161	CK51139
1,2-Dichloropropane	ND (1.0)		8260B		1	11/12/15 7:07	CYK0161	CK51139
1,3,5-Trimethylbenzene	ND (1.0)		8260B		1	11/12/15 7:07	CYK0161	CK51139
1,3-Dichlorobenzene	ND (1.0)		8260B		1	11/12/15 7:07	CYK0161	CK51139
1,3-Dichloropropane	ND (1.0)		8260B		1	11/12/15 7:07	CYK0161	CK51139
1,4-Dichlorobenzene	ND (1.0)		8260B		1	11/12/15 7:07	CYK0161	CK51139
1,4-Dioxane - Screen	ND (500)		8260B		1	11/12/15 7:07	CYK0161	CK51139
2,2-Dichloropropane	ND (1.0)		8260B		1	11/12/15 7:07	CYK0161	CK51139
2-Butanone	ND (10.0)		8260B		1	11/12/15 7:07	CYK0161	CK51139
2-Chlorotoluene	ND (1.0)		8260B		1	11/12/15 7:07	CYK0161	CK51139
2-Hexanone	ND (10.0)		8260B		1	11/12/15 7:07	CYK0161	CK51139
4-Chlorotoluene	ND (1.0)		8260B		1	11/12/15 7:07	CYK0161	CK51139
4-Isopropyltoluene	ND (1.0)		8260B		1	11/12/15 7:07	CYK0161	CK51139
4-Methyl-2-Pentanone	ND (10.0)		8260B		1	11/12/15 7:07	CYK0161	CK51139
Acetone	ND (10.0)		8260B		1	11/12/15 7:07	CYK0161	CK51139
Benzene	ND (1.0)		8260B		1	11/12/15 7:07	CYK0161	CK51139
Bromobenzene	ND (2.0)		8260B		1	11/12/15 7:07	CYK0161	CK51139
Bromochloromethane	ND (1.0)		8260B		1	11/12/15 7:07	CYK0161	CK51139



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Wynn Everett - MCP  
Client Sample ID: UST Contents 1  
Date Sampled: 11/10/15 10:30  
Percent Solids: N/A  
Initial Volume: 5  
Final Volume: 5  
Extraction Method: 5030B

ESS Laboratory Work Order: 1511224  
ESS Laboratory Sample ID: 1511224-01  
Sample Matrix: Ground Water  
Units: ug/L  
Analyst: MD

**8260B Volatile Organic Compounds**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Bromodichloromethane	ND (0.6)		8260B		1	11/12/15 7:07	CYK0161	CK51139
Bromoform	ND (1.0)		8260B		1	11/12/15 7:07	CYK0161	CK51139
Bromomethane	ND (2.0)		8260B		1	11/12/15 7:07	CYK0161	CK51139
Carbon Disulfide	ND (1.0)		8260B		1	11/12/15 7:07	CYK0161	CK51139
Carbon Tetrachloride	ND (1.0)		8260B		1	11/12/15 7:07	CYK0161	CK51139
Chlorobenzene	ND (1.0)		8260B		1	11/12/15 7:07	CYK0161	CK51139
Chloroethane	ND (2.0)		8260B		1	11/12/15 7:07	CYK0161	CK51139
Chloroform	ND (1.0)		8260B		1	11/12/15 7:07	CYK0161	CK51139
Chloromethane	ND (2.0)		8260B		1	11/12/15 7:07	CYK0161	CK51139
cis-1,2-Dichloroethene	ND (1.0)		8260B		1	11/12/15 7:07	CYK0161	CK51139
cis-1,3-Dichloropropene	ND (0.4)		8260B		1	11/12/15 7:07	CYK0161	CK51139
Dibromochloromethane	ND (1.0)		8260B		1	11/12/15 7:07	CYK0161	CK51139
Dibromomethane	ND (1.0)		8260B		1	11/12/15 7:07	CYK0161	CK51139
Dichlorodifluoromethane	ND (2.0)		8260B		1	11/12/15 7:07	CYK0161	CK51139
Diethyl Ether	ND (1.0)		8260B		1	11/12/15 7:07	CYK0161	CK51139
Di-isopropyl ether	ND (1.0)		8260B		1	11/12/15 7:07	CYK0161	CK51139
Ethyl tertiary-butyl ether	ND (1.0)		8260B		1	11/12/15 7:07	CYK0161	CK51139
Ethylbenzene	ND (1.0)		8260B		1	11/12/15 7:07	CYK0161	CK51139
Hexachlorobutadiene	ND (0.6)		8260B		1	11/12/15 7:07	CYK0161	CK51139
Hexachloroethane	ND (1.0)		8260B		1	11/12/15 7:07	CYK0161	CK51139
Isopropylbenzene	ND (1.0)		8260B		1	11/12/15 7:07	CYK0161	CK51139
Methyl tert-Butyl Ether	ND (1.0)		8260B		1	11/12/15 7:07	CYK0161	CK51139
Methylene Chloride	ND (2.0)		8260B		1	11/12/15 7:07	CYK0161	CK51139
Naphthalene	ND (1.0)		8260B		1	11/12/15 7:07	CYK0161	CK51139
n-Butylbenzene	ND (1.0)		8260B		1	11/12/15 7:07	CYK0161	CK51139
n-Propylbenzene	ND (1.0)		8260B		1	11/12/15 7:07	CYK0161	CK51139
sec-Butylbenzene	ND (1.0)		8260B		1	11/12/15 7:07	CYK0161	CK51139
Styrene	ND (1.0)		8260B		1	11/12/15 7:07	CYK0161	CK51139
tert-Butylbenzene	ND (1.0)		8260B		1	11/12/15 7:07	CYK0161	CK51139
Tertiary-amyl methyl ether	ND (1.0)		8260B		1	11/12/15 7:07	CYK0161	CK51139
Tetrachloroethene	ND (1.0)		8260B		1	11/12/15 7:07	CYK0161	CK51139
Tetrahydrofuran	ND (5.0)		8260B		1	11/12/15 7:07	CYK0161	CK51139



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Wynn Everett - MCP  
Client Sample ID: UST Contents 1  
Date Sampled: 11/10/15 10:30  
Percent Solids: N/A  
Initial Volume: 5  
Final Volume: 5  
Extraction Method: 5030B

ESS Laboratory Work Order: 1511224  
ESS Laboratory Sample ID: 1511224-01  
Sample Matrix: Ground Water  
Units: ug/L  
Analyst: MD

**8260B Volatile Organic Compounds**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Toluene	ND (1.0)		8260B		1	11/12/15 7:07	CYK0161	CK51139
trans-1,2-Dichloroethene	ND (1.0)		8260B		1	11/12/15 7:07	CYK0161	CK51139
trans-1,3-Dichloropropene	ND (0.4)		8260B		1	11/12/15 7:07	CYK0161	CK51139
Trichloroethene	ND (1.0)		8260B		1	11/12/15 7:07	CYK0161	CK51139
Trichlorofluoromethane	ND (1.0)		8260B		1	11/12/15 7:07	CYK0161	CK51139
Vinyl Chloride	ND (1.0)		8260B		1	11/12/15 7:07	CYK0161	CK51139
Xylene O	ND (1.0)		8260B		1	11/12/15 7:07	CYK0161	CK51139
Xylene P,M	ND (2.0)		8260B		1	11/12/15 7:07	CYK0161	CK51139
Xylenes (Total)	ND (2.0)		8260B		1	11/12/15 7:07		[CALC]

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>99 %</i>		<i>70-130</i>
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>94 %</i>		<i>70-130</i>
<i>Surrogate: Dibromofluoromethane</i>	<i>101 %</i>		<i>70-130</i>
<i>Surrogate: Toluene-d8</i>	<i>117 %</i>		<i>70-130</i>



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Wynn Everett - MCP  
Client Sample ID: UST Contents 1  
Date Sampled: 11/10/15 10:30  
Percent Solids: N/A  
Initial Volume: 1000  
Final Volume: 1  
Extraction Method: 3520C

ESS Laboratory Work Order: 1511224  
ESS Laboratory Sample ID: 1511224-01  
Sample Matrix: Ground Water  
Units: ug/L  
Analyst: IBM  
Prepared: 11/13/15 19:10

**8270D Semi-Volatile Organic Compounds**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,2,4-Trichlorobenzene	ND (10.0)		8270D		1	11/16/15 12:34	CYK0222	CK51314
1,2-Dichlorobenzene	ND (10.0)		8270D		1	11/16/15 12:34	CYK0222	CK51314
1,3-Dichlorobenzene	ND (10.0)		8270D		1	11/16/15 12:34	CYK0222	CK51314
1,4-Dichlorobenzene	ND (10.0)		8270D		1	11/16/15 12:34	CYK0222	CK51314
2,4,5-Trichlorophenol	ND (10.0)		8270D		1	11/16/15 12:34	CYK0222	CK51314
2,4,6-Trichlorophenol	ND (10.0)		8270D		1	11/16/15 12:34	CYK0222	CK51314
2,4-Dichlorophenol	ND (10.0)		8270D		1	11/16/15 12:34	CYK0222	CK51314
2,4-Dimethylphenol	ND (50.0)		8270D		1	11/16/15 12:34	CYK0222	CK51314
2,4-Dinitrophenol	ND (50.0)		8270D		1	11/16/15 12:34	CYK0222	CK51314
2,4-Dinitrotoluene	ND (10.0)		8270D		1	11/16/15 12:34	CYK0222	CK51314
2,6-Dinitrotoluene	ND (10.0)		8270D		1	11/16/15 12:34	CYK0222	CK51314
2-Chloronaphthalene	ND (10.0)		8270D		1	11/16/15 12:34	CYK0222	CK51314
2-Chlorophenol	ND (10.0)		8270D		1	11/16/15 12:34	CYK0222	CK51314
2-Methylnaphthalene	ND (10.0)		8270D		1	11/16/15 12:34	CYK0222	CK51314
2-Methylphenol	ND (10.0)		8270D		1	11/16/15 12:34	CYK0222	CK51314
2-Nitrophenol	ND (10.0)		8270D		1	11/16/15 12:34	CYK0222	CK51314
3,3'-Dichlorobenzidine	ND (20.0)		8270D		1	11/16/15 12:34	CYK0222	CK51314
3+4-Methylphenol	ND (20.0)		8270D		1	11/16/15 12:34	CYK0222	CK51314
4-Bromophenyl-phenylether	ND (10.0)		8270D		1	11/16/15 12:34	CYK0222	CK51314
4-Chloroaniline	ND (20.0)		8270D		1	11/16/15 12:34	CYK0222	CK51314
4-Nitrophenol	ND (50.0)		8270D		1	11/16/15 12:34	CYK0222	CK51314
Acenaphthene	ND (10.0)		8270D		1	11/16/15 12:34	CYK0222	CK51314
Acenaphthylene	ND (10.0)		8270D		1	11/16/15 12:34	CYK0222	CK51314
Acetophenone	ND (10.0)		8270D		1	11/16/15 12:34	CYK0222	CK51314
Aniline	ND (10.0)		8270D		1	11/16/15 12:34	CYK0222	CK51314
Anthracene	ND (10.0)		8270D		1	11/16/15 12:34	CYK0222	CK51314
Azobenzene	ND (20.0)		8270D		1	11/16/15 12:34	CYK0222	CK51314
Benzo(a)anthracene	ND (10.0)		8270D		1	11/16/15 12:34	CYK0222	CK51314
Benzo(a)pyrene	ND (10.0)		8270D		1	11/16/15 12:34	CYK0222	CK51314
Benzo(b)fluoranthene	ND (10.0)		8270D		1	11/16/15 12:34	CYK0222	CK51314
Benzo(g,h,i)perylene	ND (10.0)		8270D		1	11/16/15 12:34	CYK0222	CK51314
Benzo(k)fluoranthene	ND (10.0)		8270D		1	11/16/15 12:34	CYK0222	CK51314



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Wynn Everett - MCP  
Client Sample ID: UST Contents 1  
Date Sampled: 11/10/15 10:30  
Percent Solids: N/A  
Initial Volume: 1000  
Final Volume: 1  
Extraction Method: 3520C

ESS Laboratory Work Order: 1511224  
ESS Laboratory Sample ID: 1511224-01  
Sample Matrix: Ground Water  
Units: ug/L  
Analyst: IBM  
Prepared: 11/13/15 19:10

**8270D Semi-Volatile Organic Compounds**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
bis(2-Chloroethoxy)methane	ND (10.0)		8270D		1	11/16/15 12:34	CYK0222	CK51314
bis(2-Chloroethyl)ether	ND (10.0)		8270D		1	11/16/15 12:34	CYK0222	CK51314
bis(2-chloroisopropyl)Ether	ND (10.0)		8270D		1	11/16/15 12:34	CYK0222	CK51314
bis(2-Ethylhexyl)phthalate	ND (6.0)		8270D		1	11/16/15 12:34	CYK0222	CK51314
Butylbenzylphthalate	ND (10.0)		8270D		1	11/16/15 12:34	CYK0222	CK51314
Chrysene	ND (10.0)		8270D		1	11/16/15 12:34	CYK0222	CK51314
Dibenzo(a,h)Anthracene	ND (10.0)		8270D		1	11/16/15 12:34	CYK0222	CK51314
Dibenzofuran	ND (10.0)		8270D		1	11/16/15 12:34	CYK0222	CK51314
Diethylphthalate	ND (10.0)		8270D		1	11/16/15 12:34	CYK0222	CK51314
Dimethylphthalate	ND (10.0)		8270D		1	11/16/15 12:34	CYK0222	CK51314
Di-n-butylphthalate	ND (10.0)		8270D		1	11/16/15 12:34	CYK0222	CK51314
Di-n-octylphthalate	ND (10.0)		8270D		1	11/16/15 12:34	CYK0222	CK51314
Fluoranthene	ND (10.0)		8270D		1	11/16/15 12:34	CYK0222	CK51314
Fluorene	ND (10.0)		8270D		1	11/16/15 12:34	CYK0222	CK51314
Hexachlorobenzene	ND (10.0)		8270D		1	11/16/15 12:34	CYK0222	CK51314
Hexachlorobutadiene	ND (10.0)		8270D		1	11/16/15 12:34	CYK0222	CK51314
Hexachloroethane	ND (5.0)		8270D		1	11/16/15 12:34	CYK0222	CK51314
Indeno(1,2,3-cd)Pyrene	ND (10.0)		8270D		1	11/16/15 12:34	CYK0222	CK51314
Isophorone	ND (10.0)		8270D		1	11/16/15 12:34	CYK0222	CK51314
Naphthalene	ND (10.0)		8270D		1	11/16/15 12:34	CYK0222	CK51314
Nitrobenzene	ND (10.0)		8270D		1	11/16/15 12:34	CYK0222	CK51314
N-Nitrosodimethylamine	ND (10.0)		8270D		1	11/16/15 12:34	CYK0222	CK51314
Pentachlorophenol	ND (50.0)		8270D		1	11/16/15 12:34	CYK0222	CK51314
Phenanthrene	ND (10.0)		8270D		1	11/16/15 12:34	CYK0222	CK51314
Phenol	ND (10.0)		8270D		1	11/16/15 12:34	CYK0222	CK51314
Pyrene	ND (10.0)		8270D		1	11/16/15 12:34	CYK0222	CK51314

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	69 %		30-130
<i>Surrogate: 2,4,6-Tribromophenol</i>	102 %		15-110
<i>Surrogate: 2-Chlorophenol-d4</i>	73 %		15-110
<i>Surrogate: 2-Fluorobiphenyl</i>	77 %		30-130



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Wynn Everett - MCP  
Client Sample ID: UST Contents 1  
Date Sampled: 11/10/15 10:30  
Percent Solids: N/A  
Initial Volume: 1000  
Final Volume: 1  
Extraction Method: 3520C

ESS Laboratory Work Order: 1511224  
ESS Laboratory Sample ID: 1511224-01  
Sample Matrix: Ground Water  
Units: ug/L  
Analyst: IBM  
Prepared: 11/13/15 19:10

**8270D Semi-Volatile Organic Compounds**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Surrogate: 2-Fluorophenol		62 %		15-110				
Surrogate: Nitrobenzene-d5		83 %		30-130				
Surrogate: Phenol-d6		75 %		15-110				
Surrogate: p-Terphenyl-d14		58 %		30-130				



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Wynn Everett - MCP  
Client Sample ID: UST Contents 1  
Date Sampled: 11/10/15 10:30  
Percent Solids: N/A

ESS Laboratory Work Order: 1511224  
ESS Laboratory Sample ID: 1511224-01  
Sample Matrix: Ground Water

**Classical Chemistry**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Units</u>	<u>Batch</u>
pH	7.13 (N/A)		9040		1	JLK	11/11/15 9:38	S.U.	CK51104
pH Sample Temp	Aqueous pH measured in water at 7.5 °C. (N/A)								



*CERTIFICATE OF ANALYSIS*

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

ESS Laboratory Work Order: 1511224

**Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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**Total Metals**

**Batch CK51125 - 3005A/200.7**

**Blank**

Antimony	ND	2.5	ug/L
Arsenic	ND	25.0	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	234	50.0	ug/L	250.0	93	80-120
Arsenic	254	25.0	ug/L	250.0	102	80-120
Barium	239	25.0	ug/L	250.0	96	80-120
Beryllium	24.1	0.5	ug/L	25.00	96	80-120
Cadmium	116	2.5	ug/L	125.0	93	80-120
Chromium	240	10.0	ug/L	250.0	96	80-120
Lead	240	10.0	ug/L	250.0	96	80-120
Nickel	249	25.0	ug/L	250.0	99	80-120
Selenium	426	100	ug/L	500.0	85	80-120
Silver	124	5.0	ug/L	125.0	99	80-120
Thallium	292	60.0	ug/L	250.0	117	80-120
Vanadium	242	10.0	ug/L	250.0	97	80-120
Zinc	240	25.0	ug/L	250.0	96	80-120

**LCS Dup**

Antimony	233	50.0	ug/L	250.0	93	80-120	0.5	20
Arsenic	259	25.0	ug/L	250.0	104	80-120	2	20
Barium	241	25.0	ug/L	250.0	96	80-120	0.8	20
Beryllium	24.2	0.5	ug/L	25.00	97	80-120	0.8	20
Cadmium	116	2.5	ug/L	125.0	93	80-120	0.5	20
Chromium	243	10.0	ug/L	250.0	97	80-120	1	20
Lead	240	10.0	ug/L	250.0	96	80-120	0.03	20
Nickel	251	25.0	ug/L	250.0	101	80-120	1	20
Selenium	426	100	ug/L	500.0	85	80-120	0.05	20
Silver	126	5.0	ug/L	125.0	101	80-120	1	20
Thallium	293	60.0	ug/L	250.0	117	80-120	0.3	20
Vanadium	244	10.0	ug/L	250.0	98	80-120	0.8	20
Zinc	242	25.0	ug/L	250.0	97	80-120	0.7	20

**Batch CK51126 - 245.1/7470A**

**Blank**





*CERTIFICATE OF ANALYSIS*

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

ESS Laboratory Work Order: 1511224

**Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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**Total Metals**

**Batch CK51126 - 245.1/7470A**

Mercury	ND	0.20	ug/L							
<b>LCS</b>										
Mercury	6.65	0.20	ug/L	6.000		111	80-120			
<b>LCS Dup</b>										
Mercury	6.46	0.20	ug/L	6.000		108	80-120	3	20	

**8082A Polychlorinated Biphenyls (PCB)**

**Batch CK51812 - 3510C**

<b>Blank</b>										
Aroclor 1016	ND	0.05	ug/L							
Aroclor 1221	ND	0.05	ug/L							
Aroclor 1232	ND	0.05	ug/L							
Aroclor 1242	ND	0.05	ug/L							
Aroclor 1248	ND	0.05	ug/L							
Aroclor 1254	0.09	0.05	ug/L							
Aroclor 1260	ND	0.05	ug/L							
Aroclor 1262	ND	0.05	ug/L							
Aroclor 1268	ND	0.05	ug/L							
Surrogate: Decachlorobiphenyl	0.0431		ug/L	0.05000		86	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0415		ug/L	0.05000		83	30-150			
Surrogate: Tetrachloro-m-xylene	0.0266		ug/L	0.05000		53	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0295		ug/L	0.05000		59	30-150			
<b>LCS</b>										
Aroclor 1016	0.77	0.05	ug/L	1.000		77	40-140			
Aroclor 1260	0.88	0.05	ug/L	1.000		88	40-140			
Surrogate: Decachlorobiphenyl	0.0433		ug/L	0.05000		87	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0419		ug/L	0.05000		84	30-150			
Surrogate: Tetrachloro-m-xylene	0.0320		ug/L	0.05000		64	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0324		ug/L	0.05000		65	30-150			
<b>LCS Dup</b>										
Aroclor 1016	0.73	0.05	ug/L	1.000		73	40-140	6	20	
Aroclor 1260	0.87	0.05	ug/L	1.000		87	40-140	0.9	20	
Surrogate: Decachlorobiphenyl	0.0419		ug/L	0.05000		84	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0408		ug/L	0.05000		82	30-150			
Surrogate: Tetrachloro-m-xylene	0.0236		ug/L	0.05000		47	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0269		ug/L	0.05000		54	30-150			

**8100M Total Petroleum Hydrocarbons**

**Batch CK51313 - 3510C**

<b>Blank</b>										
Decane (C10)	ND	5.00	ug/L							



*CERTIFICATE OF ANALYSIS*

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

ESS Laboratory Work Order: 1511224

**Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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**8100M Total Petroleum Hydrocarbons**

**Batch CK51313 - 3510C**

Docosane (C22)	ND	5.00	ug/L							
Dodecane (C12)	ND	5.00	ug/L							
Eicosane (C20)	ND	5.00	ug/L							
Hexacosane (C26)	ND	5.00	ug/L							
Hexadecane (C16)	ND	5.00	ug/L							
Hexatriacontane (C36)	ND	5.00	ug/L							
Nonadecane (C19)	ND	5.00	ug/L							
Nonane (C9)	ND	5.00	ug/L							
Octacosane (C28)	ND	5.00	ug/L							
Octadecane (C18)	ND	5.00	ug/L							
Tetracosane (C24)	ND	5.00	ug/L							
Tetradecane (C14)	ND	5.00	ug/L							
Total Petroleum Hydrocarbons	ND	100	ug/L							
Triacontane (C30)	ND	5.00	ug/L							

<i>Surrogate: O-Terphenyl</i>	<i>77.9</i>		ug/L	<i>100.0</i>		<i>78</i>	<i>40-140</i>			
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**LCS**

Decane (C10)	35.8	5.00	ug/L	50.00		72	40-140			
Docosane (C22)	53.3	5.00	ug/L	50.00		107	40-140			
Dodecane (C12)	44.8	5.00	ug/L	50.00		90	40-140			
Eicosane (C20)	52.9	5.00	ug/L	50.00		106	40-140			
Hexacosane (C26)	55.0	5.00	ug/L	50.00		110	40-140			
Hexadecane (C16)	50.5	5.00	ug/L	50.00		101	40-140			
Hexatriacontane (C36)	68.5	5.00	ug/L	50.00		137	40-140			
Nonadecane (C19)	54.9	5.00	ug/L	50.00		110	40-140			
Nonane (C9)	30.0	5.00	ug/L	50.00		60	30-140			
Octacosane (C28)	54.4	5.00	ug/L	50.00		109	40-140			
Octadecane (C18)	52.1	5.00	ug/L	50.00		104	40-140			
Tetracosane (C24)	50.6	5.00	ug/L	50.00		101	40-140			
Tetradecane (C14)	48.5	5.00	ug/L	50.00		97	40-140			
Total Petroleum Hydrocarbons	737	100	ug/L	700.0		105	40-140			
Triacontane (C30)	55.9	5.00	ug/L	50.00		112	40-140			

<i>Surrogate: O-Terphenyl</i>	<i>92.9</i>		ug/L	<i>100.0</i>		<i>93</i>	<i>40-140</i>			
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**LCS**

Decane (C10)	5.34	5.00	ug/L	10.00		53	40-140			
Docosane (C22)	10.6	5.00	ug/L	10.00		106	40-140			
Dodecane (C12)	6.37	5.00	ug/L	10.00		64	40-140			
Eicosane (C20)	10.6	5.00	ug/L	10.00		106	40-140			
Hexacosane (C26)	11.1	5.00	ug/L	10.00		111	40-140			
Hexadecane (C16)	9.91	5.00	ug/L	10.00		99	40-140			
Hexatriacontane (C36)	13.8	5.00	ug/L	10.00		138	40-140			
Nonadecane (C19)	12.6	5.00	ug/L	10.00		126	40-140			
Nonane (C9)	4.64	5.00	ug/L	10.00		46	30-140			
Octacosane (C28)	10.9	5.00	ug/L	10.00		109	40-140			



*CERTIFICATE OF ANALYSIS*

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

ESS Laboratory Work Order: 1511224

**Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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**8100M Total Petroleum Hydrocarbons**

**Batch CK51313 - 3510C**

Octadecane (C18)	10.5	5.00	ug/L	10.00		105	40-140			
Tetracosane (C24)	10.2	5.00	ug/L	10.00		102	40-140			
Tetradecane (C14)	8.79	5.00	ug/L	10.00		88	40-140			
Total Petroleum Hydrocarbons	120	100	ug/L	140.0		86	40-140			
Triacotane (C30)	11.2	5.00	ug/L	10.00		112	40-140			

*Surrogate: O-Terphenyl*

80.5 ug/L 100.0 81 40-140

**LCS Dup**

Decane (C10)	31.4	5.00	ug/L	50.00		63	40-140	13	25	
Docosane (C22)	52.3	5.00	ug/L	50.00		105	40-140	2	25	
Dodecane (C12)	41.5	5.00	ug/L	50.00		83	40-140	8	25	
Eicosane (C20)	51.8	5.00	ug/L	50.00		104	40-140	2	25	
Hexacosane (C26)	54.2	5.00	ug/L	50.00		108	40-140	2	25	
Hexadecane (C16)	48.3	5.00	ug/L	50.00		97	40-140	4	25	
Hexatriacontane (C36)	65.6	5.00	ug/L	50.00		131	40-140	4	25	
Nonadecane (C19)	53.5	5.00	ug/L	50.00		107	40-140	3	25	
Nonane (C9)	24.8	5.00	ug/L	50.00		50	30-140	19	25	
Octacosane (C28)	53.3	5.00	ug/L	50.00		107	40-140	2	25	
Octadecane (C18)	50.3	5.00	ug/L	50.00		101	40-140	4	25	
Tetracosane (C24)	49.8	5.00	ug/L	50.00		100	40-140	2	25	
Tetradecane (C14)	45.7	5.00	ug/L	50.00		91	40-140	6	25	
Total Petroleum Hydrocarbons	665	100	ug/L	700.0		95	40-140	10	25	
Triacotane (C30)	54.6	5.00	ug/L	50.00		109	40-140	2	25	

*Surrogate: O-Terphenyl*

87.7 ug/L 100.0 88 40-140

**8260B Volatile Organic Compounds**

**Batch CK51139 - 5030B**

**Blank**

1,1,1,2-Tetrachloroethane	ND	1.0	ug/L							
1,1,1-Trichloroethane	ND	1.0	ug/L							
1,1,2,2-Tetrachloroethane	ND	0.5	ug/L							
1,1,2-Trichloroethane	ND	1.0	ug/L							
1,1-Dichloroethane	ND	1.0	ug/L							
1,1-Dichloroethene	ND	1.0	ug/L							
1,1-Dichloropropene	ND	2.0	ug/L							
1,2,3-Trichlorobenzene	ND	1.0	ug/L							
1,2,3-Trichloropropane	ND	1.0	ug/L							
1,2,4-Trichlorobenzene	ND	1.0	ug/L							
1,2,4-Trimethylbenzene	ND	1.0	ug/L							
1,2-Dibromo-3-Chloropropane	ND	5.0	ug/L							
1,2-Dibromoethane	ND	1.0	ug/L							
1,2-Dichlorobenzene	ND	1.0	ug/L							
1,2-Dichloroethane	ND	1.0	ug/L							
1,2-Dichloropropane	ND	1.0	ug/L							



*CERTIFICATE OF ANALYSIS*

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

ESS Laboratory Work Order: 1511224

**Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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**8260B Volatile Organic Compounds**

**Batch CK51139 - 5030B**

1,3,5-Trimethylbenzene	ND	1.0	ug/L
1,3-Dichlorobenzene	ND	1.0	ug/L
1,3-Dichloropropane	ND	1.0	ug/L
1,4-Dichlorobenzene	ND	1.0	ug/L
1,4-Dioxane - Screen	ND	500	ug/L
2,2-Dichloropropane	ND	1.0	ug/L
2-Butanone	ND	10.0	ug/L
2-Chlorotoluene	ND	1.0	ug/L
2-Hexanone	ND	10.0	ug/L
4-Chlorotoluene	ND	1.0	ug/L
4-Isopropyltoluene	ND	1.0	ug/L
4-Methyl-2-Pentanone	ND	10.0	ug/L
Acetone	ND	10.0	ug/L
Benzene	ND	1.0	ug/L
Bromobenzene	ND	2.0	ug/L
Bromochloromethane	ND	1.0	ug/L
Bromodichloromethane	ND	0.6	ug/L
Bromoform	ND	1.0	ug/L
Bromomethane	ND	2.0	ug/L
Carbon Disulfide	ND	1.0	ug/L
Carbon Tetrachloride	ND	1.0	ug/L
Chlorobenzene	ND	1.0	ug/L
Chloroethane	ND	2.0	ug/L
Chloroform	ND	1.0	ug/L
Chloromethane	ND	2.0	ug/L
cis-1,2-Dichloroethene	ND	1.0	ug/L
cis-1,3-Dichloropropene	ND	0.4	ug/L
Dibromochloromethane	ND	1.0	ug/L
Dibromomethane	ND	1.0	ug/L
Dichlorodifluoromethane	ND	2.0	ug/L
Diethyl Ether	ND	1.0	ug/L
Di-isopropyl ether	ND	1.0	ug/L
Ethyl tertiary-butyl ether	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
Hexachlorobutadiene	ND	0.6	ug/L
Hexachloroethane	ND	1.0	ug/L
Isopropylbenzene	ND	1.0	ug/L
Methyl tert-Butyl Ether	ND	1.0	ug/L
Methylene Chloride	ND	2.0	ug/L
Naphthalene	ND	1.0	ug/L
n-Butylbenzene	ND	1.0	ug/L
n-Propylbenzene	ND	1.0	ug/L
sec-Butylbenzene	ND	1.0	ug/L
Styrene	ND	1.0	ug/L
tert-Butylbenzene	ND	1.0	ug/L



*CERTIFICATE OF ANALYSIS*

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ESS Laboratory Work Order: 1511224

**Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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**8260B Volatile Organic Compounds**

**Batch CK51139 - 5030B**

Tertiary-amyl methyl ether	ND	1.0	ug/L							
Tetrachloroethene	ND	1.0	ug/L							
Tetrahydrofuran	ND	5.0	ug/L							
Toluene	ND	1.0	ug/L							
trans-1,2-Dichloroethene	ND	1.0	ug/L							
trans-1,3-Dichloropropene	ND	0.4	ug/L							
Trichloroethene	ND	1.0	ug/L							
Trichlorofluoromethane	ND	1.0	ug/L							
Vinyl Chloride	ND	1.0	ug/L							
Xylene O	ND	1.0	ug/L							
Xylene P,M	ND	2.0	ug/L							
Xylenes (Total)	ND	2.0	ug/L							
Surrogate: 1,2-Dichloroethane-d4	25.3		ug/L	25.00		101	70-130			
Surrogate: 4-Bromofluorobenzene	22.9		ug/L	25.00		92	70-130			
Surrogate: Dibromofluoromethane	25.4		ug/L	25.00		102	70-130			
Surrogate: Toluene-d8	29.6		ug/L	25.00		118	70-130			

**LCS**

1,1,1,2-Tetrachloroethane	10.0		ug/L	10.00		100	70-130			
1,1,1-Trichloroethane	9.2		ug/L	10.00		92	70-130			
1,1,2,2-Tetrachloroethane	10.3		ug/L	10.00		103	70-130			
1,1,2-Trichloroethane	9.8		ug/L	10.00		98	70-130			
1,1-Dichloroethane	9.4		ug/L	10.00		94	70-130			
1,1-Dichloroethene	10.0		ug/L	10.00		100	70-130			
1,1-Dichloropropene	9.1		ug/L	10.00		91	70-130			
1,2,3-Trichlorobenzene	10.8		ug/L	10.00		108	70-130			
1,2,3-Trichloropropane	9.8		ug/L	10.00		98	70-130			
1,2,4-Trichlorobenzene	10.5		ug/L	10.00		105	70-130			
1,2,4-Trimethylbenzene	9.6		ug/L	10.00		96	70-130			
1,2-Dibromo-3-Chloropropane	9.3		ug/L	10.00		93	70-130			
1,2-Dibromoethane	10.7		ug/L	10.00		107	70-130			
1,2-Dichlorobenzene	10.3		ug/L	10.00		103	70-130			
1,2-Dichloroethane	9.0		ug/L	10.00		90	70-130			
1,2-Dichloropropane	9.4		ug/L	10.00		94	70-130			
1,3,5-Trimethylbenzene	9.7		ug/L	10.00		97	70-130			
1,3-Dichlorobenzene	10.4		ug/L	10.00		104	70-130			
1,3-Dichloropropane	11.3		ug/L	10.00		113	70-130			
1,4-Dichlorobenzene	10.0		ug/L	10.00		100	70-130			
1,4-Dioxane - Screen	220		ug/L	200.0		110	0-332			
2,2-Dichloropropane	9.5		ug/L	10.00		95	70-130			
2-Butanone	45.5		ug/L	50.00		91	70-130			
2-Chlorotoluene	10.4		ug/L	10.00		104	70-130			
2-Hexanone	53.5		ug/L	50.00		107	70-130			
4-Chlorotoluene	9.8		ug/L	10.00		98	70-130			
4-Isopropyltoluene	9.5		ug/L	10.00		95	70-130			
4-Methyl-2-Pentanone	49.1		ug/L	50.00		98	70-130			



*CERTIFICATE OF ANALYSIS*

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

ESS Laboratory Work Order: 1511224

**Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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**8260B Volatile Organic Compounds**

**Batch CK51139 - 5030B**

Acetone	45.7		ug/L	50.00		91	70-130			
Benzene	9.7		ug/L	10.00		97	70-130			
Bromobenzene	10.3		ug/L	10.00		103	70-130			
Bromochloromethane	10.0		ug/L	10.00		100	70-130			
Bromodichloromethane	9.7		ug/L	10.00		97	70-130			
Bromoform	10.7		ug/L	10.00		107	70-130			
Bromomethane	7.7		ug/L	10.00		77	70-130			
Carbon Disulfide	12.0		ug/L	10.00		120	70-130			
Carbon Tetrachloride	9.7		ug/L	10.00		97	70-130			
Chlorobenzene	10.4		ug/L	10.00		104	70-130			
Chloroethane	8.6		ug/L	10.00		86	70-130			
Chloroform	9.3		ug/L	10.00		93	70-130			
Chloromethane	7.3		ug/L	10.00		73	70-130			
cis-1,2-Dichloroethene	10.5		ug/L	10.00		105	70-130			
cis-1,3-Dichloropropene	8.7		ug/L	10.00		87	70-130			
Dibromochloromethane	10.6		ug/L	10.00		106	70-130			
Dibromomethane	9.7		ug/L	10.00		97	70-130			
Dichlorodifluoromethane	8.3		ug/L	10.00		83	70-130			
Diethyl Ether	9.6		ug/L	10.00		96	70-130			
Di-isopropyl ether	9.9		ug/L	10.00		99	70-130			
Ethyl tertiary-butyl ether	9.1		ug/L	10.00		91	70-130			
Ethylbenzene	9.8		ug/L	10.00		98	70-130			
Hexachlorobutadiene	11.5		ug/L	10.00		115	70-130			
Hexachloroethane	10.3		ug/L	10.00		103	70-130			
Isopropylbenzene	9.4		ug/L	10.00		94	70-130			
Methyl tert-Butyl Ether	9.3		ug/L	10.00		93	70-130			
Methylene Chloride	9.4		ug/L	10.00		94	70-130			
Naphthalene	9.9		ug/L	10.00		99	70-130			
n-Butylbenzene	9.6		ug/L	10.00		96	70-130			
n-Propylbenzene	9.0		ug/L	10.00		90	70-130			
sec-Butylbenzene	9.6		ug/L	10.00		96	70-130			
Styrene	9.5		ug/L	10.00		95	70-130			
tert-Butylbenzene	9.5		ug/L	10.00		95	70-130			
Tertiary-amyl methyl ether	8.8		ug/L	10.00		88	70-130			
Tetrachloroethene	8.4		ug/L	10.00		84	70-130			
Tetrahydrofuran	10.8		ug/L	10.00		108	70-130			
Toluene	10.3		ug/L	10.00		103	70-130			
trans-1,2-Dichloroethene	10.1		ug/L	10.00		101	70-130			
trans-1,3-Dichloropropene	7.8		ug/L	10.00		78	70-130			
Trichloroethene	9.7		ug/L	10.00		97	70-130			
Trichlorofluoromethane	8.7		ug/L	10.00		87	70-130			
Vinyl Chloride	8.8		ug/L	10.00		88	70-130			
Xylene O	9.8		ug/L	10.00		98	70-130			
Xylene P,M	20.1		ug/L	20.00		100	70-130			
Xylenes (Total)	29.8		ug/L							



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
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ESS Laboratory Work Order: 1511224

**Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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**8260B Volatile Organic Compounds**

**Batch CK51139 - 5030B**

Surrogate: 1,2-Dichloroethane-d4	23.1		ug/L	25.00		92	70-130			
Surrogate: 4-Bromofluorobenzene	26.4		ug/L	25.00		106	70-130			
Surrogate: Dibromofluoromethane	25.3		ug/L	25.00		101	70-130			
Surrogate: Toluene-d8	28.8		ug/L	25.00		115	70-130			
<b>LCS Dup</b>										
1,1,1,2-Tetrachloroethane	9.0		ug/L	10.00		90	70-130	11	25	
1,1,1-Trichloroethane	9.4		ug/L	10.00		94	70-130	2	25	
1,1,2,2-Tetrachloroethane	10.0		ug/L	10.00		100	70-130	3	25	
1,1,2-Trichloroethane	9.8		ug/L	10.00		98	70-130	0.2	25	
1,1-Dichloroethane	9.3		ug/L	10.00		93	70-130	1	25	
1,1-Dichloroethene	9.9		ug/L	10.00		99	70-130	1	25	
1,1-Dichloropropene	9.3		ug/L	10.00		93	70-130	2	25	
1,2,3-Trichlorobenzene	9.9		ug/L	10.00		99	70-130	9	25	
1,2,3-Trichloropropane	9.3		ug/L	10.00		93	70-130	5	25	
1,2,4-Trichlorobenzene	9.7		ug/L	10.00		97	70-130	8	25	
1,2,4-Trimethylbenzene	9.3		ug/L	10.00		93	70-130	3	25	
1,2-Dibromo-3-Chloropropane	9.8		ug/L	10.00		98	70-130	6	25	
1,2-Dibromoethane	10.0		ug/L	10.00		100	70-130	7	25	
1,2-Dichlorobenzene	9.7		ug/L	10.00		97	70-130	6	25	
1,2-Dichloroethane	8.7		ug/L	10.00		87	70-130	3	25	
1,2-Dichloropropane	9.3		ug/L	10.00		93	70-130	1	25	
1,3,5-Trimethylbenzene	9.6		ug/L	10.00		96	70-130	1	25	
1,3-Dichlorobenzene	10.0		ug/L	10.00		100	70-130	4	25	
1,3-Dichloropropane	10.2		ug/L	10.00		102	70-130	11	25	
1,4-Dichlorobenzene	9.5		ug/L	10.00		95	70-130	5	25	
1,4-Dioxane - Screen	209		ug/L	200.0		105	0-332	5	200	
2,2-Dichloropropane	9.0		ug/L	10.00		90	70-130	6	25	
2-Butanone	42.8		ug/L	50.00		86	70-130	6	25	
2-Chlorotoluene	10.1		ug/L	10.00		101	70-130	3	25	
2-Hexanone	47.5		ug/L	50.00		95	70-130	12	25	
4-Chlorotoluene	9.4		ug/L	10.00		94	70-130	3	25	
4-Isopropyltoluene	9.3		ug/L	10.00		93	70-130	3	25	
4-Methyl-2-Pentanone	47.2		ug/L	50.00		94	70-130	4	25	
Acetone	45.7		ug/L	50.00		91	70-130	0.07	25	
Benzene	9.6		ug/L	10.00		96	70-130	0.6	25	
Bromobenzene	10.1		ug/L	10.00		101	70-130	2	25	
Bromochloromethane	9.7		ug/L	10.00		97	70-130	4	25	
Bromodichloromethane	9.7		ug/L	10.00		97	70-130	0.3	25	
Bromoform	9.8		ug/L	10.00		98	70-130	8	25	
Bromomethane	7.1		ug/L	10.00		71	70-130	8	25	
Carbon Disulfide	12.9		ug/L	10.00		129	70-130	7	25	
Carbon Tetrachloride	9.7		ug/L	10.00		97	70-130	0.6	25	
Chlorobenzene	9.5		ug/L	10.00		95	70-130	9	25	
Chloroethane	8.2		ug/L	10.00		82	70-130	5	25	



*CERTIFICATE OF ANALYSIS*

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Client Project ID: Wynn Everett - MCP

ESS Laboratory Work Order: 1511224

**Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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**8260B Volatile Organic Compounds**

**Batch CK51139 - 5030B**

Chloroform	9.1		ug/L	10.00		91	70-130	2	25	
Chloromethane	7.4		ug/L	10.00		74	70-130	1	25	
cis-1,2-Dichloroethene	10.2		ug/L	10.00		102	70-130	2	25	
cis-1,3-Dichloropropene	8.4		ug/L	10.00		84	70-130	3	25	
Dibromochloromethane	9.5		ug/L	10.00		95	70-130	10	25	
Dibromomethane	9.6		ug/L	10.00		96	70-130	0.3	25	
Dichlorodifluoromethane	8.4		ug/L	10.00		84	70-130	2	25	
Diethyl Ether	9.2		ug/L	10.00		92	70-130	4	25	
Di-isopropyl ether	9.8		ug/L	10.00		98	70-130	2	25	
Ethyl tertiary-butyl ether	9.0		ug/L	10.00		90	70-130	1	25	
Ethylbenzene	9.0		ug/L	10.00		90	70-130	8	25	
Hexachlorobutadiene	10.9		ug/L	10.00		109	70-130	5	25	
Hexachloroethane	9.6		ug/L	10.00		96	70-130	7	25	
Isopropylbenzene	9.2		ug/L	10.00		92	70-130	2	25	
Methyl tert-Butyl Ether	9.0		ug/L	10.00		90	70-130	3	25	
Methylene Chloride	11.9		ug/L	10.00		119	70-130	24	25	
Naphthalene	9.0		ug/L	10.00		90	70-130	10	25	
n-Butylbenzene	9.3		ug/L	10.00		93	70-130	3	25	
n-Propylbenzene	8.9		ug/L	10.00		89	70-130	1	25	
sec-Butylbenzene	9.6		ug/L	10.00		96	70-130	0.1	25	
Styrene	8.8		ug/L	10.00		88	70-130	7	25	
tert-Butylbenzene	9.4		ug/L	10.00		94	70-130	0.8	25	
Tertiary-amyl methyl ether	8.9		ug/L	10.00		89	70-130	0.5	25	
Tetrachloroethene	7.9		ug/L	10.00		79	70-130	7	25	
Tetrahydrofuran	9.6		ug/L	10.00		96	70-130	11	25	
Toluene	10.2		ug/L	10.00		102	70-130	0.9	25	
trans-1,2-Dichloroethene	9.9		ug/L	10.00		99	70-130	2	25	
trans-1,3-Dichloropropene	7.8		ug/L	10.00		78	70-130	0.1	25	
Trichloroethene	9.5		ug/L	10.00		95	70-130	2	25	
Trichlorofluoromethane	8.8		ug/L	10.00		88	70-130	2	25	
Vinyl Chloride	8.8		ug/L	10.00		88	70-130	0.6	25	
Xylene O	8.9		ug/L	10.00		89	70-130	9	25	
Xylene P,M	18.6		ug/L	20.00		93	70-130	7	25	
Xylenes (Total)	27.6		ug/L							
Surrogate: 1,2-Dichloroethane-d4	22.6		ug/L	25.00		90	70-130			
Surrogate: 4-Bromofluorobenzene	23.9		ug/L	25.00		96	70-130			
Surrogate: Dibromofluoromethane	24.9		ug/L	25.00		100	70-130			
Surrogate: Toluene-d8	26.9		ug/L	25.00		108	70-130			

**8270D Semi-Volatile Organic Compounds**

**Batch CK51314 - 3520C**

<b>Blank</b>										
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							





*CERTIFICATE OF ANALYSIS*

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

ESS Laboratory Work Order: 1511224

**Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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**8270D Semi-Volatile Organic Compounds**

**Batch CK51314 - 3520C**

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-Methylnaphthalene	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
Acenaphthene	ND	10.0	ug/L
Acenaphthylene	ND	10.0	ug/L
Acetophenone	ND	10.0	ug/L
Aniline	ND	10.0	ug/L
Anthracene	ND	10.0	ug/L
Azobenzene	ND	20.0	ug/L
Benzo(a)anthracene	ND	10.0	ug/L
Benzo(a)pyrene	ND	10.0	ug/L
Benzo(b)fluoranthene	ND	10.0	ug/L
Benzo(g,h,i)perylene	ND	10.0	ug/L
Benzo(k)fluoranthene	ND	10.0	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
Chrysene	ND	10.0	ug/L
Dibenzo(a,h)Anthracene	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
Fluoranthene	ND	10.0	ug/L
Fluorene	ND	10.0	ug/L
Hexachlorobenzene	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: 1511224

**Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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**8270D Semi-Volatile Organic Compounds**

**Batch CK51314 - 3520C**

Hexachloroethane	ND	5.0	ug/L							
Indeno(1,2,3-cd)Pyrene	ND	10.0	ug/L							
Isophorone	ND	10.0	ug/L							
Naphthalene	ND	10.0	ug/L							
Nitrobenzene	ND	10.0	ug/L							
N-Nitrosodimethylamine	ND	10.0	ug/L							
Pentachlorophenol	ND	50.0	ug/L							
Phenanthrene	ND	10.0	ug/L							
Phenol	ND	10.0	ug/L							
Pyrene	ND	10.0	ug/L							
Surrogate: 1,2-Dichlorobenzene-d4	76.2		ug/L	100.0		76	30-130			
Surrogate: 2,4,6-Tribromophenol	141		ug/L	150.0		94	15-110			
Surrogate: 2-Chlorophenol-d4	112		ug/L	150.0		75	15-110			
Surrogate: 2-Fluorobiphenyl	79.2		ug/L	100.0		79	30-130			
Surrogate: 2-Fluorophenol	93.6		ug/L	150.0		62	15-110			
Surrogate: Nitrobenzene-d5	85.0		ug/L	100.0		85	30-130			
Surrogate: Phenol-d6	116		ug/L	150.0		77	15-110			
Surrogate: p-Terphenyl-d14	115		ug/L	100.0		115	30-130			

**LCS**

1,2,4-Trichlorobenzene	55.9	10.0	ug/L	100.0		56	40-140			
1,2-Dichlorobenzene	53.5	10.0	ug/L	100.0		53	40-140			
1,3-Dichlorobenzene	52.8	10.0	ug/L	100.0		53	40-140			
1,4-Dichlorobenzene	53.1	10.0	ug/L	100.0		53	40-140			
2,4,5-Trichlorophenol	62.4	10.0	ug/L	100.0		62	30-130			
2,4,6-Trichlorophenol	59.9	10.0	ug/L	100.0		60	30-130			
2,4-Dichlorophenol	56.8	10.0	ug/L	100.0		57	30-130			
2,4-Dimethylphenol	47.9	50.0	ug/L	100.0		48	30-130			
2,4-Dinitrophenol	68.2	50.0	ug/L	100.0		68	30-130			
2,4-Dinitrotoluene	65.3	10.0	ug/L	100.0		65	40-140			
2,6-Dinitrotoluene	59.1	10.0	ug/L	100.0		59	40-140			
2-Chloronaphthalene	51.8	10.0	ug/L	100.0		52	40-140			
2-Chlorophenol	48.4	10.0	ug/L	100.0		48	30-130			
2-Methylnaphthalene	56.0	10.0	ug/L	100.0		56	40-140			
2-Methylphenol	52.2	10.0	ug/L	100.0		52	30-130			
2-Nitrophenol	60.5	10.0	ug/L	100.0		61	30-130			
3,3'-Dichlorobenzidine	60.8	20.0	ug/L	100.0		61	40-140			
3+4-Methylphenol	104	20.0	ug/L	200.0		52	30-130			
4-Bromophenyl-phenylether	63.8	10.0	ug/L	100.0		64	40-140			
4-Chloroaniline	50.7	20.0	ug/L	100.0		51	40-140			
4-Nitrophenol	60.7	50.0	ug/L	100.0		61	30-130			
Acenaphthene	59.4	10.0	ug/L	100.0		59	40-140			
Acenaphthylene	56.6	10.0	ug/L	100.0		57	40-140			
Acetophenone	57.8	10.0	ug/L	100.0		58	40-140			
Aniline	46.2	10.0	ug/L	100.0		46	40-140			
Anthracene	62.6	10.0	ug/L	100.0		63	40-140			



*CERTIFICATE OF ANALYSIS*

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

ESS Laboratory Work Order: 1511224

**Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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**8270D Semi-Volatile Organic Compounds**

**Batch CK51314 - 3520C**

Azobenzene	65.7	20.0	ug/L	100.0		66	40-140			
Benzo(a)anthracene	65.5	10.0	ug/L	100.0		66	40-140			
Benzo(a)pyrene	62.4	10.0	ug/L	100.0		62	40-140			
Benzo(b)fluoranthene	67.4	10.0	ug/L	100.0		67	40-140			
Benzo(g,h,i)perylene	63.7	10.0	ug/L	100.0		64	40-140			
Benzo(k)fluoranthene	60.5	10.0	ug/L	100.0		60	40-140			
bis(2-Chloroethoxy)methane	61.5	10.0	ug/L	100.0		62	40-140			
bis(2-Chloroethyl)ether	59.3	10.0	ug/L	100.0		59	40-140			
bis(2-chloroisopropyl)Ether	55.8	10.0	ug/L	100.0		56	40-140			
bis(2-Ethylhexyl)phthalate	68.9	6.0	ug/L	100.0		69	40-140			
Butylbenzylphthalate	70.9	10.0	ug/L	100.0		71	40-140			
Chrysene	65.5	10.0	ug/L	100.0		65	40-140			
Dibenzo(a,h)Anthracene	66.4	10.0	ug/L	100.0		66	40-140			
Dibenzofuran	56.5	10.0	ug/L	100.0		56	40-140			
Diethylphthalate	61.8	10.0	ug/L	100.0		62	40-140			
Dimethylphthalate	60.6	10.0	ug/L	100.0		61	40-140			
Di-n-butylphthalate	70.4	10.0	ug/L	100.0		70	40-140			
Di-n-octylphthalate	67.7	10.0	ug/L	100.0		68	40-140			
Fluoranthene	64.1	10.0	ug/L	100.0		64	40-140			
Fluorene	60.6	10.0	ug/L	100.0		61	40-140			
Hexachlorobenzene	60.4	10.0	ug/L	100.0		60	40-140			
Hexachlorobutadiene	55.5	10.0	ug/L	100.0		56	40-140			
Hexachloroethane	51.1	5.0	ug/L	100.0		51	40-140			
Indeno(1,2,3-cd)Pyrene	64.9	10.0	ug/L	100.0		65	40-140			
Isophorone	59.9	10.0	ug/L	100.0		60	40-140			
Naphthalene	58.3	10.0	ug/L	100.0		58	40-140			
Nitrobenzene	60.0	10.0	ug/L	100.0		60	40-140			
N-Nitrosodimethylamine	63.6	10.0	ug/L	100.0		64	40-140			
Pentachlorophenol	72.4	50.0	ug/L	100.0		72	30-130			
Phenanthrene	63.2	10.0	ug/L	100.0		63	40-140			
Phenol	48.4	10.0	ug/L	100.0		48	30-130			
Pyrene	68.3	10.0	ug/L	100.0		68	40-140			
Surrogate: 1,2-Dichlorobenzene-d4	53.8		ug/L	100.0		54	30-130			
Surrogate: 2,4,6-Tribromophenol	101		ug/L	150.0		67	15-110			
Surrogate: 2-Chlorophenol-d4	72.4		ug/L	150.0		48	15-110			
Surrogate: 2-Fluorobiphenyl	57.3		ug/L	100.0		57	30-130			
Surrogate: 2-Fluorophenol	58.8		ug/L	150.0		39	15-110			
Surrogate: Nitrobenzene-d5	60.6		ug/L	100.0		61	30-130			
Surrogate: Phenol-d6	75.1		ug/L	150.0		50	15-110			
Surrogate: p-Terphenyl-d14	71.5		ug/L	100.0		72	30-130			

**LCS Dup**

1,2,4-Trichlorobenzene	64.9	10.0	ug/L	100.0		65	40-140	15	20	
1,2-Dichlorobenzene	61.7	10.0	ug/L	100.0		62	40-140	14	20	
1,3-Dichlorobenzene	60.4	10.0	ug/L	100.0		60	40-140	14	20	
1,4-Dichlorobenzene	59.8	10.0	ug/L	100.0		60	40-140	12	20	



*CERTIFICATE OF ANALYSIS*

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

ESS Laboratory Work Order: 1511224

**Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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**8270D Semi-Volatile Organic Compounds**

**Batch CK51314 - 3520C**

2,4,5-Trichlorophenol	79.2	10.0	ug/L	100.0		79	30-130	24	20	D+
2,4,6-Trichlorophenol	75.2	10.0	ug/L	100.0		75	30-130	23	20	D+
2,4-Dichlorophenol	73.3	10.0	ug/L	100.0		73	30-130	25	20	D+
2,4-Dimethylphenol	61.6	50.0	ug/L	100.0		62	30-130	25	20	D+
2,4-Dinitrophenol	82.1	50.0	ug/L	100.0		82	30-130	18	20	
2,4-Dinitrotoluene	78.0	10.0	ug/L	100.0		78	40-140	18	20	
2,6-Dinitrotoluene	72.4	10.0	ug/L	100.0		72	40-140	20	20	
2-Chloronaphthalene	60.8	10.0	ug/L	100.0		61	40-140	16	20	
2-Chlorophenol	64.8	10.0	ug/L	100.0		65	30-130	29	20	D+
2-Methylnaphthalene	68.2	10.0	ug/L	100.0		68	40-140	20	20	
2-Methylphenol	68.8	10.0	ug/L	100.0		69	30-130	27	20	D+
2-Nitrophenol	78.4	10.0	ug/L	100.0		78	30-130	26	20	D+
3,3'-Dichlorobenzidine	67.1	20.0	ug/L	100.0		67	40-140	10	20	
3+4-Methylphenol	138	20.0	ug/L	200.0		69	30-130	28	20	D+
4-Bromophenyl-phenylether	72.7	10.0	ug/L	100.0		73	40-140	13	20	
4-Chloroaniline	60.3	20.0	ug/L	100.0		60	40-140	17	20	
4-Nitrophenol	73.4	50.0	ug/L	100.0		73	30-130	19	20	
Acenaphthene	70.8	10.0	ug/L	100.0		71	40-140	18	20	
Acenaphthylene	67.0	10.0	ug/L	100.0		67	40-140	17	20	
Acetophenone	71.4	10.0	ug/L	100.0		71	40-140	21	20	D+
Aniline	55.5	10.0	ug/L	100.0		56	40-140	18	20	
Anthracene	71.8	10.0	ug/L	100.0		72	40-140	14	20	
Azobenzene	75.5	20.0	ug/L	100.0		75	40-140	14	20	
Benzo(a)anthracene	74.1	10.0	ug/L	100.0		74	40-140	12	20	
Benzo(a)pyrene	70.8	10.0	ug/L	100.0		71	40-140	12	20	
Benzo(b)fluoranthene	75.9	10.0	ug/L	100.0		76	40-140	12	20	
Benzo(g,h,i)perylene	71.5	10.0	ug/L	100.0		72	40-140	12	20	
Benzo(k)fluoranthene	70.2	10.0	ug/L	100.0		70	40-140	15	20	
bis(2-Chloroethoxy)methane	73.4	10.0	ug/L	100.0		73	40-140	18	20	
bis(2-Chloroethyl)ether	71.3	10.0	ug/L	100.0		71	40-140	18	20	
bis(2-chloroisopropyl)Ether	67.1	10.0	ug/L	100.0		67	40-140	18	20	
bis(2-Ethylhexyl)phthalate	77.9	6.0	ug/L	100.0		78	40-140	12	20	
Butylbenzylphthalate	77.6	10.0	ug/L	100.0		78	40-140	9	20	
Chrysene	73.7	10.0	ug/L	100.0		74	40-140	12	20	
Dibenzo(a,h)Anthracene	73.8	10.0	ug/L	100.0		74	40-140	10	20	
Dibenzofuran	68.3	10.0	ug/L	100.0		68	40-140	19	20	
Diethylphthalate	73.1	10.0	ug/L	100.0		73	40-140	17	20	
Dimethylphthalate	72.1	10.0	ug/L	100.0		72	40-140	17	20	
Di-n-butylphthalate	79.2	10.0	ug/L	100.0		79	40-140	12	20	
Di-n-octylphthalate	78.2	10.0	ug/L	100.0		78	40-140	14	20	
Fluoranthene	74.9	10.0	ug/L	100.0		75	40-140	16	20	
Fluorene	73.0	10.0	ug/L	100.0		73	40-140	19	20	
Hexachlorobenzene	69.4	10.0	ug/L	100.0		69	40-140	14	20	
Hexachlorobutadiene	63.2	10.0	ug/L	100.0		63	40-140	13	20	
Hexachloroethane	57.3	5.0	ug/L	100.0		57	40-140	11	20	



*CERTIFICATE OF ANALYSIS*

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

ESS Laboratory Work Order: 1511224

**Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
<b>Batch CK51314 - 3520C</b>										
Indeno(1,2,3-cd)Pyrene	72.8	10.0	ug/L	100.0		73	40-140	11	20	
Isophorone	72.6	10.0	ug/L	100.0		73	40-140	19	20	
Naphthalene	68.6	10.0	ug/L	100.0		69	40-140	16	20	
Nitrobenzene	71.3	10.0	ug/L	100.0		71	40-140	17	20	
N-Nitrosodimethylamine	72.0	10.0	ug/L	100.0		72	40-140	12	20	
Pentachlorophenol	86.1	50.0	ug/L	100.0		86	30-130	17	20	
Phenanthrene	73.0	10.0	ug/L	100.0		73	40-140	14	20	
Phenol	64.0	10.0	ug/L	100.0		64	30-130	28	20	D+
Pyrene	77.0	10.0	ug/L	100.0		77	40-140	12	20	
Surrogate: 1,2-Dichlorobenzene-d4	61.7		ug/L	100.0		62	30-130			
Surrogate: 2,4,6-Tribromophenol	118		ug/L	150.0		79	15-110			
Surrogate: 2-Chlorophenol-d4	95.0		ug/L	150.0		63	15-110			
Surrogate: 2-Fluorobiphenyl	64.8		ug/L	100.0		65	30-130			
Surrogate: 2-Fluorophenol	82.3		ug/L	150.0		55	15-110			
Surrogate: Nitrobenzene-d5	70.3		ug/L	100.0		70	30-130			
Surrogate: Phenol-d6	98.2		ug/L	150.0		65	15-110			
Surrogate: p-Terphenyl-d14	78.2		ug/L	100.0		78	30-130			



*CERTIFICATE OF ANALYSIS*

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

ESS Laboratory Work Order: 1511224

**Notes and Definitions**

Z16	Aqueous pH measured in water at 7.5 °C.
U	Analyte included in the analysis, but not detected
S-	Surrogate recovery(ies) below lower control limit (S-).
Q	Calibration required quadratic regression (Q).
PH+	pH > 2 (PH+)
D+	Relative percent difference for duplicate is outside of criteria (D+).
D	Diluted.
CD+	Continuing Calibration %Diff/Drift is above control limit (CD+).
CD-	Continuing Calibration %Diff/Drift is below control limit (CD-).
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: 1511224

**ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS**

**ENVIRONMENTAL**

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](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: RI00002

<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](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](http://www.depweb.state.pa.us/portal/server.pt/community/labs/13780/laboratory_accreditation_program/590095)

**Sample and Cooler Receipt Checklist**

Client: GZA GeoEnvironmental, Inc.

Client Project ID: \_\_\_\_\_

Shipped/Delivered Via: ESS CourierESS Project ID: 15110224Date Project Due: 11/17/15Days 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 &lt; 100 CPM?

☐ Yes

5. Is a cooler present?

☐ YesCooler Temp: 2.0Iced 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?

☐ No

13. Holding times exceeded?

☐ No

14. Sufficient sample volumes?

☐ Yes

15. Any Subcontracting needed?

☐ No16. Are ESS labels on correct containers? ☒ Yes ☐ No

17. Were samples received intact?

☒ Yes ☐ No

ESS Sample IDs: \_\_\_\_\_

Sub Lab: \_\_\_\_\_

Analysis: \_\_\_\_\_

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	3	NP
1	Yes	250 ml Plastic	1	HNO3
1	Yes	250 ml Plastic	1	NP
1	Yes	40 ml - VOA	3	HCL

Completed By: [Signature]Date/Time: 11/10/15 2042Reviewed By: [Signature]Date/Time: 11/10/15 2104



# 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 \_\_\_\_\_

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 \_\_\_\_\_

Co. Name GZA

Contact Person

Matthew Smith

Address

249 Vardolait Ave

Tel. 781-983-1671

Project #

171521-41

Proj. Location

Everett, MA

City State

Norwood, MA

email: Matthew.Smith@gza.com

Project Name

Wynn Everett

Zip

02062

PO #

1 Horizon Way

Analysis

Vol of Container

40<sup>2</sup> 4oz

Type of Container

VAG

# of Containers

8

Pres Code

1,2,4

Sample ID

VST Contents 1

Matrix

GW

Grab-G Composite-C

G

Collection Time

1030

Date

11/10/2015

ESS Lab ID

1

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Cooler Present Yes No

Seals Intact Yes No NA: \_\_\_\_\_

Cooler Temperature: 2.0 ice

Relinquished by: (Signature, Date & Time)

Matthew Smith 11/10/2015 1230

Received by: (Signature, Date & Time)

Matthew Smith 11/10/2015 1230

Relinquished by: (Signature, Date & Time)

Matthew Smith 11/10/2015 1230

Received by: (Signature, Date & Time)

Matthew Smith 11/10/2015 1230

Relinquished by: (Signature, Date & Time)

Matthew Smith 11/10/2015 1230

Received by: (Signature, Date & Time)

Matthew Smith 11/10/2015 1230

Relinquished by: (Signature, Date & Time)

Matthew Smith 11/10/2015 1230

Received by: (Signature, Date & Time)

Matthew Smith 11/10/2015 1230

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Preservation Code: ☒ NP, ☒ HCl, ☒ H2SO4, ☒ HNO3, ☒ NaOH, ☒ MeOH, 7-Asorbic Acid, 8-ZnAct, 9-\_\_\_\_\_

Sampled by: Kip Webber

Comments: TCLP based on 20x rule

Relinquished by: (Signature, Date & Time)

Kip Webber 11/10/15

Received by: (Signature, Date & Time)

Kip Webber 11/10/15

Relinquished by: (Signature, Date & Time)

Kip Webber 11/10/15

Received by: (Signature, Date & Time)

Kip Webber 11/10/15

Relinquished by: (Signature, Date & Time)

Kip Webber 11/10/15

Received by: (Signature, Date & Time)

Kip Webber 11/10/15

Relinquished by: (Signature, Date & Time)

Kip Webber 11/10/15

Received by: (Signature, Date & Time)

Kip Webber 11/10/15

Please fax to the laboratory all changes to Chain of Custody

## Report Method Blank & Laboratory Control Sample Results

\* By circling MA-MCP, client acknowledges samples were

collected in accordance with MADEP CAM VIIA

# ESS Laboratory

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## CHAIN OF CUSTODY

Turn Time Standard Other \_\_\_\_\_

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 \_\_\_\_\_

Co. Name GZA

Contact Person

Matthew Smith

Address

249 Vardolait Ave

Tel. 781-983-1671

Project #

171521-41

Proj. Location

Everett, MA

City State

Norwood, MA

email: Matthew.Smith@gza.com

Project Name

Wynn Everett

Zip

02062

PO #

1 Horizon Way

Analysis

Vol of Container

40<sup>2</sup> 4oz

Type of Container

VAC

# of Containers

8

Pres Code

1,2,4

Sample ID

VST Contents 1

Matrix

GW

Grab-G Composite-C

G

Collection Time

1030

Date

11/10/2015

ESS Lab ID

1

11/10/2015

1030

G

VST Contents 2

1,6

VAC

250<sup>2</sup> 4oz

1000 mL

Flashpoint & TAP

8260

8270

PH

TPH

PCBs

MCP Metals

Residuals

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Internal Use Only

Seals Intact Yes Yes No NA: \_\_\_\_\_

Cooler Temperature: 2.0 ice

Relinquished by: (Signature, Date & Time)

Matthew Smith

11/10/2015 1230

Relinquished by: (Signature, Date & Time)

Matthew Smith

11/10/2015 1537

Relinquished by: (Signature, Date & Time)

Matthew Smith

11/10/2015 1807

Relinquished by: (Signature, Date & Time)

Matthew Smith

11/10/2015 111015

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Preservation Code: (1)NP, (2)HCl, 3-H2SO4, (4)HNO3, 5-NaOH, (6)MeOH, 7-Asorbic Acid, 8-ZnAc2, 9-\_\_\_\_\_

Sampled by: Kip Webber

Comments: TCLP based on 20x rule

Relinquished by: (Signature, Date & Time)

Matthew Smith

11/10/2015 111015

Relinquished by: (Signature, Date & Time)

Matthew Smith

11/10/2015 111015

Relinquished by: (Signature, Date & Time)

Matthew Smith

11/10/2015 111015

Relinquished by: (Signature, Date & Time)

Matthew Smith

11/10/2015 111015

\* 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



*CERTIFICATE OF ANALYSIS*

Matt Smith  
GZA GeoEnvironmental, Inc.  
249 Vanderbilt Avenue  
Norwood, MA 02062

**RE: Wynn Everett - MCP (01.0171521.41)**  
**ESS Laboratory Work Order Number: 1511225**

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 2:33 pm, Nov 18, 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: 1511225

**SAMPLE RECEIPT**

The following samples were received on November 10, 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.

**Low Level VOA vials were frozen by ESS Laboratory on November 10, 2015 at 21:20.**

**Question I: All samples for EPH were analyzed for a subset of the required MCP list per the client's request.**

**Revision 1 November 18, 2015: This report has been revised to include PCB results.**

Lab Number	Sample Name	Matrix	Analysis
1511225-01	UST Contents 2	Soil	1010, 1311, 1311/6010C, 1311/7470A, 6010C, 7.3.3.2, 7.3.4.1, 7010, 7471B, 8082A, 8100M, 8260B Low, 8270D, 9045, 9050A



*CERTIFICATE OF ANALYSIS*

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

ESS Laboratory Work Order: 1511225

**PROJECT NARRATIVE**

**5035/8260B Volatile Organic Compounds / Low Level**

1511225-01 Internal Standard(s) outside of criteria. Sample was reanalyzed to confirm (IC).

1,4-Dichlorobenzene-D4 (47% @ 50-200%)

CK51212-BS1 Blank Spike recovery is above upper control limit (B+).

Acetone (146% @ 70-130%)

CK51212-BSD1 Relative percent difference for duplicate is outside of criteria (D+).

Acetone (41% @ 25%)

**8082A Polychlorinated Biphenyls (PCB)**

1511225-01 Present in Method Blank (B).

Aroclor 1254

**8100M Total Petroleum Hydrocarbons**

CYK0166-CCV1 Continuing Calibration %Diff/Drift is above control limit (CD+).

Hexatriacontane (C36) (30% @ 25%)

CYK0166-CCV2 Continuing Calibration %Diff/Drift is above control limit (CD+).

Hexatriacontane (C36) (36% @ 25%)

**8270D Semi-Volatile Organic Compounds**

CYK0171-CCV1 Calibration required quadratic regression (Q).

2,4-Dinitrophenol (111% @ 80-120%), Pentachlorophenol (107% @ 80-120%)

**Total Metals**

CK51109-BSD1 Relative percent difference for duplicate is outside of criteria (D+).

Selenium (23% @ 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 - MCP

ESS Laboratory Work Order: 1511225

**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: 1511225

**MassDEP Analytical Protocol Certification Form**

MADEP RTN: \_\_\_\_\_

This form provides certification for the following data set: **1511225-01**

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's 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's status***

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocols(s)? <b><i>Data User Note: Data that achieve Presumptive Certainty's status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.</i></b>	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: Laurel Stoddard  
Printed Name: Laurel Stoddard

Date: November 17, 2015  
Position: Laboratory Director



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Wynn Everett - MCP  
Client Sample ID: UST Contents 2  
Date Sampled: 11/10/15 10:30  
Percent Solids: 76

ESS Laboratory Work Order: 1511225  
ESS Laboratory Sample ID: 1511225-01  
Sample Matrix: Soil  
Units: mg/kg dry

Extraction Method: 3050B

**Total Metals**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Antimony	100 (6.15)		6010C		1	KJK	11/11/15 18:54	2.13	100	CK51109
Arsenic	1270 (3.08)		6010C		1	KJK	11/11/15 18:54	2.13	100	CK51109
Barium	113 (3.08)		6010C		1	KJK	11/11/15 18:54	2.13	100	CK51109
Beryllium	0.29 (0.14)		6010C		1	KJK	11/11/15 18:54	2.13	100	CK51109
Cadmium	11.5 (0.62)		6010C		1	KJK	11/11/15 18:54	2.13	100	CK51109
Chromium	10.6 (1.23)		6010C		1	KJK	11/11/15 18:54	2.13	100	CK51109
Lead	2710 (6.15)		6010C		1	KJK	11/11/15 18:54	2.13	100	CK51109
Mercury	38.4 (4.12)		7471B		100	JC	11/11/15 17:27	0.63	40	CK51110
Nickel	19.5 (3.08)		6010C		1	KJK	11/11/15 18:54	2.13	100	CK51109
Selenium	32.8 (15.4)		7010		25	KJK	11/13/15 4:24	2.13	100	CK51109
Silver	4.61 (0.62)		6010C		1	KJK	11/11/15 18:54	2.13	100	CK51109
Thallium	ND (1.54)		7010		5	KJK	11/12/15 23:58	2.13	100	CK51109
Vanadium	37.0 (1.23)		6010C		1	KJK	11/11/15 18:54	2.13	100	CK51109
Zinc	1050 (3.08)		6010C		1	KJK	11/11/15 18:54	2.13	100	CK51109





*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Wynn Everett - MCP  
Client Sample ID: UST Contents 2  
Date Sampled: 11/10/15 10:30  
Percent Solids: 76

ESS Laboratory Work Order: 1511225  
ESS Laboratory Sample ID: 1511225-01  
Sample Matrix: Soil  
Units: mg/L

Extraction Method: 3005A TCLP

TCLP Extraction Date: 11/13/15 14:19

**1311 TCLP Metals**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>TCLP Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Arsenic	0.860 (0.050)		1311/6010C		1	KJK	11/14/15 0:06	50	50	CK51328
Lead	1.19 (0.050)		1311/6010C		1	KJK	11/14/15 0:06	50	50	CK51328
Mercury	ND (0.00050)		1311/7470A		1	PJP	11/16/15 12:54	20	40	CK51329
Selenium	ND (0.050)		1311/6010C		1	KJK	11/14/15 0:06	50	50	CK51328



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Wynn Everett - MCP  
Client Sample ID: UST Contents 2  
Date Sampled: 11/10/15 10:30  
Percent Solids: 76  
Initial Volume: 8.7  
Final Volume: 10  
Extraction Method: 5035

ESS Laboratory Work Order: 1511225  
ESS Laboratory Sample ID: 1511225-01  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: MEK

**5035/8260B Volatile Organic Compounds / Low Level**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1,1,2-Tetrachloroethane	ND (0.0038)		8260B Low		1	11/12/15 0:54	CYK0174	CK51212
1,1,1-Trichloroethane	ND (0.0038)		8260B Low		1	11/12/15 0:54	CYK0174	CK51212
1,1,2,2-Tetrachloroethane	ND (0.0015)		8260B Low		1	11/12/15 0:54	CYK0174	CK51212
1,1,2-Trichloroethane	ND (0.0038)		8260B Low		1	11/12/15 0:54	CYK0174	CK51212
1,1-Dichloroethane	ND (0.0038)		8260B Low		1	11/12/15 0:54	CYK0174	CK51212
1,1-Dichloroethene	ND (0.0038)		8260B Low		1	11/12/15 0:54	CYK0174	CK51212
1,1-Dichloropropene	ND (0.0038)		8260B Low		1	11/12/15 0:54	CYK0174	CK51212
1,2,3-Trichlorobenzene	ND (0.0038)		8260B Low		1	11/12/15 0:54	CYK0174	CK51212
1,2,3-Trichloropropane	ND (0.0038)		8260B Low		1	11/12/15 0:54	CYK0174	CK51212
1,2,4-Trichlorobenzene	ND (0.0038)		8260B Low		1	11/12/15 0:54	CYK0174	CK51212
1,2,4-Trimethylbenzene	ND (0.0038)		8260B Low		1	11/12/15 0:54	CYK0174	CK51212
1,2-Dibromo-3-Chloropropane	ND (0.0038)		8260B Low		1	11/12/15 0:54	CYK0174	CK51212
1,2-Dibromoethane	ND (0.0038)		8260B Low		1	11/12/15 0:54	CYK0174	CK51212
1,2-Dichlorobenzene	ND (0.0038)		8260B Low		1	11/12/15 0:54	CYK0174	CK51212
1,2-Dichloroethane	ND (0.0038)		8260B Low		1	11/12/15 0:54	CYK0174	CK51212
1,2-Dichloropropane	ND (0.0038)		8260B Low		1	11/12/15 0:54	CYK0174	CK51212
1,3,5-Trimethylbenzene	ND (0.0038)		8260B Low		1	11/12/15 0:54	CYK0174	CK51212
1,3-Dichlorobenzene	ND (0.0038)		8260B Low		1	11/12/15 0:54	CYK0174	CK51212
1,3-Dichloropropane	ND (0.0038)		8260B Low		1	11/12/15 0:54	CYK0174	CK51212
1,4-Dichlorobenzene	ND (0.0038)		8260B Low		1	11/12/15 0:54	CYK0174	CK51212
1,4-Dioxane	ND (0.0753)		8260B Low		1	11/12/15 0:54	CYK0174	CK51212
2,2-Dichloropropane	ND (0.0038)		8260B Low		1	11/12/15 0:54	CYK0174	CK51212
2-Butanone	ND (0.0075)		8260B Low		1	11/12/15 0:54	CYK0174	CK51212
2-Chlorotoluene	ND (0.0038)		8260B Low		1	11/12/15 0:54	CYK0174	CK51212
2-Hexanone	ND (0.0075)		8260B Low		1	11/12/15 0:54	CYK0174	CK51212
4-Chlorotoluene	ND (0.0038)		8260B Low		1	11/12/15 0:54	CYK0174	CK51212
4-Isopropyltoluene	ND (0.0038)		8260B Low		1	11/12/15 0:54	CYK0174	CK51212
4-Methyl-2-Pentanone	ND (0.0075)		8260B Low		1	11/12/15 0:54	CYK0174	CK51212
<b>Acetone</b>	<b>0.0670</b> (0.0075)		8260B Low		1	11/12/15 0:54	CYK0174	CK51212
Benzene	ND (0.0038)		8260B Low		1	11/12/15 0:54	CYK0174	CK51212
Bromobenzene	ND (0.0038)		8260B Low		1	11/12/15 0:54	CYK0174	CK51212
Bromochloromethane	ND (0.0038)		8260B Low		1	11/12/15 0:54	CYK0174	CK51212



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Wynn Everett - MCP  
Client Sample ID: UST Contents 2  
Date Sampled: 11/10/15 10:30  
Percent Solids: 76  
Initial Volume: 8.7  
Final Volume: 10  
Extraction Method: 5035

ESS Laboratory Work Order: 1511225  
ESS Laboratory Sample ID: 1511225-01  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: MEK

**5035/8260B Volatile Organic Compounds / Low Level**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Bromodichloromethane	ND (0.0038)		8260B Low		1	11/12/15 0:54	CYK0174	CK51212
Bromoform	ND (0.0038)		8260B Low		1	11/12/15 0:54	CYK0174	CK51212
Bromomethane	ND (0.0075)		8260B Low		1	11/12/15 0:54	CYK0174	CK51212
Carbon Disulfide	ND (0.0038)		8260B Low		1	11/12/15 0:54	CYK0174	CK51212
Carbon Tetrachloride	ND (0.0038)		8260B Low		1	11/12/15 0:54	CYK0174	CK51212
Chlorobenzene	ND (0.0038)		8260B Low		1	11/12/15 0:54	CYK0174	CK51212
Chloroethane	ND (0.0075)		8260B Low		1	11/12/15 0:54	CYK0174	CK51212
Chloroform	ND (0.0038)		8260B Low		1	11/12/15 0:54	CYK0174	CK51212
Chloromethane	ND (0.0075)		8260B Low		1	11/12/15 0:54	CYK0174	CK51212
cis-1,2-Dichloroethene	ND (0.0038)		8260B Low		1	11/12/15 0:54	CYK0174	CK51212
cis-1,3-Dichloropropene	ND (0.0038)		8260B Low		1	11/12/15 0:54	CYK0174	CK51212
Dibromochloromethane	ND (0.0015)		8260B Low		1	11/12/15 0:54	CYK0174	CK51212
Dibromomethane	ND (0.0038)		8260B Low		1	11/12/15 0:54	CYK0174	CK51212
Dichlorodifluoromethane	ND (0.0075)		8260B Low		1	11/12/15 0:54	CYK0174	CK51212
Diethyl Ether	ND (0.0038)		8260B Low		1	11/12/15 0:54	CYK0174	CK51212
Di-isopropyl ether	ND (0.0038)		8260B Low		1	11/12/15 0:54	CYK0174	CK51212
Ethyl tertiary-butyl ether	ND (0.0038)		8260B Low		1	11/12/15 0:54	CYK0174	CK51212
Ethylbenzene	ND (0.0038)		8260B Low		1	11/12/15 0:54	CYK0174	CK51212
Hexachlorobutadiene	ND (0.0038)		8260B Low		1	11/12/15 0:54	CYK0174	CK51212
Isopropylbenzene	ND (0.0038)		8260B Low		1	11/12/15 0:54	CYK0174	CK51212
Methyl tert-Butyl Ether	ND (0.0038)		8260B Low		1	11/12/15 0:54	CYK0174	CK51212
Methylene Chloride	ND (0.0075)		8260B Low		1	11/12/15 0:54	CYK0174	CK51212
Naphthalene	ND (0.0038)		8260B Low		1	11/12/15 0:54	CYK0174	CK51212
n-Butylbenzene	ND (0.0038)		8260B Low		1	11/12/15 0:54	CYK0174	CK51212
n-Propylbenzene	ND (0.0038)		8260B Low		1	11/12/15 0:54	CYK0174	CK51212
sec-Butylbenzene	ND (0.0038)		8260B Low		1	11/12/15 0:54	CYK0174	CK51212
Styrene	ND (0.0038)		8260B Low		1	11/12/15 0:54	CYK0174	CK51212
tert-Butylbenzene	ND (0.0038)		8260B Low		1	11/12/15 0:54	CYK0174	CK51212
Tertiary-amyl methyl ether	ND (0.0038)		8260B Low		1	11/12/15 0:54	CYK0174	CK51212
Tetrachloroethene	ND (0.0038)		8260B Low		1	11/12/15 0:54	CYK0174	CK51212
Tetrahydrofuran	ND (0.0038)		8260B Low		1	11/12/15 0:54	CYK0174	CK51212
Toluene	ND (0.0038)		8260B Low		1	11/12/15 0:54	CYK0174	CK51212



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Wynn Everett - MCP  
Client Sample ID: UST Contents 2  
Date Sampled: 11/10/15 10:30  
Percent Solids: 76  
Initial Volume: 8.7  
Final Volume: 10  
Extraction Method: 5035

ESS Laboratory Work Order: 1511225  
ESS Laboratory Sample ID: 1511225-01  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: MEK

**5035/8260B Volatile Organic Compounds / Low Level**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
trans-1,2-Dichloroethene	ND (0.0038)		8260B Low		1	11/12/15 0:54	CYK0174	CK51212
trans-1,3-Dichloropropene	ND (0.0038)		8260B Low		1	11/12/15 0:54	CYK0174	CK51212
Trichloroethene	ND (0.0038)		8260B Low		1	11/12/15 0:54	CYK0174	CK51212
Trichlorofluoromethane	ND (0.0038)		8260B Low		1	11/12/15 0:54	CYK0174	CK51212
Vinyl Chloride	ND (0.0075)		8260B Low		1	11/12/15 0:54	CYK0174	CK51212
Xylene O	ND (0.0038)		8260B Low		1	11/12/15 0:54	CYK0174	CK51212
Xylene P,M	ND (0.0075)		8260B Low		1	11/12/15 0:54	CYK0174	CK51212
Xylenes (Total)	ND (0.0075)		8260B Low		1	11/12/15 0:54		[CALC]

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>109 %</i>		<i>70-130</i>
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>84 %</i>		<i>70-130</i>
<i>Surrogate: Dibromofluoromethane</i>	<i>98 %</i>		<i>70-130</i>
<i>Surrogate: Toluene-d8</i>	<i>94 %</i>		<i>70-130</i>



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Wynn Everett - MCP  
Client Sample ID: UST Contents 2  
Date Sampled: 11/10/15 10:30  
Percent Solids: 76  
Initial Volume: 19.3  
Final Volume: 10  
Extraction Method: 3540C

ESS Laboratory Work Order: 1511225  
ESS Laboratory Sample ID: 1511225-01  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: TJ  
Prepared: 11/17/15 18:00  
Cleanup Method: 3665A

**8082A Polychlorinated Biphenyls (PCB)**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.0679)		8082A		1	11/18/15 12:04		CK51718
Aroclor 1221	ND (0.0679)		8082A		1	11/18/15 12:04		CK51718
Aroclor 1232	ND (0.0679)		8082A		1	11/18/15 12:04		CK51718
Aroclor 1242	ND (0.0679)		8082A		1	11/18/15 12:04		CK51718
Aroclor 1248	ND (0.0679)		8082A		1	11/18/15 12:04		CK51718
<b>Aroclor 1254</b>	<b>B 0.736</b> (0.0679)		8082A		1	11/18/15 12:04		CK51718
<b>Aroclor 1260</b>	<b>0.246</b> (0.0679)		8082A		1	11/18/15 12:04		CK51718
Aroclor 1262	ND (0.0679)		8082A		1	11/18/15 12:04		CK51718
Aroclor 1268	ND (0.0679)		8082A		1	11/18/15 12:04		CK51718

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
Surrogate: Decachlorobiphenyl	69 %		30-150
Surrogate: Decachlorobiphenyl [2C]	72 %		30-150
Surrogate: Tetrachloro-m-xylene	65 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	52 %		30-150



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Wynn Everett - MCP  
Client Sample ID: UST Contents 2  
Date Sampled: 11/10/15 10:30  
Percent Solids: 76  
Initial Volume: 10.2  
Final Volume: 1  
Extraction Method: 3546

ESS Laboratory Work Order: 1511225  
ESS Laboratory Sample ID: 1511225-01  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: DPS  
Prepared: 11/11/15 15:46

**8100M Total Petroleum Hydrocarbons**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Total Petroleum Hydrocarbons	10600 (128)		8100M		5	11/11/15 18:09	CYK0167	CK51114
<hr/>								
		<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				
Surrogate: O-Terphenyl		106 %		40-140				



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Wynn Everett - MCP  
Client Sample ID: UST Contents 2  
Date Sampled: 11/10/15 10:30  
Percent Solids: 76  
Initial Volume: 14.5  
Final Volume: 1  
Extraction Method: 3546

ESS Laboratory Work Order: 1511225  
ESS Laboratory Sample ID: 1511225-01  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: IBM  
Prepared: 11/11/15 16:13

**8270D Semi-Volatile Organic Compounds**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,2,4-Trichlorobenzene	ND (0.903)		8270D		1	11/11/15 22:47	CYK0171	CK51115
1,2-Dichlorobenzene	ND (0.903)		8270D		1	11/11/15 22:47	CYK0171	CK51115
1,3-Dichlorobenzene	ND (0.903)		8270D		1	11/11/15 22:47	CYK0171	CK51115
1,4-Dichlorobenzene	ND (0.903)		8270D		1	11/11/15 22:47	CYK0171	CK51115
2,4,5-Trichlorophenol	ND (0.903)		8270D		1	11/11/15 22:47	CYK0171	CK51115
2,4,6-Trichlorophenol	ND (0.903)		8270D		1	11/11/15 22:47	CYK0171	CK51115
2,4-Dichlorophenol	ND (0.903)		8270D		1	11/11/15 22:47	CYK0171	CK51115
2,4-Dimethylphenol	ND (0.903)		8270D		1	11/11/15 22:47	CYK0171	CK51115
2,4-Dinitrophenol	ND (4.53)		8270D		1	11/11/15 22:47	CYK0171	CK51115
2,4-Dinitrotoluene	ND (0.903)		8270D		1	11/11/15 22:47	CYK0171	CK51115
2,6-Dinitrotoluene	ND (0.903)		8270D		1	11/11/15 22:47	CYK0171	CK51115
2-Chloronaphthalene	ND (0.903)		8270D		1	11/11/15 22:47	CYK0171	CK51115
2-Chlorophenol	ND (0.903)		8270D		1	11/11/15 22:47	CYK0171	CK51115
2-Methylnaphthalene	ND (0.903)		8270D		1	11/11/15 22:47	CYK0171	CK51115
2-Methylphenol	ND (0.903)		8270D		1	11/11/15 22:47	CYK0171	CK51115
2-Nitrophenol	ND (0.903)		8270D		1	11/11/15 22:47	CYK0171	CK51115
3,3'-Dichlorobenzidine	ND (1.81)		8270D		1	11/11/15 22:47	CYK0171	CK51115
3+4-Methylphenol	ND (1.81)		8270D		1	11/11/15 22:47	CYK0171	CK51115
4-Bromophenyl-phenylether	ND (0.903)		8270D		1	11/11/15 22:47	CYK0171	CK51115
4-Chloroaniline	ND (1.81)		8270D		1	11/11/15 22:47	CYK0171	CK51115
4-Nitrophenol	ND (4.53)		8270D		1	11/11/15 22:47	CYK0171	CK51115
Acenaphthene	ND (0.903)		8270D		1	11/11/15 22:47	CYK0171	CK51115
Acenaphthylene	ND (0.903)		8270D		1	11/11/15 22:47	CYK0171	CK51115
Acetophenone	ND (1.81)		8270D		1	11/11/15 22:47	CYK0171	CK51115
Aniline	ND (4.53)		8270D		1	11/11/15 22:47	CYK0171	CK51115
<b>Anthracene</b>	<b>1.15</b> (0.903)		8270D		1	11/11/15 22:47	CYK0171	CK51115
Azobenzene	ND (0.903)		8270D		1	11/11/15 22:47	CYK0171	CK51115
<b>Benzo(a)anthracene</b>	<b>3.53</b> (0.903)		8270D		1	11/11/15 22:47	CYK0171	CK51115
<b>Benzo(a)pyrene</b>	<b>3.47</b> (0.453)		8270D		1	11/11/15 22:47	CYK0171	CK51115
<b>Benzo(b)fluoranthene</b>	<b>5.02</b> (0.903)		8270D		1	11/11/15 22:47	CYK0171	CK51115
<b>Benzo(g,h,i)perylene</b>	<b>1.60</b> (0.903)		8270D		1	11/11/15 22:47	CYK0171	CK51115
<b>Benzo(k)fluoranthene</b>	<b>1.60</b> (0.903)		8270D		1	11/11/15 22:47	CYK0171	CK51115





*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Wynn Everett - MCP  
Client Sample ID: UST Contents 2  
Date Sampled: 11/10/15 10:30  
Percent Solids: 76  
Initial Volume: 14.5  
Final Volume: 1  
Extraction Method: 3546

ESS Laboratory Work Order: 1511225  
ESS Laboratory Sample ID: 1511225-01  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: IBM  
Prepared: 11/11/15 16:13

**8270D Semi-Volatile Organic Compounds**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
bis(2-Chloroethoxy)methane	ND (0.903)		8270D		1	11/11/15 22:47	CYK0171	CK51115
bis(2-Chloroethyl)ether	ND (0.903)		8270D		1	11/11/15 22:47	CYK0171	CK51115
bis(2-chloroisopropyl)Ether	ND (0.903)		8270D		1	11/11/15 22:47	CYK0171	CK51115
<b>bis(2-Ethylhexyl)phthalate</b>	<b>1.61</b> (0.903)		8270D		1	11/11/15 22:47	CYK0171	CK51115
Butylbenzylphthalate	ND (0.903)		8270D		1	11/11/15 22:47	CYK0171	CK51115
<b>Chrysene</b>	<b>4.82</b> (0.453)		8270D		1	11/11/15 22:47	CYK0171	CK51115
Dibenzo(a,h)Anthracene	ND (0.453)		8270D		1	11/11/15 22:47	CYK0171	CK51115
Dibenzofuran	ND (0.903)		8270D		1	11/11/15 22:47	CYK0171	CK51115
Diethylphthalate	ND (0.903)		8270D		1	11/11/15 22:47	CYK0171	CK51115
Dimethylphthalate	ND (0.903)		8270D		1	11/11/15 22:47	CYK0171	CK51115
Di-n-butylphthalate	ND (0.903)		8270D		1	11/11/15 22:47	CYK0171	CK51115
Di-n-octylphthalate	ND (0.903)		8270D		1	11/11/15 22:47	CYK0171	CK51115
<b>Fluoranthene</b>	<b>8.41</b> (0.903)		8270D		1	11/11/15 22:47	CYK0171	CK51115
Fluorene	ND (0.903)		8270D		1	11/11/15 22:47	CYK0171	CK51115
Hexachlorobenzene	ND (0.903)		8270D		1	11/11/15 22:47	CYK0171	CK51115
Hexachlorobutadiene	ND (0.903)		8270D		1	11/11/15 22:47	CYK0171	CK51115
Hexachloroethane	ND (0.903)		8270D		1	11/11/15 22:47	CYK0171	CK51115
<b>Indeno(1,2,3-cd)Pyrene</b>	<b>1.31</b> (0.903)		8270D		1	11/11/15 22:47	CYK0171	CK51115
Isophorone	ND (0.903)		8270D		1	11/11/15 22:47	CYK0171	CK51115
Naphthalene	ND (0.903)		8270D		1	11/11/15 22:47	CYK0171	CK51115
Nitrobenzene	ND (0.903)		8270D		1	11/11/15 22:47	CYK0171	CK51115
N-Nitrosodimethylamine	ND (0.903)		8270D		1	11/11/15 22:47	CYK0171	CK51115
Pentachlorophenol	ND (4.53)		8270D		1	11/11/15 22:47	CYK0171	CK51115
<b>Phenanthrene</b>	<b>4.09</b> (0.903)		8270D		1	11/11/15 22:47	CYK0171	CK51115
Phenol	ND (0.903)		8270D		1	11/11/15 22:47	CYK0171	CK51115
<b>Pyrene</b>	<b>9.71</b> (0.903)		8270D		1	11/11/15 22:47	CYK0171	CK51115

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	<i>54 %</i>		<i>30-130</i>
<i>Surrogate: 2,4,6-Tribromophenol</i>	<i>87 %</i>		<i>30-130</i>
<i>Surrogate: 2-Chlorophenol-d4</i>	<i>59 %</i>		<i>30-130</i>
<i>Surrogate: 2-Fluorobiphenyl</i>	<i>65 %</i>		<i>30-130</i>





*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Wynn Everett - MCP  
Client Sample ID: UST Contents 2  
Date Sampled: 11/10/15 10:30  
Percent Solids: 76  
Initial Volume: 14.5  
Final Volume: 1  
Extraction Method: 3546

ESS Laboratory Work Order: 1511225  
ESS Laboratory Sample ID: 1511225-01  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: IBM  
Prepared: 11/11/15 16:13

**8270D Semi-Volatile Organic Compounds**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Surrogate: 2-Fluorophenol		52 %		30-130				
Surrogate: Nitrobenzene-d5		52 %		30-130				
Surrogate: Phenol-d6		64 %		30-130				
Surrogate: p-Terphenyl-d14		92 %		30-130				



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Wynn Everett - MCP  
Client Sample ID: UST Contents 2  
Date Sampled: 11/10/15 10:30  
Percent Solids: 76

ESS Laboratory Work Order: 1511225  
ESS Laboratory Sample ID: 1511225-01  
Sample Matrix: Soil

**Classical Chemistry**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Units</u>	<u>Batch</u>
Conductivity	WL 1000 (5)		9050A		1	MJV	11/14/15 13:01	umhos/cm	CK51406
Corrosivity (pH)	7.41 (N/A)		9045		1	JLK	03/11/15 9:38	S.U.	CK51105
Corrosivity (pH) Sample Temp	Soil pH measured in water at 15.7 °C.								
Flashpoint	> 200 (N/A)		1010		1	JLK	11/14/15 12:44	°F	CK51404
Reactive Cyanide	ND (2.0)		7.3.3.2		1	MJV	11/14/15 9:30	mg/kg	CK51410
Reactive Sulfide	ND (2.0)		7.3.4.1		1	MJV	11/14/15 9:30	mg/kg	CK51410



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Wynn Everett - MCP  
Client Sample ID: UST Contents 2  
Date Sampled: 11/10/15 10:30  
Percent Solids: 76  
Initial Volume: 100  
Final Volume: 2000  
Extraction Method: 1311

ESS Laboratory Work Order: 1511225  
ESS Laboratory Sample ID: 1511225-01  
Sample Matrix: Soil  
Units: °C  
Analyst: NAR  
Prepared: 11/12/15 16:21

**TCLP Extraction by 1311**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Batch</u>
Temperature (Min C)	22.0 (N/A)		1311		1	NAR	11/13/15 10:17	CK51237
Temperature (Max C)	23.0 (N/A)		1311		1	NAR	11/13/15 10:17	CK51237
Temperature (Range)	Temperature is within 23 +/-2 °C. (N/A)							



*CERTIFICATE OF ANALYSIS*

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

ESS Laboratory Work Order: 1511225

**Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Total Metals										
<b>Batch CK51109 - 3050B</b>										
<b>Blank</b>										
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	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							
<b>LCS</b>										
Antimony	113	16.4	mg/kg wet	106.0		106	80-120			
Arsenic	48.2	8.20	mg/kg wet	52.30		92	80-120			
Barium	141	8.20	mg/kg wet	145.0		97	80-120			
Beryllium	33.4	0.36	mg/kg wet	37.30		90	80-120			
Cadmium	56.0	1.64	mg/kg wet	71.60		78	73-127			
Chromium	77.3	3.28	mg/kg wet	88.50		87	80-120			
Nickel	69.8	8.20	mg/kg wet	87.10		80	74-126			
Selenium	81.4	32.8	mg/kg wet	81.10		100	64-136			
Silver	115	1.64	mg/kg wet	114.0		101	80-120			
Thallium	62.3	16.4	mg/kg wet	65.30		95	80-120			
Vanadium	84.3	3.28	mg/kg wet	82.10		103	80-120			
Zinc	106	8.20	mg/kg wet	136.0		78	70-130			
<b>LCS</b>										
Lead	112	16.4	mg/kg wet	133.0		84	80-120			
<b>LCS Dup</b>										
Antimony	107	15.6	mg/kg wet	106.0		101	80-120	5	20	
Arsenic	48.3	7.81	mg/kg wet	52.30		92	80-120	0.3	20	
Barium	133	7.81	mg/kg wet	145.0		92	80-120	6	20	
Beryllium	31.7	0.34	mg/kg wet	37.30		85	80-120	5	20	
Cadmium	53.9	1.56	mg/kg wet	71.60		75	73-127	4	20	
Chromium	75.2	3.12	mg/kg wet	88.50		85	80-120	3	20	
Nickel	66.5	7.81	mg/kg wet	87.10		76	74-126	5	20	
Selenium	103	31.2	mg/kg wet	81.10		127	64-136	23	20	D+
Silver	112	1.56	mg/kg wet	114.0		98	80-120	2	20	
Thallium	61.2	15.6	mg/kg wet	65.30		94	80-120	2	20	
Vanadium	80.0	3.12	mg/kg wet	82.10		97	80-130	5	20	
Zinc	101	7.81	mg/kg wet	136.0		75	70-130	4	20	
<b>LCS Dup</b>										
Lead	116	16.1	mg/kg wet	133.0		87	80-120	4	20	



*CERTIFICATE OF ANALYSIS*

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

ESS Laboratory Work Order: 1511225

**Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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**Total Metals**

**Batch CK51109 - 3050B**

**Reference**

Lead	3800	40.0	mg/kg wet	4490		85	83-113			
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**Batch CK51110 - 7471A**

**Blank**

Mercury	ND	0.033	mg/kg wet							
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**LCS**

Mercury	9.59	1.62	mg/kg wet	9.700		99	80-120			
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**LCS Dup**

Mercury	10.7	1.55	mg/kg wet	9.700		110	80-120	11	20	
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**1311 TCLP Metals**

**Batch CK51328 - 3005A\_TCLP**

**Blank**

Arsenic	ND	0.050	mg/L							
Lead	ND	0.050	mg/L							
Selenium	ND	0.050	mg/L							

**LCS**

Arsenic	0.533	0.050	mg/L	0.5000		107	80-120			
Lead	0.480	0.050	mg/L	0.5000		96	80-120			
Selenium	1.00	0.050	mg/L	1.000		100	80-120			

**LCS Dup**

Arsenic	0.550	0.050	mg/L	0.5000		110	80-120	3	20	
Lead	0.495	0.050	mg/L	0.5000		99	80-120	3	20	
Selenium	1.02	0.050	mg/L	1.000		102	80-120	2	20	

**Batch CK51329 - 245.1/7470A**

**Blank**

Mercury	ND	0.00050	mg/L							
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**LCS**

Mercury	0.00582	0.00050	mg/L	0.006000		97	80-120			
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**LCS Dup**

Mercury	0.00586	0.00050	mg/L	0.006000		98	80-120	0.7	20	
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**5035/8260B Volatile Organic Compounds / Low Level**

**Batch CK51212 - 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							



*CERTIFICATE OF ANALYSIS*

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

ESS Laboratory Work Order: 1511225

**Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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5035/8260B Volatile Organic Compounds / Low Level

**Batch CK51212 - 5035**

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
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



*CERTIFICATE OF ANALYSIS*

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

ESS Laboratory Work Order: 1511225

**Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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5035/8260B Volatile Organic Compounds / Low Level

**Batch CK51212 - 5035**

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	0.0497		mg/kg wet	0.05000		99	70-130			
Surrogate: 4-Bromofluorobenzene	0.0459		mg/kg wet	0.05000		92	70-130			
Surrogate: Dibromofluoromethane	0.0464		mg/kg wet	0.05000		93	70-130			
Surrogate: Toluene-d8	0.0446		mg/kg wet	0.05000		89	70-130			

**LCS**

1,1,1,2-Tetrachloroethane	0.0446	0.0050	mg/kg wet	0.05000		89	70-130			
1,1,1-Trichloroethane	0.0471	0.0050	mg/kg wet	0.05000		94	70-130			
1,1,2,2-Tetrachloroethane	0.0500	0.0020	mg/kg wet	0.05000		100	70-130			
1,1,2-Trichloroethane	0.0442	0.0050	mg/kg wet	0.05000		88	70-130			
1,1-Dichloroethane	0.0512	0.0050	mg/kg wet	0.05000		102	70-130			
1,1-Dichloroethene	0.0536	0.0050	mg/kg wet	0.05000		107	70-130			
1,1-Dichloropropene	0.0460	0.0050	mg/kg wet	0.05000		92	70-130			
1,2,3-Trichlorobenzene	0.0456	0.0050	mg/kg wet	0.05000		91	70-130			
1,2,3-Trichloropropane	0.0437	0.0050	mg/kg wet	0.05000		87	70-130			
1,2,4-Trichlorobenzene	0.0463	0.0050	mg/kg wet	0.05000		93	70-130			
1,2,4-Trimethylbenzene	0.0447	0.0050	mg/kg wet	0.05000		89	70-130			
1,2-Dibromo-3-Chloropropane	0.0511	0.0050	mg/kg wet	0.05000		102	70-130			
1,2-Dibromoethane	0.0446	0.0050	mg/kg wet	0.05000		89	70-130			
1,2-Dichlorobenzene	0.0445	0.0050	mg/kg wet	0.05000		89	70-130			
1,2-Dichloroethane	0.0497	0.0050	mg/kg wet	0.05000		99	70-130			
1,2-Dichloropropane	0.0450	0.0050	mg/kg wet	0.05000		90	70-130			
1,3,5-Trimethylbenzene	0.0460	0.0050	mg/kg wet	0.05000		92	70-130			
1,3-Dichlorobenzene	0.0507	0.0050	mg/kg wet	0.05000		101	70-130			
1,3-Dichloropropane	0.0447	0.0050	mg/kg wet	0.05000		89	70-130			



*CERTIFICATE OF ANALYSIS*

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

ESS Laboratory Work Order: 1511225

**Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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5035/8260B Volatile Organic Compounds / Low Level

**Batch CK51212 - 5035**

1,4-Dichlorobenzene	0.0493	0.0050	mg/kg wet	0.05000		99	70-130			
1,4-Dioxane	0.984	0.100	mg/kg wet	1.000		98	70-130			
2,2-Dichloropropane	0.0472	0.0050	mg/kg wet	0.05000		94	70-130			
2-Butanone	0.233	0.0100	mg/kg wet	0.2500		93	70-130			
2-Chlorotoluene	0.0504	0.0050	mg/kg wet	0.05000		101	70-130			
2-Hexanone	0.254	0.0100	mg/kg wet	0.2500		102	70-130			
4-Chlorotoluene	0.0506	0.0050	mg/kg wet	0.05000		101	70-130			
4-Isopropyltoluene	0.0448	0.0050	mg/kg wet	0.05000		90	70-130			
4-Methyl-2-Pentanone	0.226	0.0100	mg/kg wet	0.2500		90	70-130			
Acetone	0.365	0.0100	mg/kg wet	0.2500		146	70-130			B+
Benzene	0.0509	0.0050	mg/kg wet	0.05000		102	70-130			
Bromobenzene	0.0450	0.0050	mg/kg wet	0.05000		90	70-130			
Bromochloromethane	0.0455	0.0050	mg/kg wet	0.05000		91	70-130			
Bromodichloromethane	0.0488	0.0050	mg/kg wet	0.05000		98	70-130			
Bromoform	0.0471	0.0050	mg/kg wet	0.05000		94	70-130			
Bromomethane	0.0477	0.0100	mg/kg wet	0.05000		95	70-130			
Carbon Disulfide	0.0536	0.0050	mg/kg wet	0.05000		107	70-130			
Carbon Tetrachloride	0.0483	0.0050	mg/kg wet	0.05000		97	70-130			
Chlorobenzene	0.0438	0.0050	mg/kg wet	0.05000		88	70-130			
Chloroethane	0.0479	0.0100	mg/kg wet	0.05000		96	70-130			
Chloroform	0.0498	0.0050	mg/kg wet	0.05000		100	70-130			
Chloromethane	0.0473	0.0100	mg/kg wet	0.05000		95	70-130			
cis-1,2-Dichloroethene	0.0526	0.0050	mg/kg wet	0.05000		105	70-130			
cis-1,3-Dichloropropene	0.0456	0.0050	mg/kg wet	0.05000		91	70-130			
Dibromochloromethane	0.0499	0.0020	mg/kg wet	0.05000		100	70-130			
Dibromomethane	0.0505	0.0050	mg/kg wet	0.05000		101	70-130			
Dichlorodifluoromethane	0.0476	0.0100	mg/kg wet	0.05000		95	70-130			
Diethyl Ether	0.0504	0.0050	mg/kg wet	0.05000		101	70-130			
Di-isopropyl ether	0.0455	0.0050	mg/kg wet	0.05000		91	70-130			
Ethyl tertiary-butyl ether	0.0459	0.0050	mg/kg wet	0.05000		92	70-130			
Ethylbenzene	0.0447	0.0050	mg/kg wet	0.05000		89	70-130			
Hexachlorobutadiene	0.0466	0.0050	mg/kg wet	0.05000		93	70-130			
Isopropylbenzene	0.0505	0.0050	mg/kg wet	0.05000		101	70-130			
Methyl tert-Butyl Ether	0.0452	0.0050	mg/kg wet	0.05000		90	70-130			
Methylene Chloride	0.0542	0.0100	mg/kg wet	0.05000		108	70-130			
Naphthalene	0.0425	0.0050	mg/kg wet	0.05000		85	70-130			
n-Butylbenzene	0.0455	0.0050	mg/kg wet	0.05000		91	70-130			
n-Propylbenzene	0.0499	0.0050	mg/kg wet	0.05000		100	70-130			
sec-Butylbenzene	0.0456	0.0050	mg/kg wet	0.05000		91	70-130			
Styrene	0.0448	0.0050	mg/kg wet	0.05000		90	70-130			
tert-Butylbenzene	0.0502	0.0050	mg/kg wet	0.05000		100	70-130			
Tertiary-amyl methyl ether	0.0471	0.0050	mg/kg wet	0.05000		94	70-130			
Tetrachloroethene	0.0413	0.0050	mg/kg wet	0.05000		83	70-130			
Tetrahydrofuran	0.0462	0.0050	mg/kg wet	0.05000		92	70-130			
Toluene	0.0484	0.0050	mg/kg wet	0.05000		97	70-130			





*CERTIFICATE OF ANALYSIS*

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

ESS Laboratory Work Order: 1511225

**Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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5035/8260B Volatile Organic Compounds / Low Level

**Batch CK51212 - 5035**

trans-1,2-Dichloroethane	0.0540	0.0050	mg/kg wet	0.05000		108	70-130			
trans-1,3-Dichloropropene	0.0441	0.0050	mg/kg wet	0.05000		88	70-130			
Trichloroethene	0.0504	0.0050	mg/kg wet	0.05000		101	70-130			
Trichlorofluoromethane	0.0487	0.0050	mg/kg wet	0.05000		97	70-130			
Vinyl Chloride	0.0517	0.0100	mg/kg wet	0.05000		103	70-130			
Xylene O	0.0429	0.0050	mg/kg wet	0.05000		86	70-130			
Xylene P,M	0.0883	0.0100	mg/kg wet	0.1000		88	70-130			
Xylenes (Total)	0.131	0.0100	mg/kg wet							
Surrogate: 1,2-Dichloroethane-d4	0.0477		mg/kg wet	0.05000		95	70-130			
Surrogate: 4-Bromofluorobenzene	0.0446		mg/kg wet	0.05000		89	70-130			
Surrogate: Dibromofluoromethane	0.0449		mg/kg wet	0.05000		90	70-130			
Surrogate: Toluene-d8	0.0450		mg/kg wet	0.05000		90	70-130			

**LCS Dup**

1,1,1,2-Tetrachloroethane	0.0455	0.0050	mg/kg wet	0.05000		91	70-130	2	25	
1,1,1-Trichloroethane	0.0463	0.0050	mg/kg wet	0.05000		93	70-130	2	25	
1,1,2,2-Tetrachloroethane	0.0497	0.0020	mg/kg wet	0.05000		99	70-130	0.6	25	
1,1,2-Trichloroethane	0.0436	0.0050	mg/kg wet	0.05000		87	70-130	1	25	
1,1-Dichloroethane	0.0506	0.0050	mg/kg wet	0.05000		101	70-130	1	25	
1,1-Dichloroethene	0.0524	0.0050	mg/kg wet	0.05000		105	70-130	2	25	
1,1-Dichloropropene	0.0453	0.0050	mg/kg wet	0.05000		91	70-130	1	25	
1,2,3-Trichlorobenzene	0.0458	0.0050	mg/kg wet	0.05000		92	70-130	0.5	25	
1,2,3-Trichloropropane	0.0424	0.0050	mg/kg wet	0.05000		85	70-130	3	25	
1,2,4-Trichlorobenzene	0.0462	0.0050	mg/kg wet	0.05000		92	70-130	0.1	25	
1,2,4-Trimethylbenzene	0.0450	0.0050	mg/kg wet	0.05000		90	70-130	0.6	25	
1,2-Dibromo-3-Chloropropane	0.0453	0.0050	mg/kg wet	0.05000		91	70-130	12	25	
1,2-Dibromoethane	0.0444	0.0050	mg/kg wet	0.05000		89	70-130	0.4	25	
1,2-Dichlorobenzene	0.0449	0.0050	mg/kg wet	0.05000		90	70-130	1	25	
1,2-Dichloroethane	0.0488	0.0050	mg/kg wet	0.05000		98	70-130	2	25	
1,2-Dichloropropane	0.0445	0.0050	mg/kg wet	0.05000		89	70-130	1	25	
1,3,5-Trimethylbenzene	0.0464	0.0050	mg/kg wet	0.05000		93	70-130	1	25	
1,3-Dichlorobenzene	0.0507	0.0050	mg/kg wet	0.05000		101	70-130	0.08	25	
1,3-Dichloropropane	0.0446	0.0050	mg/kg wet	0.05000		89	70-130	0.2	25	
1,4-Dichlorobenzene	0.0496	0.0050	mg/kg wet	0.05000		99	70-130	0.6	25	
1,4-Dioxane	0.973	0.100	mg/kg wet	1.000		97	70-130	1	20	
2,2-Dichloropropane	0.0465	0.0050	mg/kg wet	0.05000		93	70-130	1	25	
2-Butanone	0.212	0.0100	mg/kg wet	0.2500		85	70-130	9	25	
2-Chlorotoluene	0.0498	0.0050	mg/kg wet	0.05000		100	70-130	1	25	
2-Hexanone	0.223	0.0100	mg/kg wet	0.2500		89	70-130	13	25	
4-Chlorotoluene	0.0504	0.0050	mg/kg wet	0.05000		101	70-130	0.3	25	
4-Isopropyltoluene	0.0451	0.0050	mg/kg wet	0.05000		90	70-130	0.7	25	
4-Methyl-2-Pentanone	0.218	0.0100	mg/kg wet	0.2500		87	70-130	4	25	
Acetone	0.241	0.0100	mg/kg wet	0.2500		96	70-130	41	25	D+
Benzene	0.0495	0.0050	mg/kg wet	0.05000		99	70-130	3	25	
Bromobenzene	0.0457	0.0050	mg/kg wet	0.05000		91	70-130	2	25	
Bromochloromethane	0.0446	0.0050	mg/kg wet	0.05000		89	70-130	2	25	



*CERTIFICATE OF ANALYSIS*

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

ESS Laboratory Work Order: 1511225

**Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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5035/8260B Volatile Organic Compounds / Low Level

**Batch CK51212 - 5035**

Bromodichloromethane	0.0477	0.0050	mg/kg wet	0.05000		95	70-130	2	25	
Bromoform	0.0480	0.0050	mg/kg wet	0.05000		96	70-130	2	25	
Bromomethane	0.0440	0.0100	mg/kg wet	0.05000		88	70-130	8	25	
Carbon Disulfide	0.0528	0.0050	mg/kg wet	0.05000		106	70-130	1	25	
Carbon Tetrachloride	0.0481	0.0050	mg/kg wet	0.05000		96	70-130	0.3	25	
Chlorobenzene	0.0437	0.0050	mg/kg wet	0.05000		87	70-130	0.3	25	
Chloroethane	0.0466	0.0100	mg/kg wet	0.05000		93	70-130	3	25	
Chloroform	0.0497	0.0050	mg/kg wet	0.05000		99	70-130	0.2	25	
Chloromethane	0.0454	0.0100	mg/kg wet	0.05000		91	70-130	4	25	
cis-1,2-Dichloroethene	0.0521	0.0050	mg/kg wet	0.05000		104	70-130	1	25	
cis-1,3-Dichloropropene	0.0448	0.0050	mg/kg wet	0.05000		90	70-130	2	25	
Dibromochloromethane	0.0488	0.0020	mg/kg wet	0.05000		98	70-130	2	25	
Dibromomethane	0.0492	0.0050	mg/kg wet	0.05000		98	70-130	3	25	
Dichlorodifluoromethane	0.0466	0.0100	mg/kg wet	0.05000		93	70-130	2	25	
Diethyl Ether	0.0498	0.0050	mg/kg wet	0.05000		100	70-130	1	25	
Di-isopropyl ether	0.0451	0.0050	mg/kg wet	0.05000		90	70-130	1	25	
Ethyl tertiary-butyl ether	0.0453	0.0050	mg/kg wet	0.05000		91	70-130	1	25	
Ethylbenzene	0.0444	0.0050	mg/kg wet	0.05000		89	70-130	0.7	25	
Hexachlorobutadiene	0.0474	0.0050	mg/kg wet	0.05000		95	70-130	2	25	
Isopropylbenzene	0.0504	0.0050	mg/kg wet	0.05000		101	70-130	0.2	25	
Methyl tert-Butyl Ether	0.0446	0.0050	mg/kg wet	0.05000		89	70-130	1	25	
Methylene Chloride	0.0529	0.0100	mg/kg wet	0.05000		106	70-130	2	25	
Naphthalene	0.0424	0.0050	mg/kg wet	0.05000		85	70-130	0.3	25	
n-Butylbenzene	0.0455	0.0050	mg/kg wet	0.05000		91	70-130	0.2	25	
n-Propylbenzene	0.0500	0.0050	mg/kg wet	0.05000		100	70-130	0.2	25	
sec-Butylbenzene	0.0454	0.0050	mg/kg wet	0.05000		91	70-130	0.5	25	
Styrene	0.0446	0.0050	mg/kg wet	0.05000		89	70-130	0.3	25	
tert-Butylbenzene	0.0504	0.0050	mg/kg wet	0.05000		101	70-130	0.4	25	
Tertiary-amyl methyl ether	0.0468	0.0050	mg/kg wet	0.05000		94	70-130	0.7	25	
Tetrachloroethene	0.0413	0.0050	mg/kg wet	0.05000		83	70-130	0	25	
Tetrahydrofuran	0.0427	0.0050	mg/kg wet	0.05000		85	70-130	8	25	
Toluene	0.0481	0.0050	mg/kg wet	0.05000		96	70-130	0.6	25	
trans-1,2-Dichloroethene	0.0534	0.0050	mg/kg wet	0.05000		107	70-130	1	25	
trans-1,3-Dichloropropene	0.0432	0.0050	mg/kg wet	0.05000		86	70-130	2	25	
Trichloroethene	0.0495	0.0050	mg/kg wet	0.05000		99	70-130	2	25	
Trichlorofluoromethane	0.0479	0.0050	mg/kg wet	0.05000		96	70-130	2	25	
Vinyl Chloride	0.0494	0.0100	mg/kg wet	0.05000		99	70-130	4	25	
Xylene O	0.0431	0.0050	mg/kg wet	0.05000		86	70-130	0.5	25	
Xylene P,M	0.0882	0.0100	mg/kg wet	0.1000		88	70-130	0.2	25	
Xylenes (Total)	0.131	0.0100	mg/kg wet							
Surrogate: 1,2-Dichloroethane-d4	0.0469		mg/kg wet	0.05000		94	70-130			
Surrogate: 4-Bromofluorobenzene	0.0447		mg/kg wet	0.05000		89	70-130			
Surrogate: Dibromofluoromethane	0.0451		mg/kg wet	0.05000		90	70-130			
Surrogate: Toluene-d8	0.0446		mg/kg wet	0.05000		89	70-130			



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
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ESS Laboratory Work Order: 1511225

**Quality Control Data**

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**8082A Polychlorinated Biphenyls (PCB)**

**Batch CK51718 - 3540C**

**Blank**

Aroclor 1016	ND	0.0500	mg/kg wet							
Aroclor 1221	ND	0.0500	mg/kg wet							
Aroclor 1232	ND	0.0500	mg/kg wet							
Aroclor 1242	ND	0.0500	mg/kg wet							
Aroclor 1248	ND	0.0500	mg/kg wet							
Aroclor 1254	0.383	0.0500	mg/kg wet							
Aroclor 1260	ND	0.0500	mg/kg wet							
Aroclor 1262	ND	0.0500	mg/kg wet							
Aroclor 1268	ND	0.0500	mg/kg wet							

Surrogate: Decachlorobiphenyl	0.0226		mg/kg wet	0.02500		90	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0172		mg/kg wet	0.02500		69	30-150			
Surrogate: Tetrachloro-m-xylene	0.0194		mg/kg wet	0.02500		78	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0185		mg/kg wet	0.02500		74	30-150			

**LCS**

Aroclor 1016	0.408	0.0500	mg/kg wet	0.5000		82	40-140			
Aroclor 1260	0.410	0.0500	mg/kg wet	0.5000		82	40-140			

Surrogate: Decachlorobiphenyl	0.0221		mg/kg wet	0.02500		88	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0210		mg/kg wet	0.02500		84	30-150			
Surrogate: Tetrachloro-m-xylene	0.0213		mg/kg wet	0.02500		85	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0203		mg/kg wet	0.02500		81	30-150			

**LCS Dup**

Aroclor 1016	0.403	0.0500	mg/kg wet	0.5000		81	40-140	1	30	
Aroclor 1260	0.422	0.0500	mg/kg wet	0.5000		84	40-140	3	30	

Surrogate: Decachlorobiphenyl	0.0218		mg/kg wet	0.02500		87	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0218		mg/kg wet	0.02500		87	30-150			
Surrogate: Tetrachloro-m-xylene	0.0209		mg/kg wet	0.02500		83	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0201		mg/kg wet	0.02500		81	30-150			

**8100M Total Petroleum Hydrocarbons**

**Batch CK51114 - 3546**

**Blank**

Decane (C10)	ND	0.2	mg/kg wet							
Docosane (C22)	ND	0.2	mg/kg wet							
Dodecane (C12)	ND	0.2	mg/kg wet							
Eicosane (C20)	ND	0.2	mg/kg wet							
Hexacosane (C26)	ND	0.2	mg/kg wet							
Hexadecane (C16)	ND	0.2	mg/kg wet							
Hexatriacontane (C36)	ND	0.2	mg/kg wet							
Nonadecane (C19)	ND	0.2	mg/kg wet							
Nonane (C9)	ND	0.2	mg/kg wet							
Octacosane (C28)	ND	0.2	mg/kg wet							



*CERTIFICATE OF ANALYSIS*

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ESS Laboratory Work Order: 1511225

**Quality Control Data**

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**8100M Total Petroleum Hydrocarbons**

**Batch CK51114 - 3546**

Octadecane (C18)	ND	0.2	mg/kg wet							
Tetracosane (C24)	ND	0.2	mg/kg wet							
Tetradecane (C14)	ND	0.2	mg/kg wet							
Total Petroleum Hydrocarbons	ND	10.0	mg/kg wet							
Triacontane (C30)	ND	0.2	mg/kg wet							

*Surrogate: O-Terphenyl* 4.47 mg/kg wet 5.000 89 40-140

**LCS**

Decane (C10)	1.8	0.2	mg/kg wet	2.500		74	40-140			
Docosane (C22)	2.3	0.2	mg/kg wet	2.500		91	40-140			
Dodecane (C12)	2.0	0.2	mg/kg wet	2.500		81	40-140			
Eicosane (C20)	2.3	0.2	mg/kg wet	2.500		91	40-140			
Hexacosane (C26)	2.3	0.2	mg/kg wet	2.500		93	40-140			
Hexadecane (C16)	2.2	0.2	mg/kg wet	2.500		88	40-140			
Hexatriacontane (C36)	2.7	0.2	mg/kg wet	2.500		108	40-140			
Nonadecane (C19)	2.3	0.2	mg/kg wet	2.500		93	40-140			
Nonane (C9)	1.6	0.2	mg/kg wet	2.500		63	30-140			
Octacosane (C28)	2.3	0.2	mg/kg wet	2.500		92	40-140			
Octadecane (C18)	2.3	0.2	mg/kg wet	2.500		90	40-140			
Tetracosane (C24)	2.2	0.2	mg/kg wet	2.500		86	40-140			
Tetradecane (C14)	2.1	0.2	mg/kg wet	2.500		84	40-140			
Total Petroleum Hydrocarbons	31.3	10.0	mg/kg wet	35.00		90	40-140			
Triacontane (C30)	2.3	0.2	mg/kg wet	2.500		93	40-140			

*Surrogate: O-Terphenyl* 4.59 mg/kg wet 5.000 92 40-140

**LCS Dup**

Decane (C10)	2.2	0.2	mg/kg wet	2.500		88	40-140	17	25	
Docosane (C22)	2.6	0.2	mg/kg wet	2.500		105	40-140	14	25	
Dodecane (C12)	2.4	0.2	mg/kg wet	2.500		98	40-140	18	25	
Eicosane (C20)	2.6	0.2	mg/kg wet	2.500		105	40-140	15	25	
Hexacosane (C26)	2.7	0.2	mg/kg wet	2.500		108	40-140	14	25	
Hexadecane (C16)	2.6	0.2	mg/kg wet	2.500		103	40-140	16	25	
Hexatriacontane (C36)	3.2	0.2	mg/kg wet	2.500		126	40-140	15	25	
Nonadecane (C19)	2.7	0.2	mg/kg wet	2.500		108	40-140	15	25	
Nonane (C9)	1.8	0.2	mg/kg wet	2.500		74	30-140	16	25	
Octacosane (C28)	2.7	0.2	mg/kg wet	2.500		106	40-140	14	25	
Octadecane (C18)	2.6	0.2	mg/kg wet	2.500		105	40-140	15	25	
Tetracosane (C24)	2.5	0.2	mg/kg wet	2.500		100	40-140	14	25	
Tetradecane (C14)	2.5	0.2	mg/kg wet	2.500		100	40-140	18	25	
Total Petroleum Hydrocarbons	33.9	10.0	mg/kg wet	35.00		97	40-140	8	25	
Triacontane (C30)	2.7	0.2	mg/kg wet	2.500		107	40-140	14	25	

*Surrogate: O-Terphenyl* 5.22 mg/kg wet 5.000 104 40-140

**8270D Semi-Volatile Organic Compounds**



*CERTIFICATE OF ANALYSIS*

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ESS Laboratory Work Order: 1511225

**Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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**8270D Semi-Volatile Organic Compounds**

**Batch CK51115 - 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-Methylnaphthalene	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
Acenaphthene	ND	0.333	mg/kg wet
Acenaphthylene	ND	0.333	mg/kg wet
Acetophenone	ND	0.667	mg/kg wet
Aniline	ND	1.67	mg/kg wet
Anthracene	ND	0.333	mg/kg wet
Azobenzene	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-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
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



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ESS Laboratory Work Order: 1511225

**Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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**8270D Semi-Volatile Organic Compounds**

**Batch CK51115 - 3546**

Fluoranthene	ND	0.333	mg/kg wet							
Fluorene	ND	0.333	mg/kg wet							
Hexachlorobenzene	ND	0.333	mg/kg wet							
Hexachlorobutadiene	ND	0.333	mg/kg wet							
Hexachloroethane	ND	0.333	mg/kg wet							
Indeno(1,2,3-cd)Pyrene	ND	0.333	mg/kg wet							
Isophorone	ND	0.333	mg/kg wet							
Naphthalene	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							
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	2.43		mg/kg wet	3.333		73	30-130			
Surrogate: 2,4,6-Tribromophenol	3.99		mg/kg wet	5.000		80	30-130			
Surrogate: 2-Chlorophenol-d4	3.72		mg/kg wet	5.000		74	30-130			
Surrogate: 2-Fluorobiphenyl	2.39		mg/kg wet	3.333		72	30-130			
Surrogate: 2-Fluorophenol	3.62		mg/kg wet	5.000		72	30-130			
Surrogate: Nitrobenzene-d5	2.71		mg/kg wet	3.333		81	30-130			
Surrogate: Phenol-d6	3.91		mg/kg wet	5.000		78	30-130			
Surrogate: p-Terphenyl-d14	3.38		mg/kg wet	3.333		101	30-130			

**LCS**

1,2,4-Trichlorobenzene	2.40	0.333	mg/kg wet	3.333		72	40-140			
1,2-Dichlorobenzene	2.46	0.333	mg/kg wet	3.333		74	40-140			
1,3-Dichlorobenzene	2.43	0.333	mg/kg wet	3.333		73	40-140			
1,4-Dichlorobenzene	2.40	0.333	mg/kg wet	3.333		72	40-140			
2,4,5-Trichlorophenol	2.79	0.333	mg/kg wet	3.333		84	30-130			
2,4,6-Trichlorophenol	2.80	0.333	mg/kg wet	3.333		84	30-130			
2,4-Dichlorophenol	2.79	0.333	mg/kg wet	3.333		84	30-130			
2,4-Dimethylphenol	2.90	0.333	mg/kg wet	3.333		87	30-130			
2,4-Dinitrophenol	2.69	1.67	mg/kg wet	3.333		81	30-130			
2,4-Dinitrotoluene	2.81	0.333	mg/kg wet	3.333		84	40-140			
2,6-Dinitrotoluene	2.56	0.333	mg/kg wet	3.333		77	40-140			
2-Chloronaphthalene	2.23	0.333	mg/kg wet	3.333		67	40-140			
2-Chlorophenol	2.58	0.333	mg/kg wet	3.333		77	30-130			
2-Methylnaphthalene	2.53	0.333	mg/kg wet	3.333		76	40-140			
2-Methylphenol	2.81	0.333	mg/kg wet	3.333		84	30-130			
2-Nitrophenol	2.89	0.333	mg/kg wet	3.333		87	30-130			
3,3'-Dichlorobenzidine	2.38	0.667	mg/kg wet	3.333		71	40-140			
3+4-Methylphenol	5.50	0.667	mg/kg wet	6.667		82	30-130			
4-Bromophenyl-phenylether	2.78	0.333	mg/kg wet	3.333		83	40-140			
4-Chloroaniline	2.22	0.667	mg/kg wet	3.333		67	40-140			
4-Nitrophenol	2.73	1.67	mg/kg wet	3.333		82	30-130			
Acenaphthene	2.58	0.333	mg/kg wet	3.333		77	40-140			



*CERTIFICATE OF ANALYSIS*

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ESS Laboratory Work Order: 1511225

**Quality Control Data**

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**8270D Semi-Volatile Organic Compounds**

**Batch CK51115 - 3546**

Acenaphthylene	2.52	0.333	mg/kg wet	3.333		76	40-140			
Acetophenone	2.74	0.667	mg/kg wet	3.333		82	40-140			
Aniline	2.11	1.67	mg/kg wet	3.333		63	40-140			
Anthracene	2.83	0.333	mg/kg wet	3.333		85	40-140			
Azobenzene	3.03	0.333	mg/kg wet	3.333		91	40-140			
Benzo(a)anthracene	2.86	0.333	mg/kg wet	3.333		86	40-140			
Benzo(a)pyrene	2.85	0.167	mg/kg wet	3.333		86	40-140			
Benzo(b)fluoranthene	2.87	0.333	mg/kg wet	3.333		86	40-140			
Benzo(g,h,i)perylene	2.70	0.333	mg/kg wet	3.333		81	40-140			
Benzo(k)fluoranthene	2.91	0.333	mg/kg wet	3.333		87	40-140			
bis(2-Chloroethoxy)methane	2.83	0.333	mg/kg wet	3.333		85	40-140			
bis(2-Chloroethyl)ether	2.75	0.333	mg/kg wet	3.333		82	40-140			
bis(2-chloroisopropyl)Ether	2.62	0.333	mg/kg wet	3.333		79	40-140			
bis(2-Ethylhexyl)phthalate	3.03	0.333	mg/kg wet	3.333		91	40-140			
Butylbenzylphthalate	3.04	0.333	mg/kg wet	3.333		91	40-140			
Chrysene	2.84	0.167	mg/kg wet	3.333		85	40-140			
Dibenzo(a,h)Anthracene	2.78	0.167	mg/kg wet	3.333		84	40-140			
Dibenzofuran	2.46	0.333	mg/kg wet	3.333		74	40-140			
Diethylphthalate	2.68	0.333	mg/kg wet	3.333		81	40-140			
Dimethylphthalate	2.64	0.333	mg/kg wet	3.333		79	40-140			
Di-n-butylphthalate	3.00	0.333	mg/kg wet	3.333		90	40-140			
Di-n-octylphthalate	3.14	0.333	mg/kg wet	3.333		94	40-140			
Fluoranthene	2.67	0.333	mg/kg wet	3.333		80	40-140			
Fluorene	2.63	0.333	mg/kg wet	3.333		79	40-140			
Hexachlorobenzene	2.62	0.333	mg/kg wet	3.333		79	40-140			
Hexachlorobutadiene	2.35	0.333	mg/kg wet	3.333		71	40-140			
Hexachloroethane	2.42	0.333	mg/kg wet	3.333		73	40-140			
Indeno(1,2,3-cd)Pyrene	2.76	0.333	mg/kg wet	3.333		83	40-140			
Isophorone	2.81	0.333	mg/kg wet	3.333		84	40-140			
Naphthalene	2.59	0.333	mg/kg wet	3.333		78	40-140			
Nitrobenzene	2.75	0.333	mg/kg wet	3.333		82	40-140			
N-Nitrosodimethylamine	2.08	0.333	mg/kg wet	3.333		62	40-140			
Pentachlorophenol	3.12	1.67	mg/kg wet	3.333		94	30-130			
Phenanthrene	2.78	0.333	mg/kg wet	3.333		83	40-140			
Phenol	2.58	0.333	mg/kg wet	3.333		77	30-130			
Pyrene	3.01	0.333	mg/kg wet	3.333		90	40-140			
Surrogate: 1,2-Dichlorobenzene-d4	2.50		mg/kg wet	3.333		75	30-130			
Surrogate: 2,4,6-Tribromophenol	4.58		mg/kg wet	5.000		92	30-130			
Surrogate: 2-Chlorophenol-d4	3.87		mg/kg wet	5.000		77	30-130			
Surrogate: 2-Fluorobiphenyl	2.51		mg/kg wet	3.333		75	30-130			
Surrogate: 2-Fluorophenol	3.72		mg/kg wet	5.000		74	30-130			
Surrogate: Nitrobenzene-d5	2.79		mg/kg wet	3.333		84	30-130			
Surrogate: Phenol-d6	4.11		mg/kg wet	5.000		82	30-130			
Surrogate: p-Terphenyl-d14	3.10		mg/kg wet	3.333		93	30-130			

**LCS Dup**





*CERTIFICATE OF ANALYSIS*

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

ESS Laboratory Work Order: 1511225

**Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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**8270D Semi-Volatile Organic Compounds**

**Batch CK51115 - 3546**

1,2,4-Trichlorobenzene	2.49	0.333	mg/kg wet	3.333		75	40-140	4	30	
1,2-Dichlorobenzene	2.50	0.333	mg/kg wet	3.333		75	40-140	2	30	
1,3-Dichlorobenzene	2.47	0.333	mg/kg wet	3.333		74	40-140	1	30	
1,4-Dichlorobenzene	2.46	0.333	mg/kg wet	3.333		74	40-140	3	30	
2,4,5-Trichlorophenol	2.96	0.333	mg/kg wet	3.333		89	30-130	6	30	
2,4,6-Trichlorophenol	2.85	0.333	mg/kg wet	3.333		86	30-130	2	30	
2,4-Dichlorophenol	2.87	0.333	mg/kg wet	3.333		86	30-130	3	30	
2,4-Dimethylphenol	2.95	0.333	mg/kg wet	3.333		89	30-130	2	30	
2,4-Dinitrophenol	2.82	1.67	mg/kg wet	3.333		85	30-130	5	30	
2,4-Dinitrotoluene	2.98	0.333	mg/kg wet	3.333		90	40-140	6	30	
2,6-Dinitrotoluene	2.72	0.333	mg/kg wet	3.333		81	40-140	6	30	
2-Chloronaphthalene	2.28	0.333	mg/kg wet	3.333		68	40-140	2	30	
2-Chlorophenol	2.61	0.333	mg/kg wet	3.333		78	30-130	1	30	
2-Methylnaphthalene	2.61	0.333	mg/kg wet	3.333		78	40-140	3	30	
2-Methylphenol	2.83	0.333	mg/kg wet	3.333		85	30-130	1	30	
2-Nitrophenol	2.96	0.333	mg/kg wet	3.333		89	30-130	2	30	
3,3'-Dichlorobenzidine	2.33	0.667	mg/kg wet	3.333		70	40-140	2	30	
3+4-Methylphenol	5.53	0.667	mg/kg wet	6.667		83	30-130	0.7	30	
4-Bromophenyl-phenylether	2.77	0.333	mg/kg wet	3.333		83	40-140	0.06	30	
4-Chloroaniline	2.30	0.667	mg/kg wet	3.333		69	40-140	3	30	
4-Nitrophenol	2.81	1.67	mg/kg wet	3.333		84	30-130	3	30	
Acenaphthene	2.66	0.333	mg/kg wet	3.333		80	40-140	3	30	
Acenaphthylene	2.63	0.333	mg/kg wet	3.333		79	40-140	4	30	
Acetophenone	2.77	0.667	mg/kg wet	3.333		83	40-140	1	30	
Aniline	2.15	1.67	mg/kg wet	3.333		64	40-140	1	30	
Anthracene	2.84	0.333	mg/kg wet	3.333		85	40-140	0.3	30	
Azobenzene	3.01	0.333	mg/kg wet	3.333		90	40-140	0.9	30	
Benzo(a)anthracene	2.85	0.333	mg/kg wet	3.333		86	40-140	0.01	30	
Benzo(a)pyrene	2.92	0.167	mg/kg wet	3.333		88	40-140	3	30	
Benzo(b)fluoranthene	2.90	0.333	mg/kg wet	3.333		87	40-140	0.9	30	
Benzo(g,h,i)perylene	2.82	0.333	mg/kg wet	3.333		85	40-140	4	30	
Benzo(k)fluoranthene	2.98	0.333	mg/kg wet	3.333		89	40-140	2	30	
bis(2-Chloroethoxy)methane	2.88	0.333	mg/kg wet	3.333		86	40-140	2	30	
bis(2-Chloroethyl)ether	2.78	0.333	mg/kg wet	3.333		83	40-140	0.9	30	
bis(2-chloroisopropyl)Ether	2.67	0.333	mg/kg wet	3.333		80	40-140	2	30	
bis(2-Ethylhexyl)phthalate	3.06	0.333	mg/kg wet	3.333		92	40-140	1	30	
Butylbenzylphthalate	3.14	0.333	mg/kg wet	3.333		94	40-140	3	30	
Chrysene	2.89	0.167	mg/kg wet	3.333		87	40-140	2	30	
Dibenzo(a,h)Anthracene	2.89	0.167	mg/kg wet	3.333		87	40-140	4	30	
Dibenzofuran	2.56	0.333	mg/kg wet	3.333		77	40-140	4	30	
Diethylphthalate	2.82	0.333	mg/kg wet	3.333		85	40-140	5	30	
Dimethylphthalate	2.75	0.333	mg/kg wet	3.333		83	40-140	4	30	
Di-n-butylphthalate	3.04	0.333	mg/kg wet	3.333		91	40-140	1	30	
Di-n-octylphthalate	3.17	0.333	mg/kg wet	3.333		95	40-140	0.8	30	
Fluoranthene	2.67	0.333	mg/kg wet	3.333		80	40-140	0.1	30	





*CERTIFICATE OF ANALYSIS*

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

ESS Laboratory Work Order: 1511225

**Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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**8270D Semi-Volatile Organic Compounds**

**Batch CK51115 - 3546**

Fluorene	2.74	0.333	mg/kg wet	3.333		82	40-140	4	30	
Hexachlorobenzene	2.63	0.333	mg/kg wet	3.333		79	40-140	0.04	30	
Hexachlorobutadiene	2.42	0.333	mg/kg wet	3.333		73	40-140	3	30	
Hexachloroethane	2.47	0.333	mg/kg wet	3.333		74	40-140	2	30	
Indeno(1,2,3-cd)Pyrene	2.87	0.333	mg/kg wet	3.333		86	40-140	4	30	
Isophorone	2.88	0.333	mg/kg wet	3.333		87	40-140	3	30	
Naphthalene	2.65	0.333	mg/kg wet	3.333		80	40-140	2	30	
Nitrobenzene	2.78	0.333	mg/kg wet	3.333		83	40-140	1	30	
N-Nitrosodimethylamine	2.14	0.333	mg/kg wet	3.333		64	40-140	3	30	
Pentachlorophenol	2.98	1.67	mg/kg wet	3.333		90	30-130	4	30	
Phenanthrene	2.79	0.333	mg/kg wet	3.333		84	40-140	0.3	30	
Phenol	2.63	0.333	mg/kg wet	3.333		79	30-130	2	30	
Pyrene	3.10	0.333	mg/kg wet	3.333		93	40-140	3	30	
Surrogate: 1,2-Dichlorobenzene-d4	2.48		mg/kg wet	3.333		75	30-130			
Surrogate: 2,4,6-Tribromophenol	4.52		mg/kg wet	5.000		90	30-130			
Surrogate: 2-Chlorophenol-d4	3.81		mg/kg wet	5.000		76	30-130			
Surrogate: 2-Fluorobiphenyl	2.54		mg/kg wet	3.333		76	30-130			
Surrogate: 2-Fluorophenol	3.69		mg/kg wet	5.000		74	30-130			
Surrogate: Nitrobenzene-d5	2.70		mg/kg wet	3.333		81	30-130			
Surrogate: Phenol-d6	4.08		mg/kg wet	5.000		82	30-130			
Surrogate: p-Terphenyl-d14	3.12		mg/kg wet	3.333		94	30-130			

**Classical Chemistry**

**Batch CK51404 - General Preparation**

**Reference**

Flashpoint	82		°F	81.00		101	97.9-102.1			
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**Batch CK51406 - General Preparation**

**Blank**

Conductivity	ND	5	umhos/cm							
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**LCS**

Conductivity	1420		umhos/cm	1411		101	90-110			
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**Batch CK51410 - General Preparation**

**Blank**

Reactive Cyanide	ND	2.0	mg/kg							
Reactive Sulfide	ND	2.0	mg/kg							

**LCS**

Reactive Cyanide	4.0	2.0	mg/kg	100.3		4	0.68-5.41			
Reactive Sulfide	0.2	2.0	mg/kg	10.00		2	0-44			



*CERTIFICATE OF ANALYSIS*

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

ESS Laboratory Work Order: 1511225

**Notes and Definitions**

Z17	Temperature is within 23 +/-2 °C.
Z-10	Soil pH measured in water at 15.7 °C.
WL	Results obtained from a deionized water leach of the sample.
U	Analyte included in the analysis, but not detected
Q	Calibration required quadratic regression (Q).
IC	Internal Standard(s) outside of criteria. Sample was reanalyzed to confirm (IC).
D+	Relative percent difference for duplicate is outside of criteria (D+).
D	Diluted.
CD+	Continuing Calibration %Diff/Drift is above control limit (CD+).
B+	Blank Spike recovery is above upper control limit (B+).
B	Present in Method Blank (B).
>	Greater than.
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: 1511225

**ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS**

**ENVIRONMENTAL**

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](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: RI00002

<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](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](http://www.depweb.state.pa.us/portal/server.pt/community/labs/13780/laboratory_accreditation_program/590095)

# Sample and Cooler Receipt Checklist

Attachment B  
SOP 10\_0001

Client: GZA GeoEnvironmental, Inc.

Client Project ID: \_\_\_\_\_

Shipped/Delivered Via: ESS Courier

ESS Project ID: 15110225

Date Project Due: 11/17/15

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: 2.0  
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: \_\_\_\_\_
- Sub Lab: \_\_\_\_\_
- Analysis: \_\_\_\_\_
- TAT: \_\_\_\_\_
18. Was there need to call project manager to discuss status? If yes, please explain.  
LL VIALS FROZEN @ 2120 JL 11/10/15

Who was called?: \_\_\_\_\_

By whom? \_\_\_\_\_

Sample Number	Properly Preserved	Container Type	# of Containers	Preservative
1	Yes	4 oz Soil Jar	5	NP
1	Yes	40 ml - VOA	1	MeOH
1	Yes	40 ml - VOA	2	other

Completed By: [Signature]

Date/Time: 11/10/15 2051

Reviewed By: [Signature]

Date/Time: 11/10/15 2105

# 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 \_\_\_\_\_

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 \_\_\_\_\_

Project # 171521-41 Project Name Wynn Everett

Proj. Location Everett, MA PO # \_\_\_\_\_

City, State Norwood, MA Zip 02062

email: Matthew.Smith@ezta.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 \_\_\_\_\_

Flashpoint & TLP \_\_\_\_\_

PH \_\_\_\_\_

8260 \_\_\_\_\_

8270 \_\_\_\_\_

PCBS \_\_\_\_\_

MCP Metals \_\_\_\_\_

Endrin \_\_\_\_\_

Dieldrin \_\_\_\_\_

Heptachlor \_\_\_\_\_

Heptachlor Epoxide \_\_\_\_\_

DDT \_\_\_\_\_

Endrin sulfate \_\_\_\_\_

Heptachlor hydride \_\_\_\_\_

Heptachlor epoxide oxime \_\_\_\_\_

Heptachlor epoxide oxime \_\_\_\_\_

Heptachlor epoxide oxime \_\_\_\_\_

Heptachlor epoxide oxime \_\_\_\_\_

Heptachlor epoxide oxime \_\_\_\_\_

Heptachlor epoxide oxime \_\_\_\_\_

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Heptachlor epoxide oxime \_\_\_\_\_

Heptachlor epoxide oxime \_\_\_\_\_

Heptachlor epoxide oxime \_\_\_\_\_

Heptachlor epoxide oxime \_\_\_\_\_

Heptachlor epoxide oxime \_\_\_\_\_

Container Type: P-Poly G-Glass AG-Ambor 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-Filler

Preservation Code: (1) NP, (2) HCl, 3-H2SO4, (3) HNO3, 5-NaOH, (6) MeOH, 7-Asorbic Acid, 8-ZnAc2, 9- \_\_\_\_\_

Sampled by: Kip Webber

Comments: TCLP based on 20x rule

Cooler Temperature: 2.0 ice

Relinquished by: (Signature, Date & Time) [Signature] 11/10/15

Relinquished by: (Signature, Date & Time) [Signature] 11/10/15

Relinquished by: (Signature, Date & Time) [Signature] 11/10/15

Relinquished by: (Signature, Date & Time) [Signature] 11/10/15

Relinquished by: (Signature, Date & Time) [Signature] 11/10/15

Relinquished by: (Signature, Date & Time) [Signature] 11/10/15

Relinquished by: (Signature, Date & Time) [Signature] 11/10/15

Relinquished by: (Signature, Date & Time) [Signature] 11/10/15

Relinquished by: (Signature, Date & Time) [Signature] 11/10/15

Relinquished by: (Signature, Date & Time) [Signature] 11/10/15

Relinquished by: (Signature, Date & Time) [Signature] 11/10/15

Relinquished by: (Signature, Date & Time) [Signature] 11/10/15

Relinquished by: (Signature, Date & Time) [Signature] 11/10/15

\* 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



*Proactive by Design*



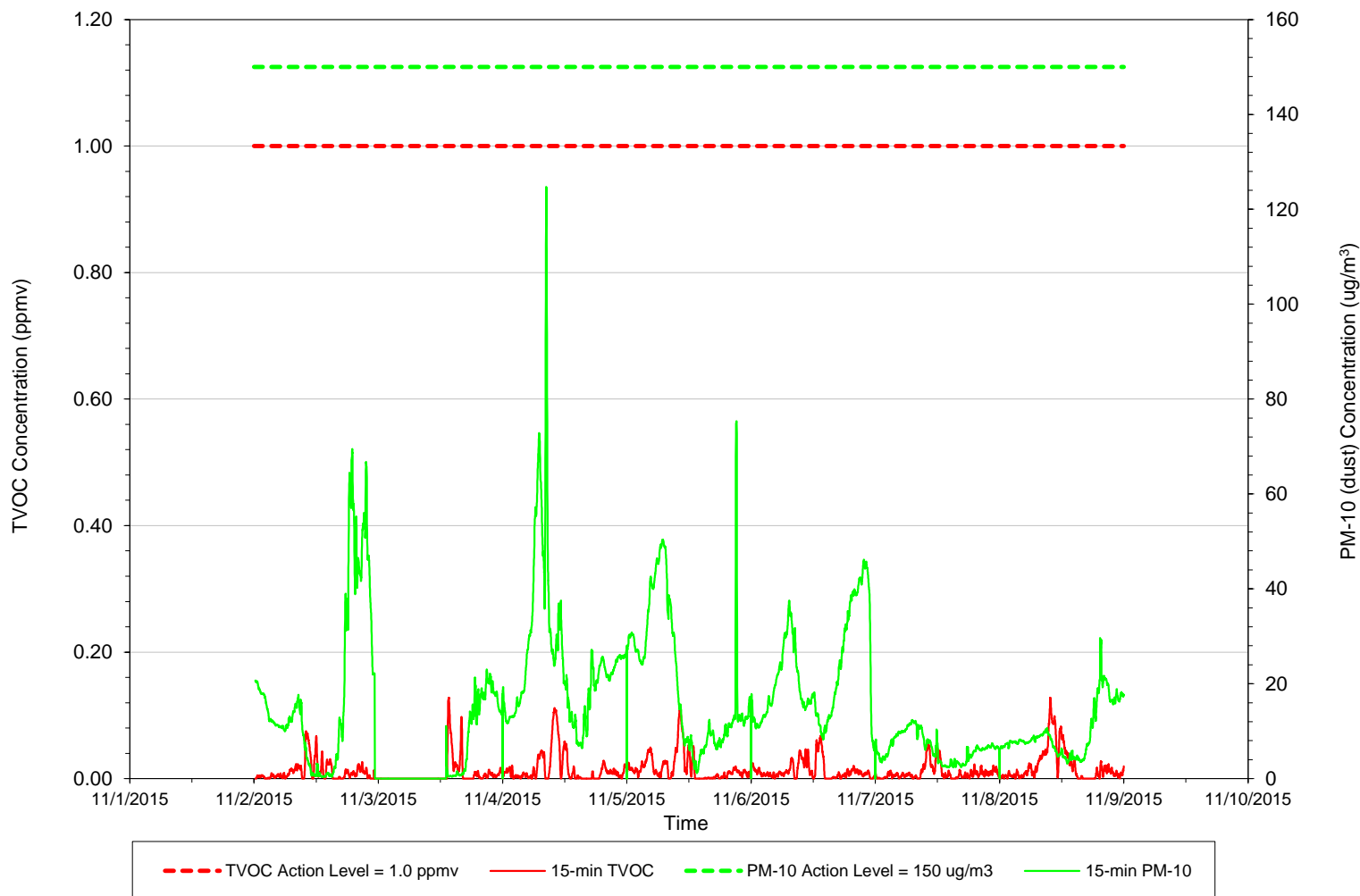
## **APPENDIX D**

### **AIRLOGICS WEEKLY REPORTS**

Nov 2, 2015

**AirLogics Perimeter Air Monitoring System - Weekly Results**  
**Wynn Casino and Resort Site**  
**Everett, Massachusetts**

**Perimeter Air Monitoring Station - STA 1**  
 15-minute average concentrations



**Weekly**  
**Data Summary Statistics**

TVOC Avg = 0.01  
 PM-10 Avg = 17.18

**Daily**  
**Data Summary Statistics**

TVOC max = (15Min Avg)  
 11/2/2015 0.07  
 11/3/2015 0.13  
 11/4/2015 0.11  
 11/5/2015 0.11  
 11/6/2015 0.07  
 11/7/2015 0.06  
 11/8/2015 0.13  
 PM10 max= (15Min Avg)  
 11/2/2015 #DIV/0!  
 11/3/2015 23.02  
 11/4/2015 124.76  
 11/5/2015 75.33  
 11/6/2015 46.14  
 11/7/2015 12.38  
 11/8/2015 29.67

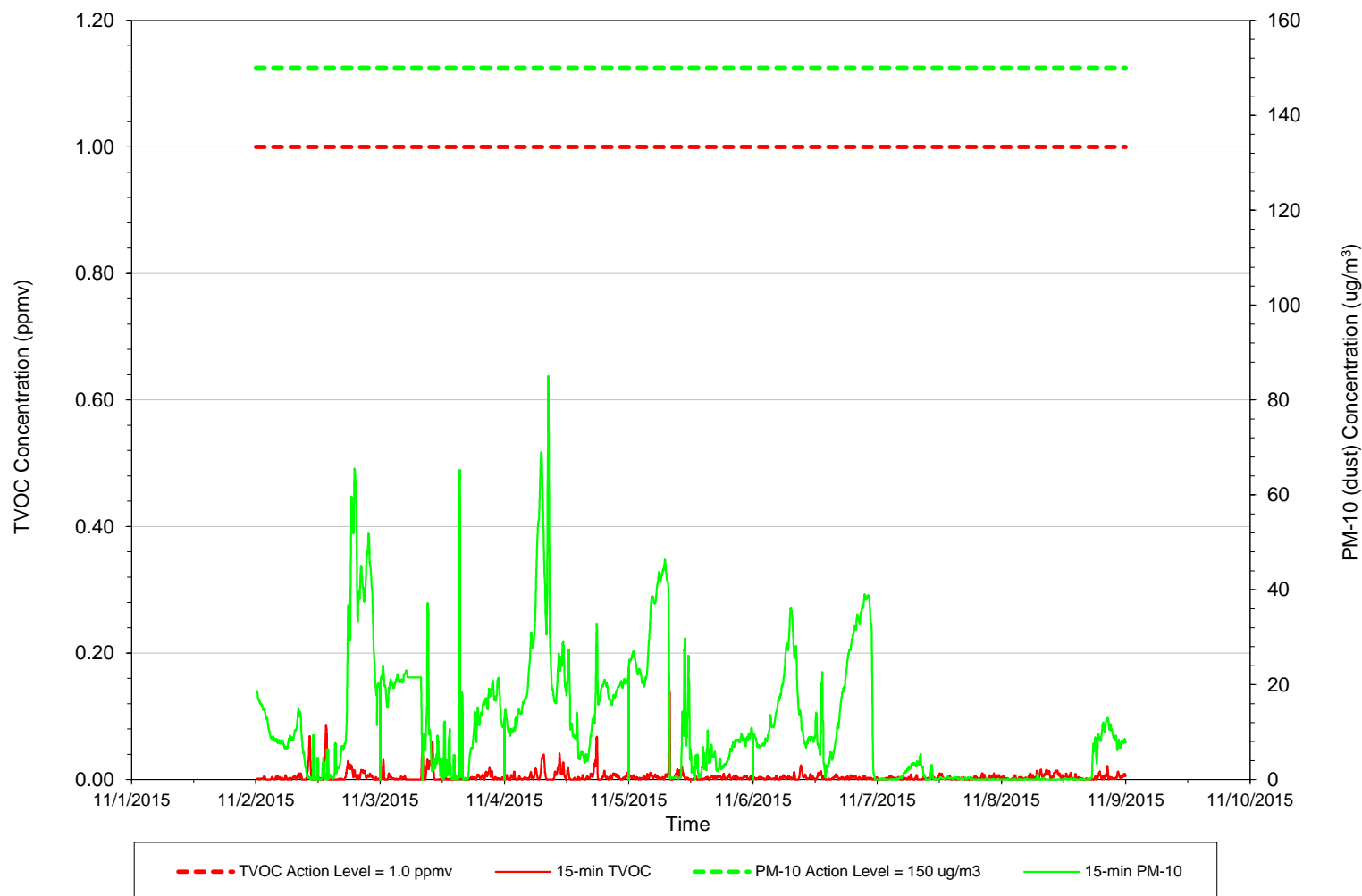
**Wind Summary Statistics**

CALM	0%
UW	8%
UW/CW	0%
CW	73%
CW/DW	0%
DW	7%
DW/CW	10%
CW/UW	1%
<b>TOTAL</b>	<b>100%</b>

Nov 2, 2015

**AirLogics Perimeter Air Monitoring System - Weekly Results**  
**Wynn Casino and Resort Site**  
**Everett, Massachusetts**

**Perimeter Air Monitoring Station - STA 2**  
 15-minute average concentrations



**Weekly**  
**Data Summary Statistics**

TVOC Avg = 0.01  
 PM-10 Avg = 12.01

**Daily**  
**Data Summary Statistics**

TVOC max = (15Min Avg)  
 11/2/2015 0.09  
 11/3/2015 0.06  
 11/4/2015 0.07  
 11/5/2015 0.14  
 11/6/2015 0.02  
 11/7/2015 0.01  
 11/8/2015 0.02

PM10 max= (15Min Avg)  
 11/2/2015 65.58  
 11/3/2015 65.25  
 11/4/2015 85.00  
 11/5/2015 46.40  
 11/6/2015 38.99  
 11/7/2015 5.44  
 11/8/2015 13.02

**Wind Summary Statistics**

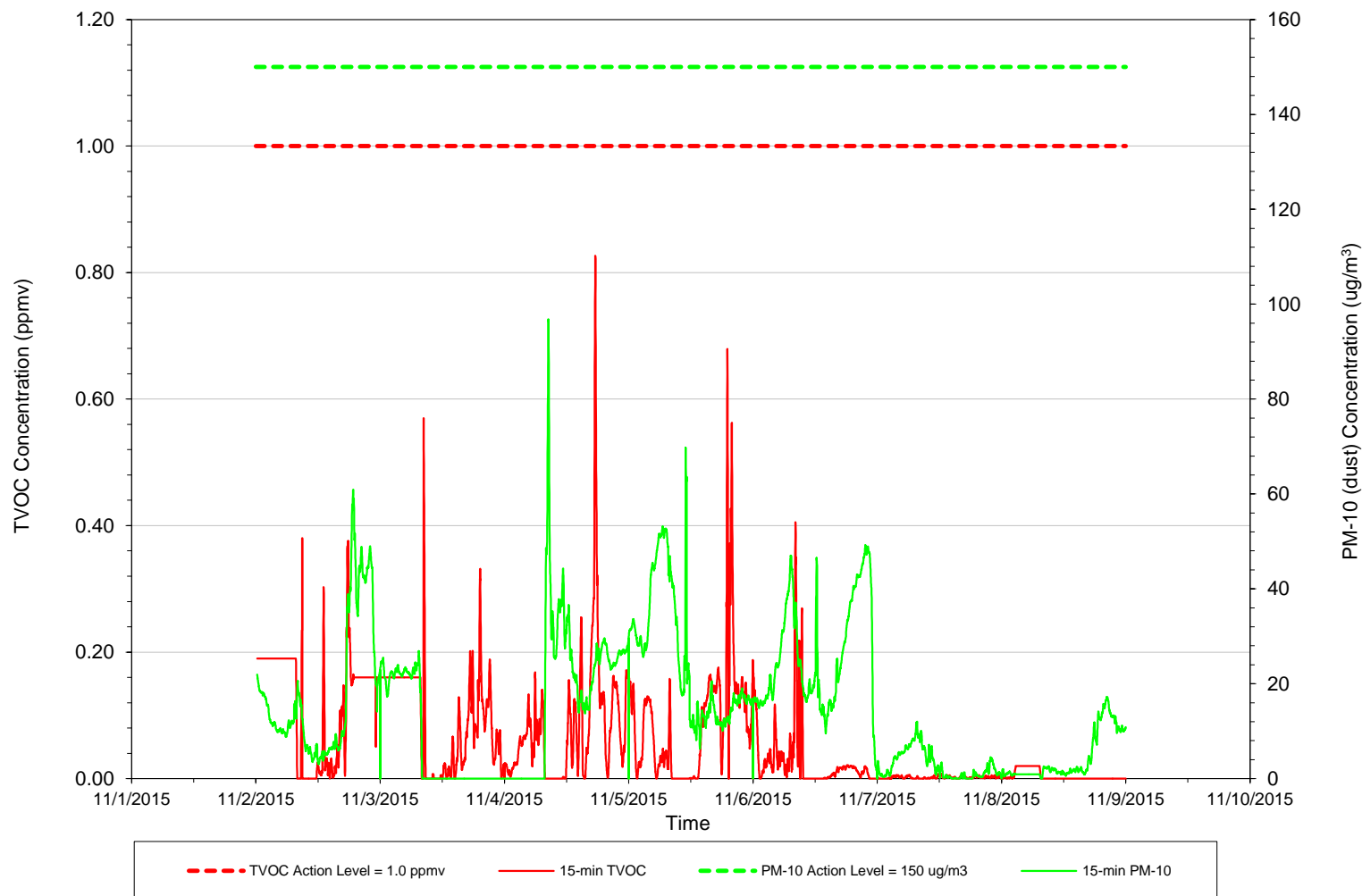
CALM	0%
UW	8%
UW/CW	0%
CW	0%
CW/DW	0%
DW	80%
DW/CW	4%
CW/UW	8%
<b>TOTAL</b>	<b>100%</b>



Nov 2, 2015

**AirLogics Perimeter Air Monitoring System - Weekly Results**  
**Wynn Casino and Resort Site**  
**Everett, Massachusetts**

**Perimeter Air Monitoring Station - STA 3**  
15-minute average concentrations



**Weekly**  
**Data Summary Statistics**

TVOC Avg = 0.10  
PM-10 Avg = 14.63

**Daily**  
**Data Summary Statistics**

TVOC max = (15Min Avg)  
11/2/2015 0.38  
11/3/2015 0.57  
11/4/2015 0.83  
11/5/2015 0.68  
11/6/2015 0.41  
11/7/2015 0.01  
11/8/2015 0.02  
PM10 max= (15Min Avg)  
11/2/2015 60.91  
11/3/2015 26.91  
11/4/2015 96.86  
11/5/2015 69.79  
11/6/2015 49.17  
11/7/2015 11.99  
11/8/2015 17.21

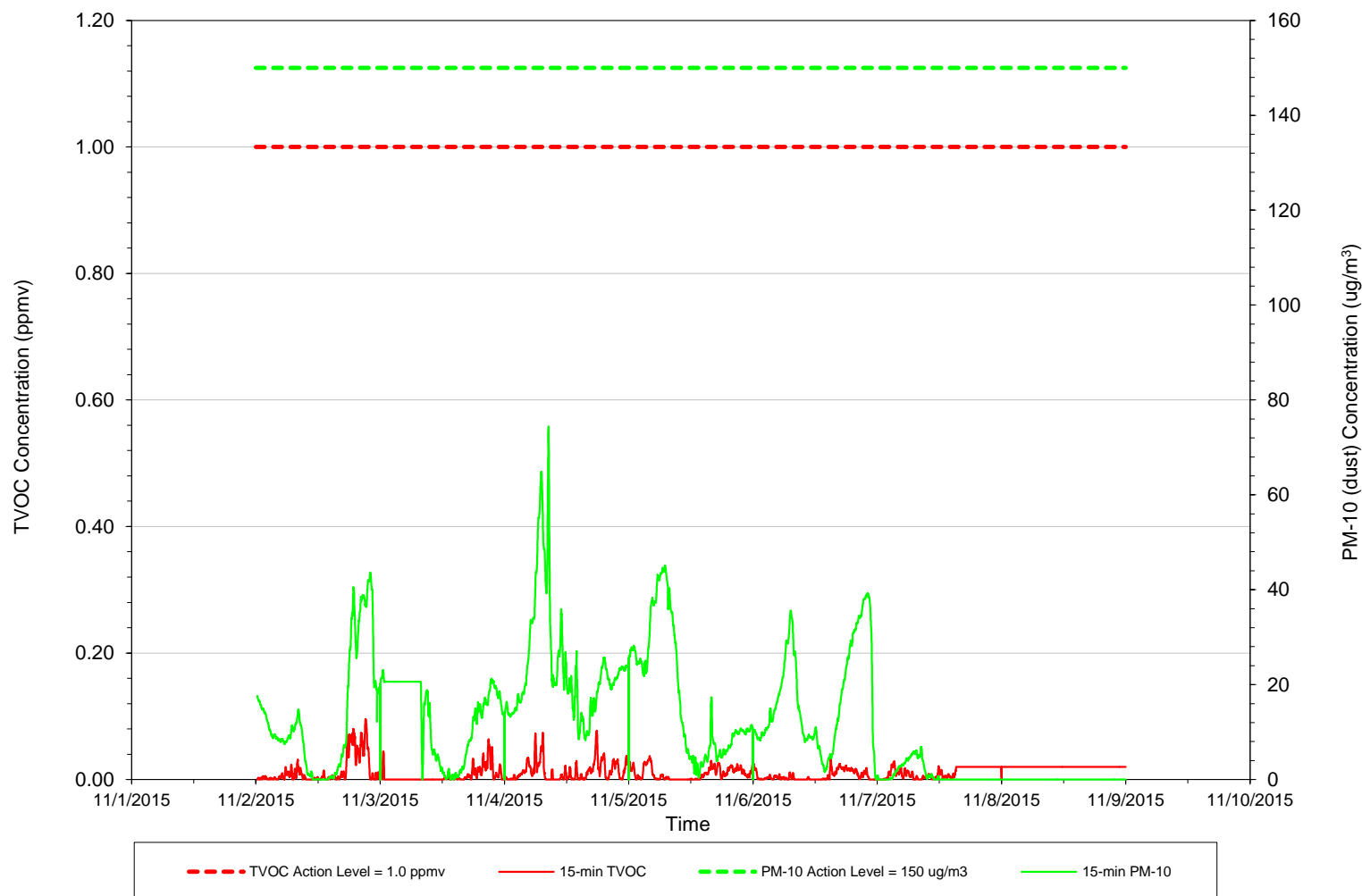
**Wind Summary Statistics**

CALM	0%
UW	5%
UW/CW	0%
CW	3%
CW/DW	5%
DW	86%
DW/CW	1%
CW/UW	0%
<b>TOTAL</b>	<b>100%</b>

Nov 2, 2015

**AirLogics Perimeter Air Monitoring System - Weekly Results**  
**Wynn Casino and Resort Site**  
**Everett, Massachusetts**

**Perimeter Air Monitoring Station - STA 4**  
15-minute average concentrations



**Weekly**  
**Data Summary Statistics**

TVOC Avg = 0.01  
PM-10 Avg = 12.27

**Daily**  
**Data Summary Statistics**

TVOC max = (15Min Avg)  
11/2/2015 0.10  
11/3/2015 0.06  
11/4/2015 0.08  
11/5/2015 0.04  
11/6/2015 0.03  
11/7/2015 0.03  
11/8/2015 0.02

PM10 max= (15Min Avg)  
11/2/2015 43.64  
11/3/2015 23.06  
11/4/2015 74.43  
11/5/2015 45.12  
11/6/2015 39.28  
11/7/2015 6.91  
11/8/2015 0.00

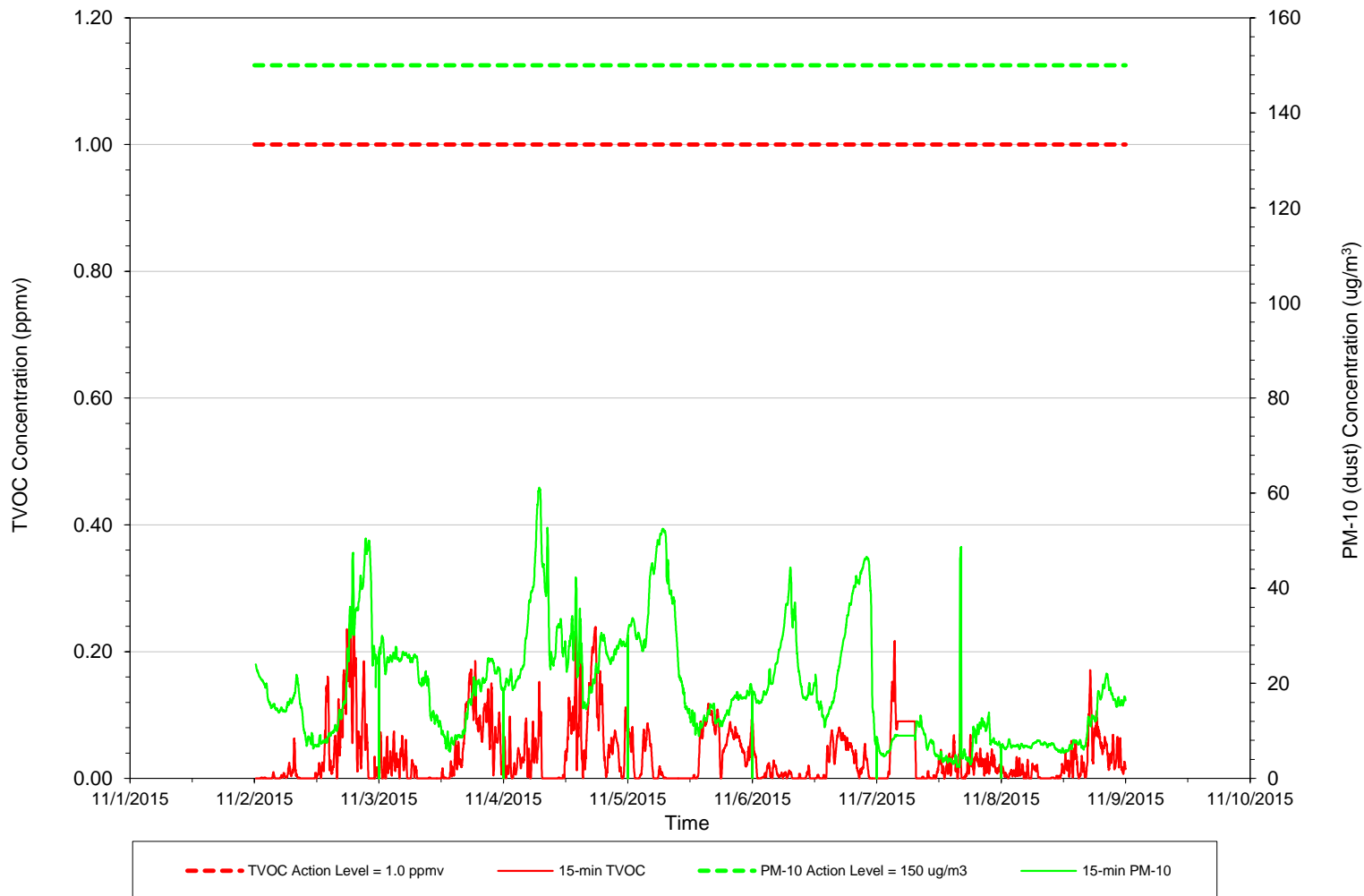
**Wind Summary Statistics**

CALM	0%
UW	36%
UW/CW	0%
CW	0%
CW/DW	0%
DW	4%
DW/CW	0%
CW/UW	60%
<b>TOTAL</b>	<b>100%</b>

Nov 2, 2015

**AirLogics Perimeter Air Monitoring System - Weekly Results**  
**Wynn Casino and Resort Site**  
**Everett, Massachusetts**

**Perimeter Air Monitoring Station - STA 5**  
15-minute average concentrations



**Weekly**  
**Data Summary Statistics**

TVOC Avg = 0.04  
PM-10 Avg = 19.16

**Daily**  
**Data Summary Statistics**

TVOC max = (15Min Avg)  
11/2/2015 0.26  
11/3/2015 0.19  
11/4/2015 0.24  
11/5/2015 0.12  
11/6/2015 0.10  
11/7/2015 0.22  
11/8/2015 0.17  
PM10 max= (15Min Avg)  
11/2/2015 50.44  
11/3/2015 29.92  
11/4/2015 61.17  
11/5/2015 52.51  
11/6/2015 46.59  
11/7/2015 48.70  
11/8/2015 22.03

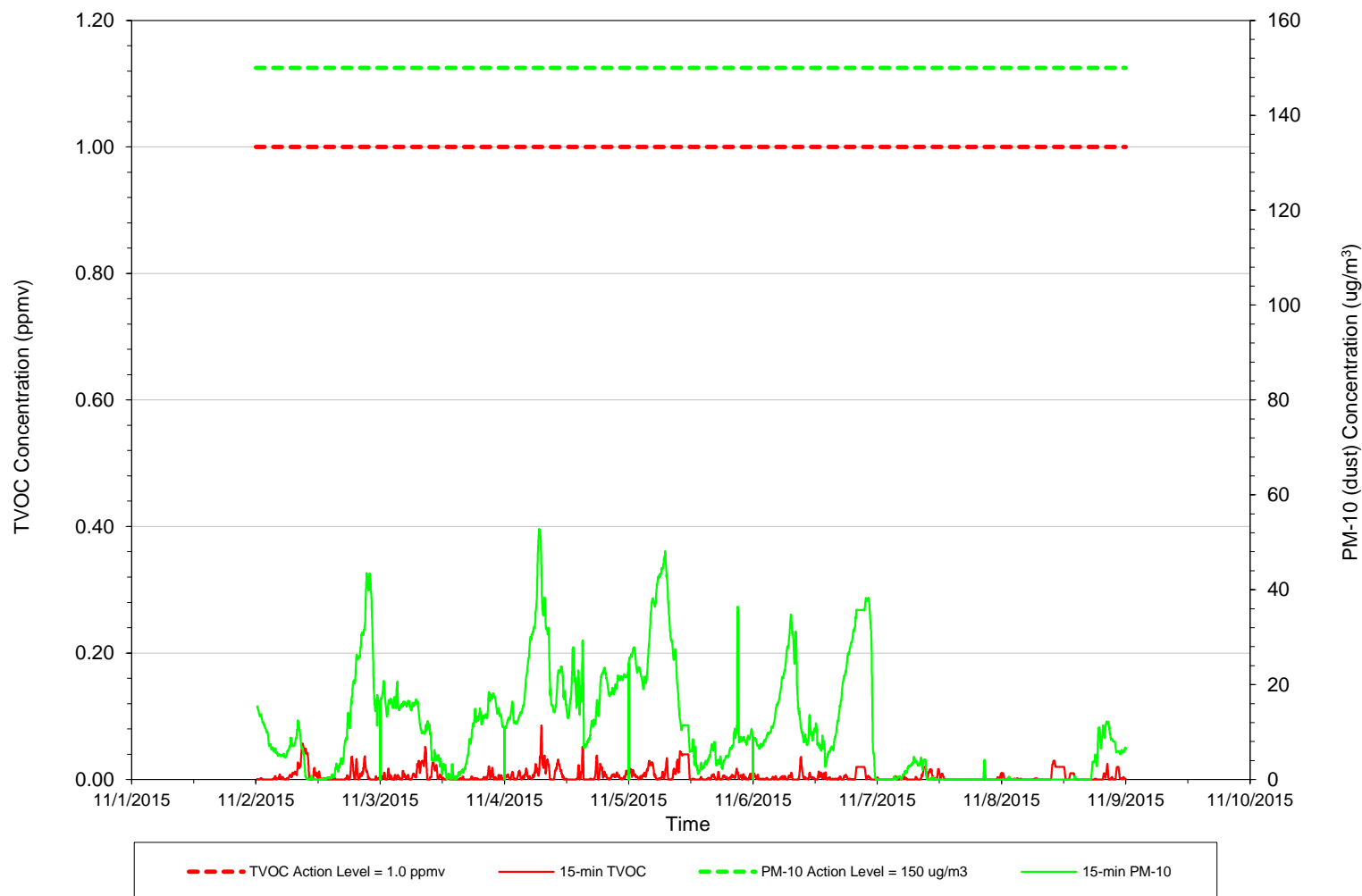
**Wind Summary Statistics**

CALM	0%
UW	10%
UW/CW	0%
CW	0%
CW/DW	0%
DW	3%
DW/CW	0%
CW/UW	87%
<b>TOTAL</b>	<b>100%</b>

Nov 2, 2015

**AirLogics Perimeter Air Monitoring System - Weekly Results**  
**Wynn Casino and Resort Site**  
**Everett, Massachusetts**

**Perimeter Air Monitoring Station - STA 6**  
 15-minute average concentrations



**Weekly**  
**Data Summary Statistics**

TVOC Avg = 0.01  
 PM-10 Avg = 11.15

**Daily**  
**Data Summary Statistics**

TVOC max = (15Min Avg)	
11/2/2015	0.06
11/3/2015	0.05
11/4/2015	0.08
11/5/2015	0.04
11/6/2015	0.04
11/7/2015	0.02
11/8/2015	0.03
PM10 max= (15Min Avg)	
11/2/2015	43.52
11/3/2015	20.79
11/4/2015	52.82
11/5/2015	48.13
11/6/2015	38.27
11/7/2015	4.76
11/8/2015	12.21

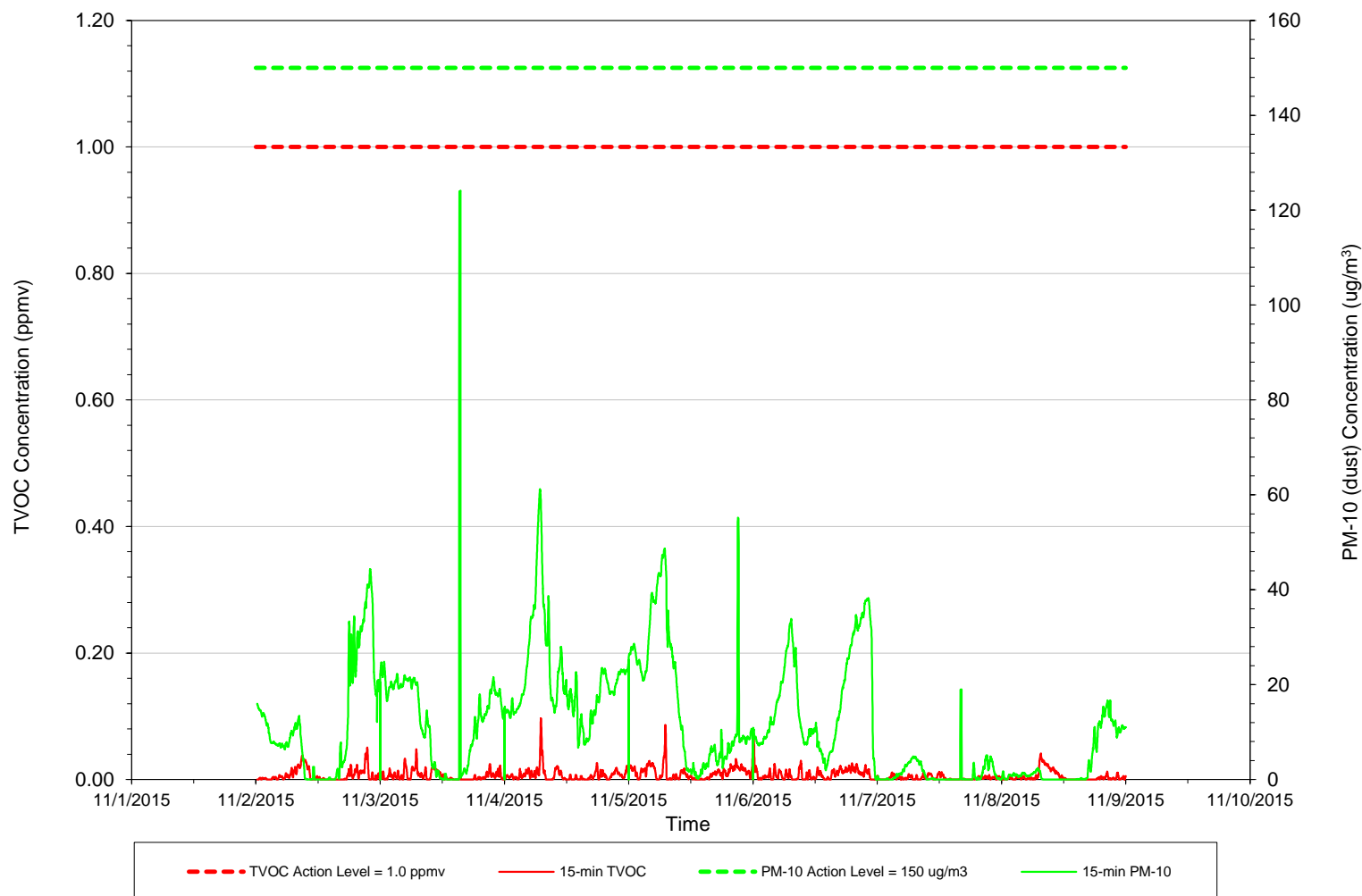
**Wind Summary Statistics**

CALM	0%
UW	0%
UW/CW	0%
CW	11%
CW/DW	0%
DW	4%
DW/CW	0%
CW/UW	84%
<b>TOTAL</b>	<b>100%</b>

Nov 2, 2015

**AirLogics Perimeter Air Monitoring System - Weekly Results**  
**Wynn Casino and Resort Site**  
**Everett, Massachusetts**

**Perimeter Air Monitoring Station - STA 7**  
 15-minute average concentrations



**Weekly**  
**Data Summary Statistics**

TVOC Avg = 0.01  
 PM-10 Avg = 12.05

**Daily**  
**Data Summary Statistics**

TVOC max = (15Min Avg)  
 11/2/2015 0.05  
 11/3/2015 0.05  
 11/4/2015 0.10  
 11/5/2015 0.09  
 11/6/2015 0.07  
 11/7/2015 0.01  
 11/8/2015 0.04  
 PM10 max= (15Min Avg)  
 11/2/2015 44.35  
 11/3/2015 124.10  
 11/4/2015 61.19  
 11/5/2015 55.22  
 11/6/2015 38.19  
 11/7/2015 18.96  
 11/8/2015 16.71

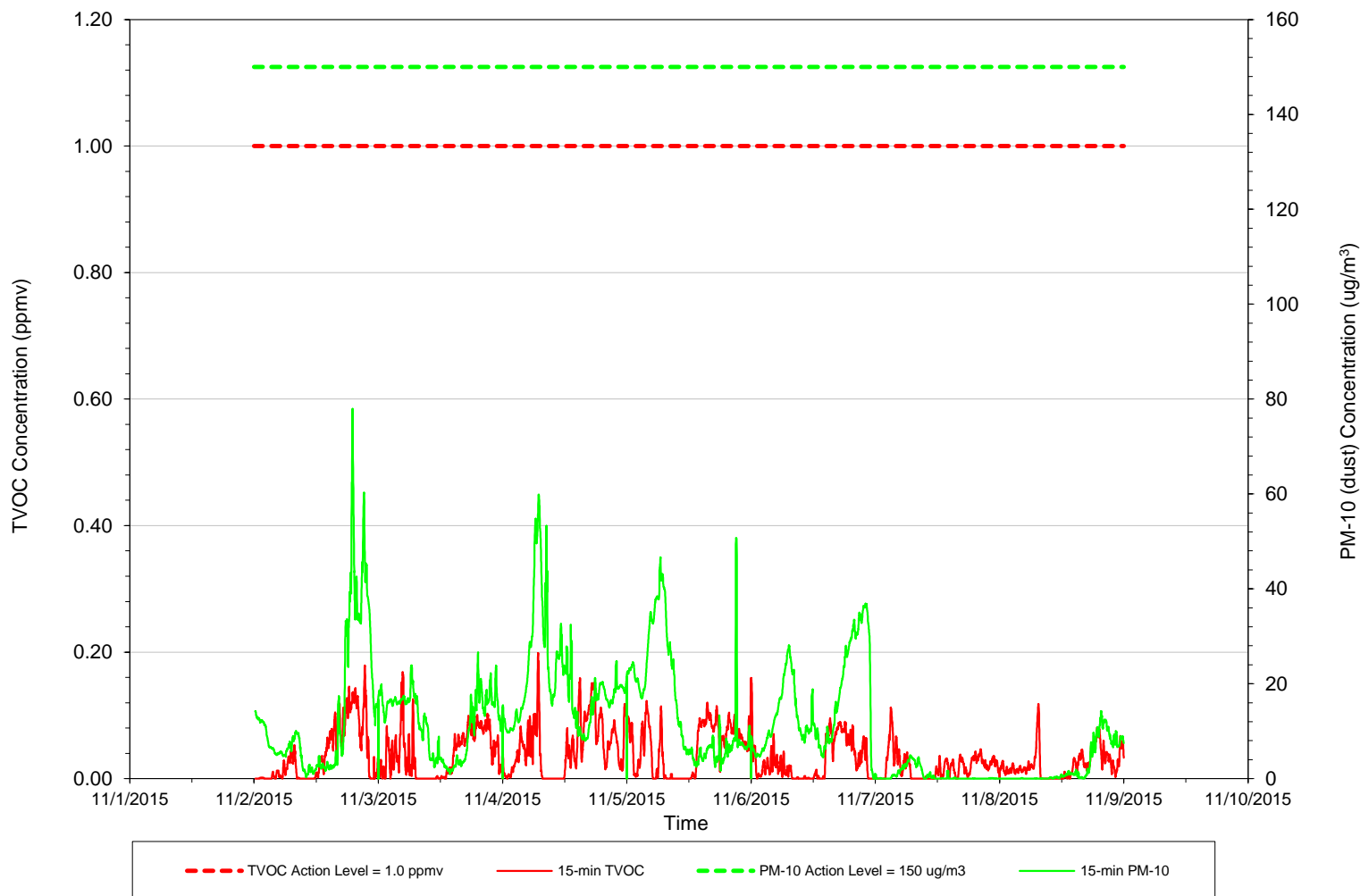
**Wind Summary Statistics**

CALM	0%
UW	3%
UW/CW	0%
CW	0%
CW/DW	0%
DW	10%
DW/CW	7%
CW/UW	80%
<b>TOTAL</b>	<b>100%</b>

Nov 2, 2015

**AirLogics Perimeter Air Monitoring System - Weekly Results**  
**Wynn Casino and Resort Site**  
**Everett, Massachusetts**

**Perimeter Air Monitoring Station - STA 8**  
 15-minute average concentrations



**Weekly**  
**Data Summary Statistics**

TVOC Avg = 0.04  
 PM-10 Avg = 11.58

**Daily**  
**Data Summary Statistics**

TVOC max = (15Min Avg)  
 11/2/2015 0.18  
 11/3/2015 0.17  
 11/4/2015 0.20  
 11/5/2015 0.16  
 11/6/2015 0.16  
 11/7/2015 0.11  
 11/8/2015 0.12  
 PM10 max= (15Min Avg)  
 11/2/2015 77.98  
 11/3/2015 26.62  
 11/4/2015 59.89  
 11/5/2015 50.76  
 11/6/2015 36.85  
 11/7/2015 4.96  
 11/8/2015 14.23

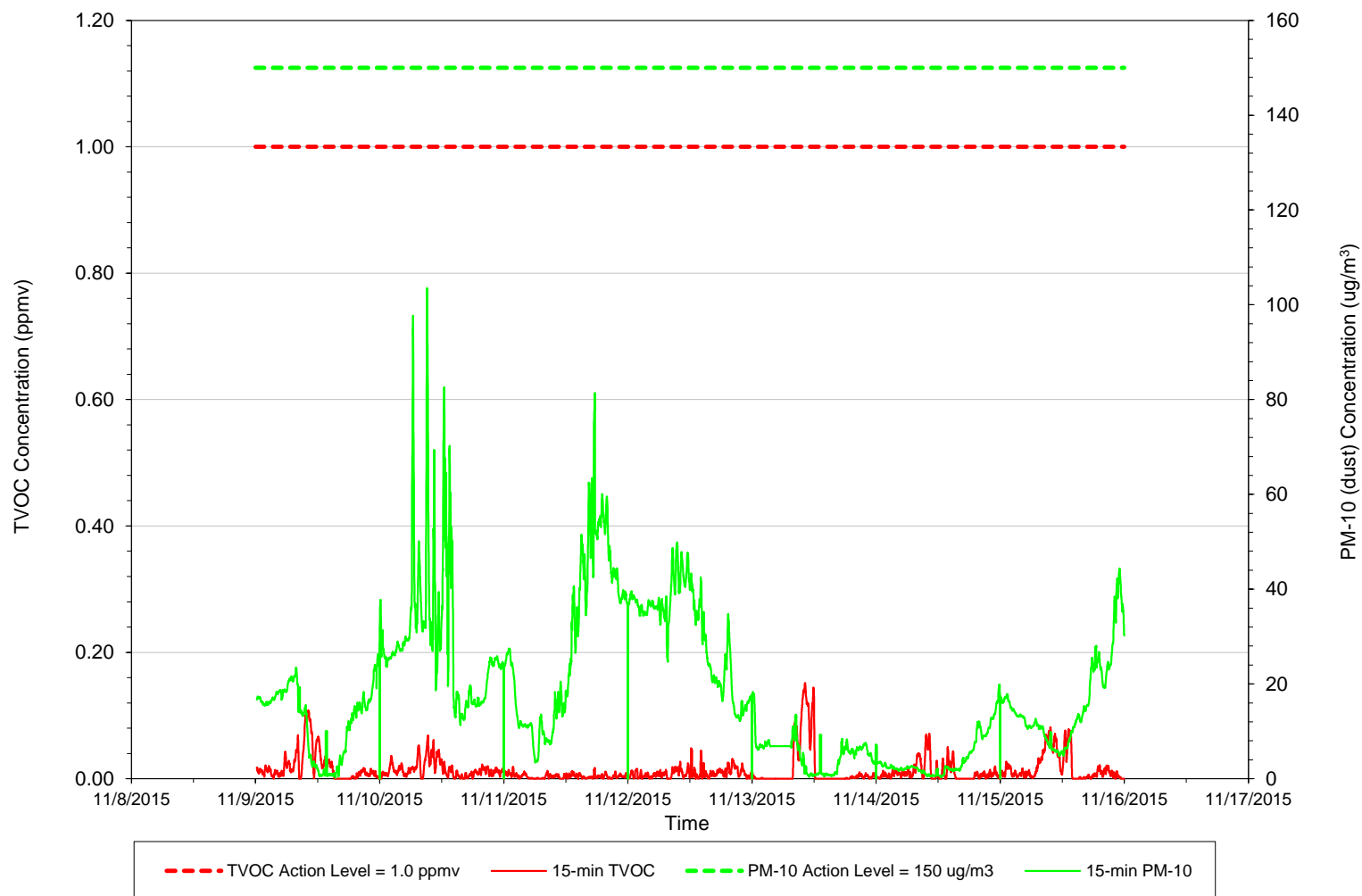
**Wind Summary Statistics**

CALM	0%
UW	3%
UW/CW	0%
CW	0%
CW/DW	0%
DW	10%
DW/CW	7%
CW/UW	80%
<b>TOTAL</b>	<b>100%</b>

Nov 9, 2015

AirLogics Perimeter Air Monitoring System - Weekly Results  
Wynn Casino and Resort Site  
Everett, Massachusetts

Perimeter Air Monitoring Station - STA 1  
15-minute average concentrations



Weekly  
Data Summary Statistics

TVOC Avg = 0.01  
PM-10 Avg = 18.21

Daily  
Data Summary Statistics

TVOC max = (15Min Avg)  
11/9/2015 0.11  
11/10/2015 0.07  
11/11/2015 0.02  
11/12/2015 0.05  
11/13/2015 0.15  
11/14/2015 0.07  
11/15/2015 0.08  
PM10 max= (15Min Avg)  
11/9/2015 28.55  
11/10/2015 103.54  
11/11/2015 81.39  
11/12/2015 49.87  
11/13/2015 18.34  
11/14/2015 19.87  
11/15/2015 44.36

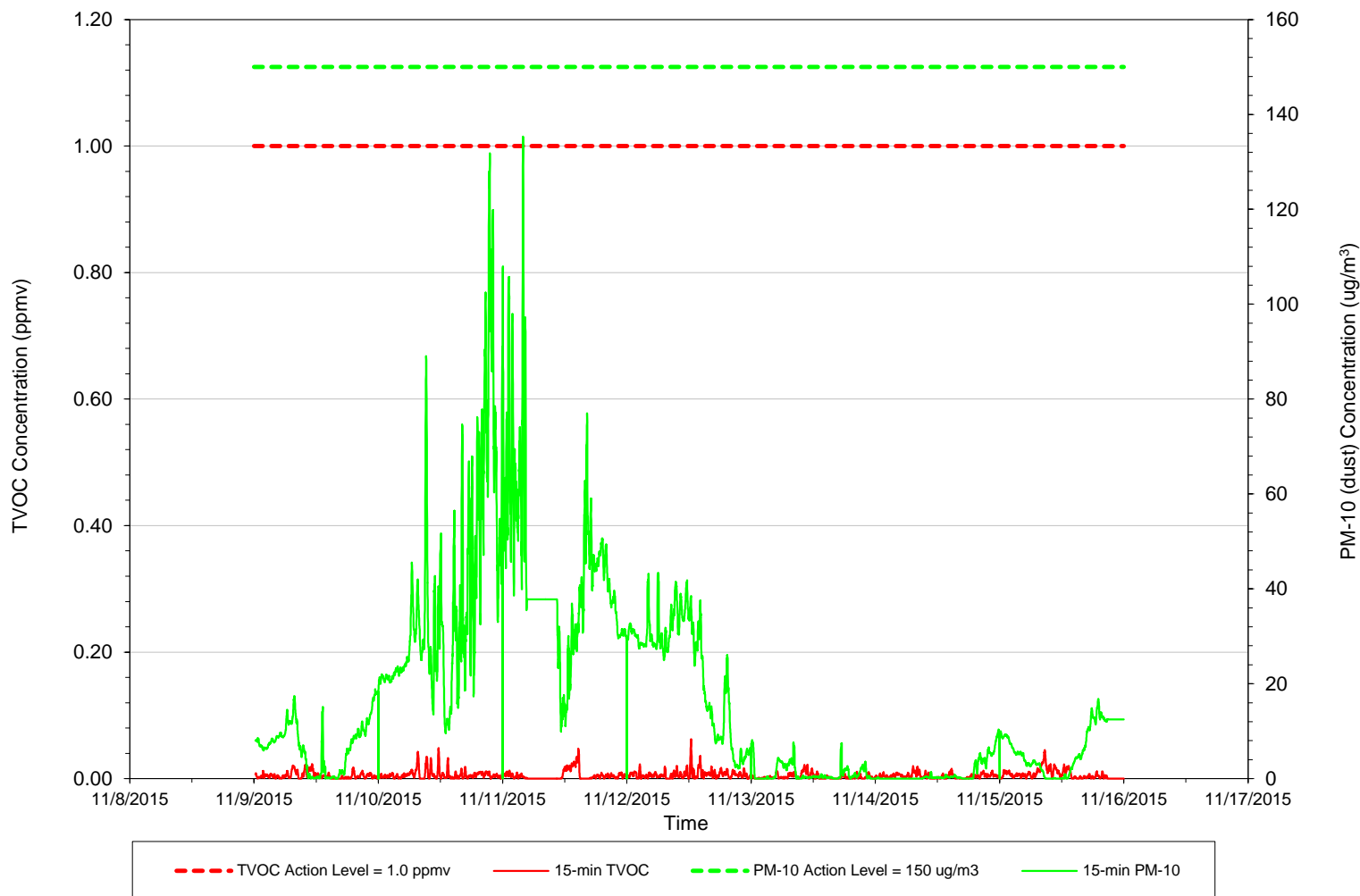
Wind Summary Statistics

CALM	0%
UW	28%
UW/CW	0%
CW	62%
CW/DW	1%
DW	5%
DW/CW	3%
CW/UW	1%
<b>TOTAL</b>	<b>100%</b>

Nov 9, 2015

**AirLogics Perimeter Air Monitoring System - Weekly Results**  
**Wynn Casino and Resort Site**  
**Everett, Massachusetts**

**Perimeter Air Monitoring Station - STA 2**  
 15-minute average concentrations



**Weekly**  
**Data Summary Statistics**

TVOC Avg = 0.01  
 PM-10 Avg = 17.13

**Daily**  
**Data Summary Statistics**

TVOC max = (15Min Avg)	
11/9/2015	0.02
11/10/2015	0.05
11/11/2015	0.05
11/12/2015	0.06
11/13/2015	0.02
11/14/2015	0.02
11/15/2015	0.05
PM10 max= (15Min Avg)	
11/9/2015	18.85
11/10/2015	131.79
11/11/2015	135.32
11/12/2015	43.37
11/13/2015	8.14
11/14/2015	10.38
11/15/2015	16.74

**Wind Summary Statistics**

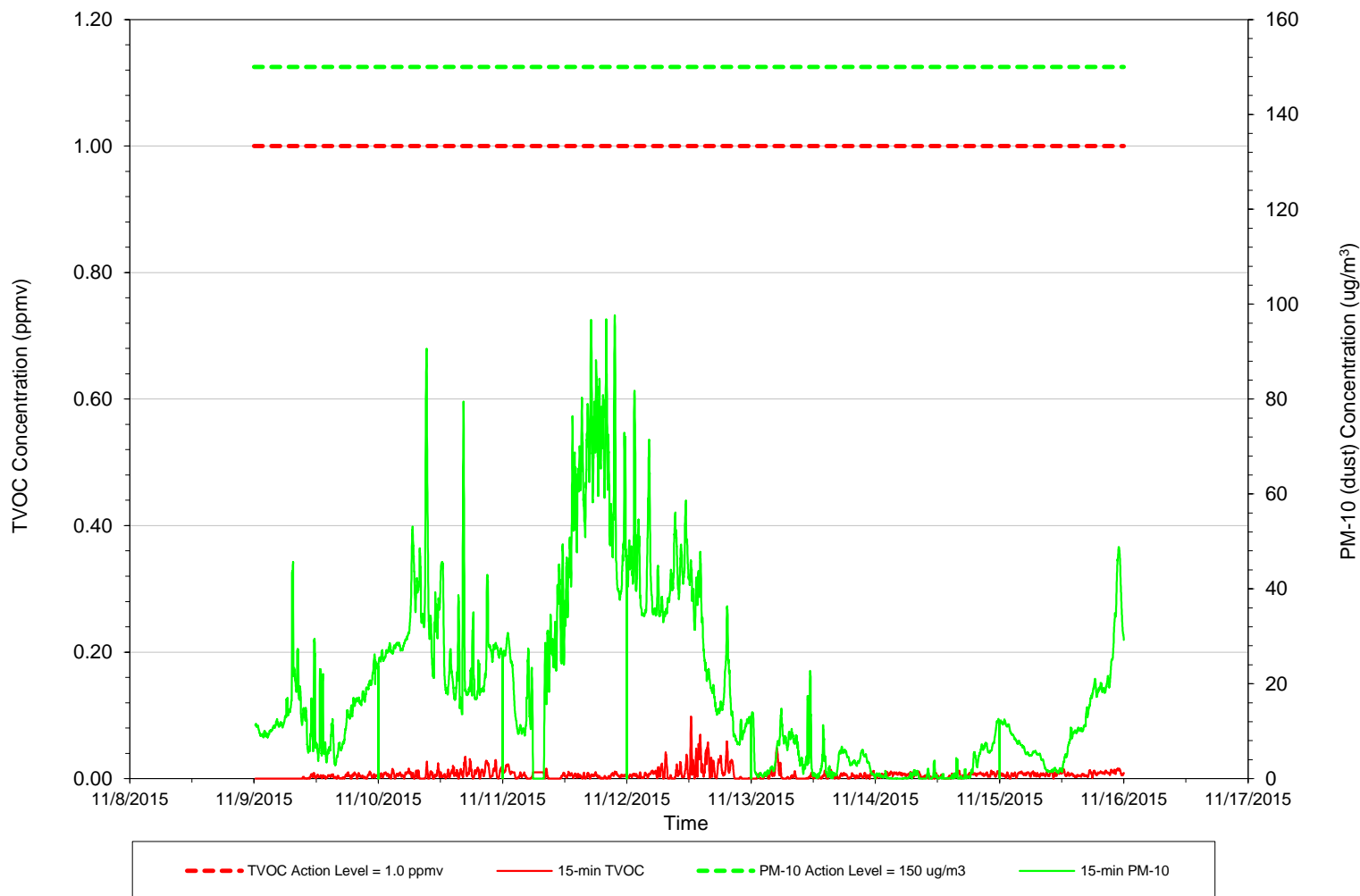
CALM	0%
UW	27%
UW/CW	0%
CW	0%
CW/DW	0%
DW	65%
DW/CW	2%
CW/UW	6%
<b>TOTAL</b>	<b>100%</b>



Nov 9, 2015

AirLogics Perimeter Air Monitoring System - Weekly Results  
Wynn Casino and Resort Site  
Everett, Massachusetts

Perimeter Air Monitoring Station - STA 3  
15-minute average concentrations



Weekly  
Data Summary Statistics

TVOC Avg = 0.01  
PM-10 Avg = 19.02

Daily  
Data Summary Statistics

TVOC max = (15Min Avg)  
11/9/2015 0.01  
11/10/2015 0.03  
11/11/2015 0.02  
11/12/2015 0.10  
11/13/2015 0.05  
11/14/2015 0.01  
11/15/2015 0.02  
PM10 max= (15Min Avg)  
11/9/2015 45.66  
11/10/2015 90.65  
11/11/2015 97.61  
11/12/2015 81.78  
11/13/2015 22.72  
11/14/2015 12.60  
11/15/2015 48.84

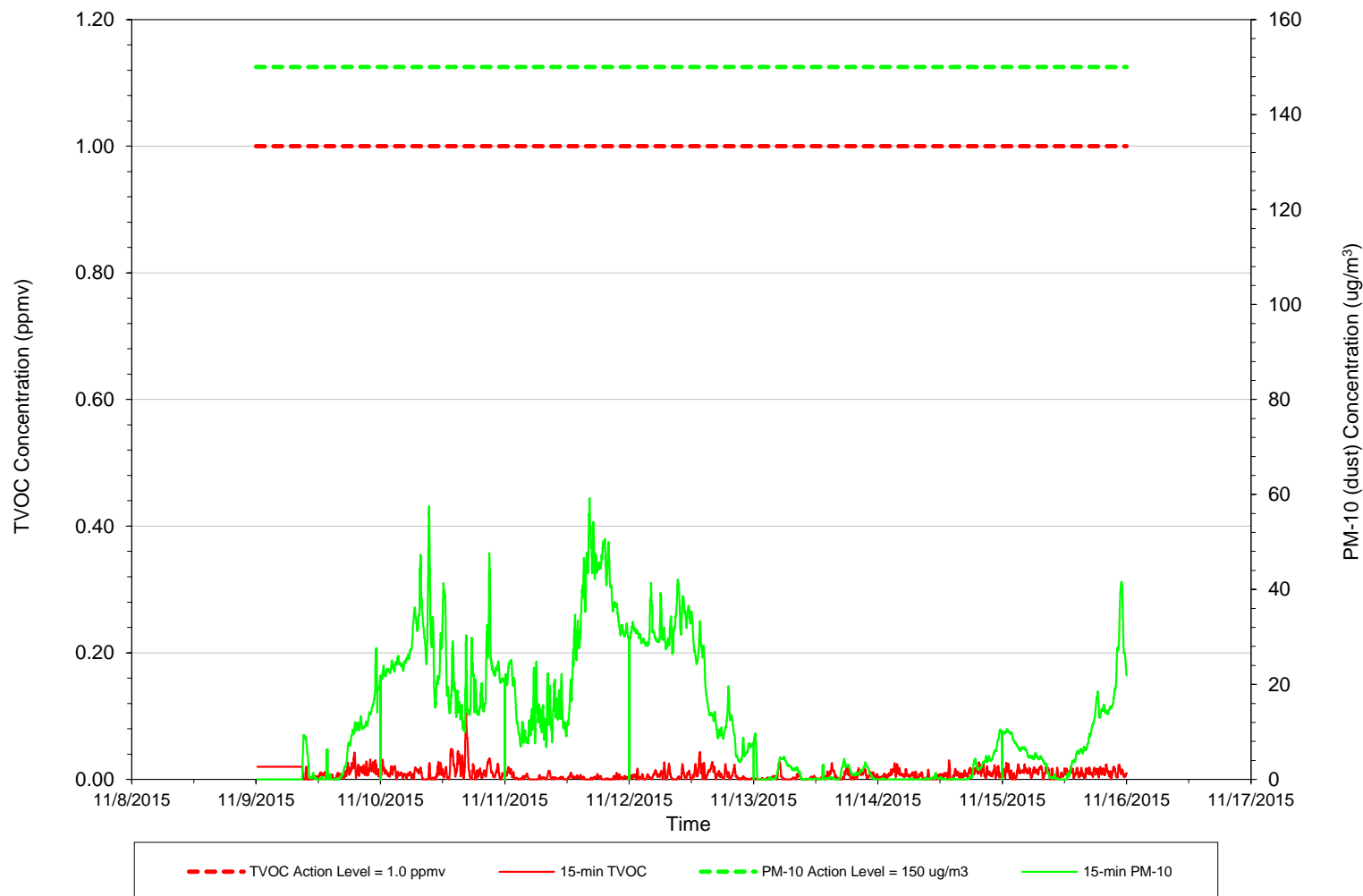
Wind Summary Statistics

CALM 0%  
UW 13%  
UW/CW 0%  
CW 4%  
CW/DW 1%  
DW 79%  
DW/CW 2%  
CW/UW 0%  
TOTAL 100%

Nov 9, 2015

**AirLogics Perimeter Air Monitoring System - Weekly Results**  
**Wynn Casino and Resort Site**  
**Everett, Massachusetts**

**Perimeter Air Monitoring Station - STA 4**  
15-minute average concentrations



**Weekly**  
**Data Summary Statistics**

TVOC Avg = 0.01  
PM-10 Avg = 12.70

**Daily**  
**Data Summary Statistics**

TVOC max = (15Min Avg)  
11/9/2015 0.04  
11/10/2015 0.11  
11/11/2015 0.02  
11/12/2015 0.04  
11/13/2015 0.03  
11/14/2015 0.03  
11/15/2015 0.03  
PM10 max= (15Min Avg)  
11/9/2015 27.69  
11/10/2015 57.50  
11/11/2015 59.23  
11/12/2015 42.13  
11/13/2015 9.65  
11/14/2015 10.41  
11/15/2015 41.63

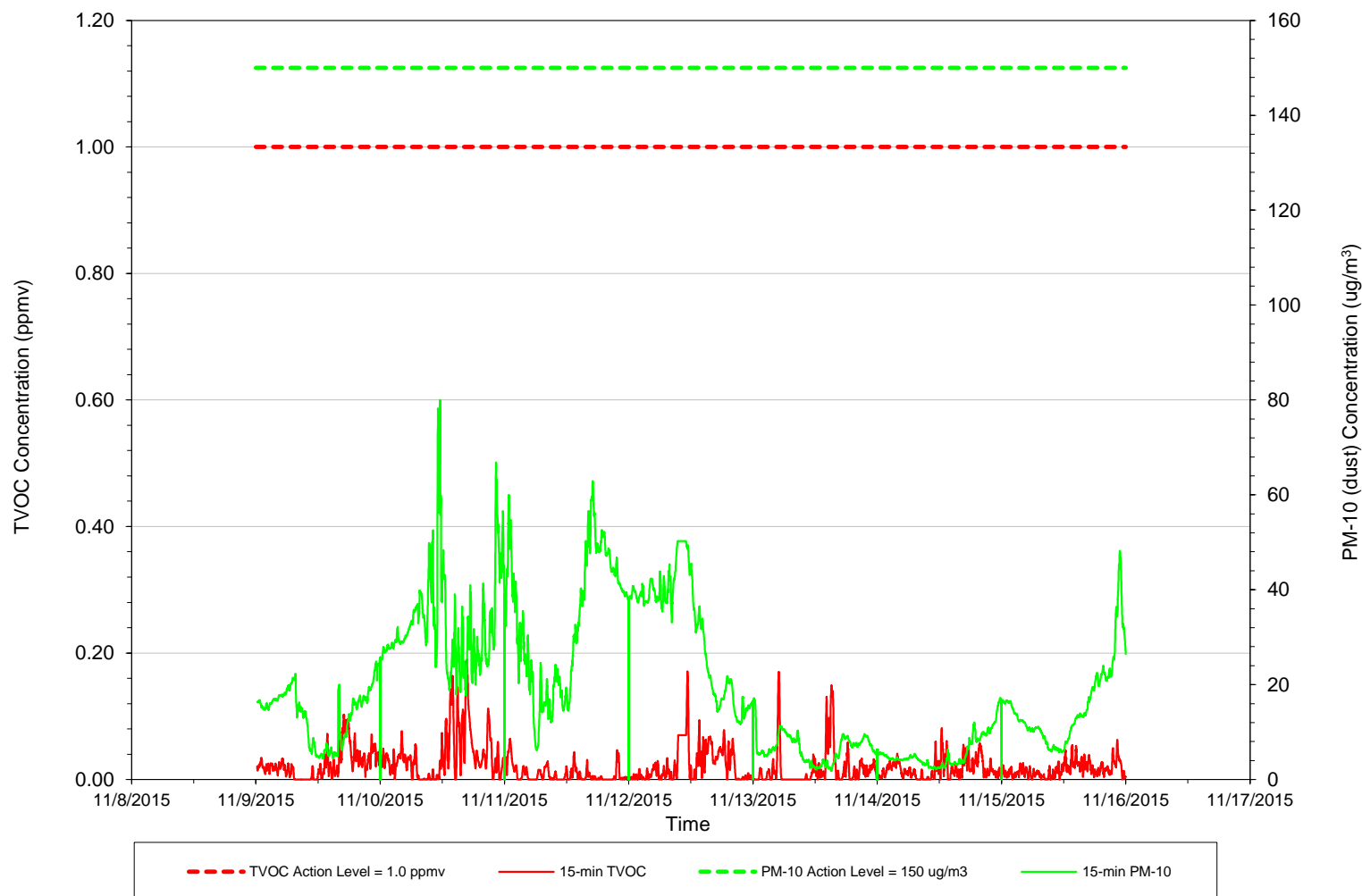
**Wind Summary Statistics**

CALM	0%
UW	24%
UW/CW	0%
CW	0%
CW/DW	0%
DW	21%
DW/CW	0%
CW/UW	55%
<b>TOTAL</b>	<b>100%</b>

Nov 9, 2015

**AirLogics Perimeter Air Monitoring System - Weekly Results**  
**Wynn Casino and Resort Site**  
**Everett, Massachusetts**

**Perimeter Air Monitoring Station - STA 5**  
 15-minute average concentrations



**Weekly**  
**Data Summary Statistics**

TVOC Avg = 0.02  
 PM-10 Avg = 19.88

**Daily**  
**Data Summary Statistics**

TVOC max = (15Min Avg)  
 11/9/2015 0.10  
 11/10/2015 0.19  
 11/11/2015 0.06  
 11/12/2015 0.17  
 11/13/2015 0.17  
 11/14/2015 0.08  
 11/15/2015 0.06  
 PM10 max= (15Min Avg)  
 11/9/2015 25.53  
 11/10/2015 80.02  
 11/11/2015 62.91  
 11/12/2015 50.27  
 11/13/2015 17.20  
 11/14/2015 17.19  
 11/15/2015 48.23

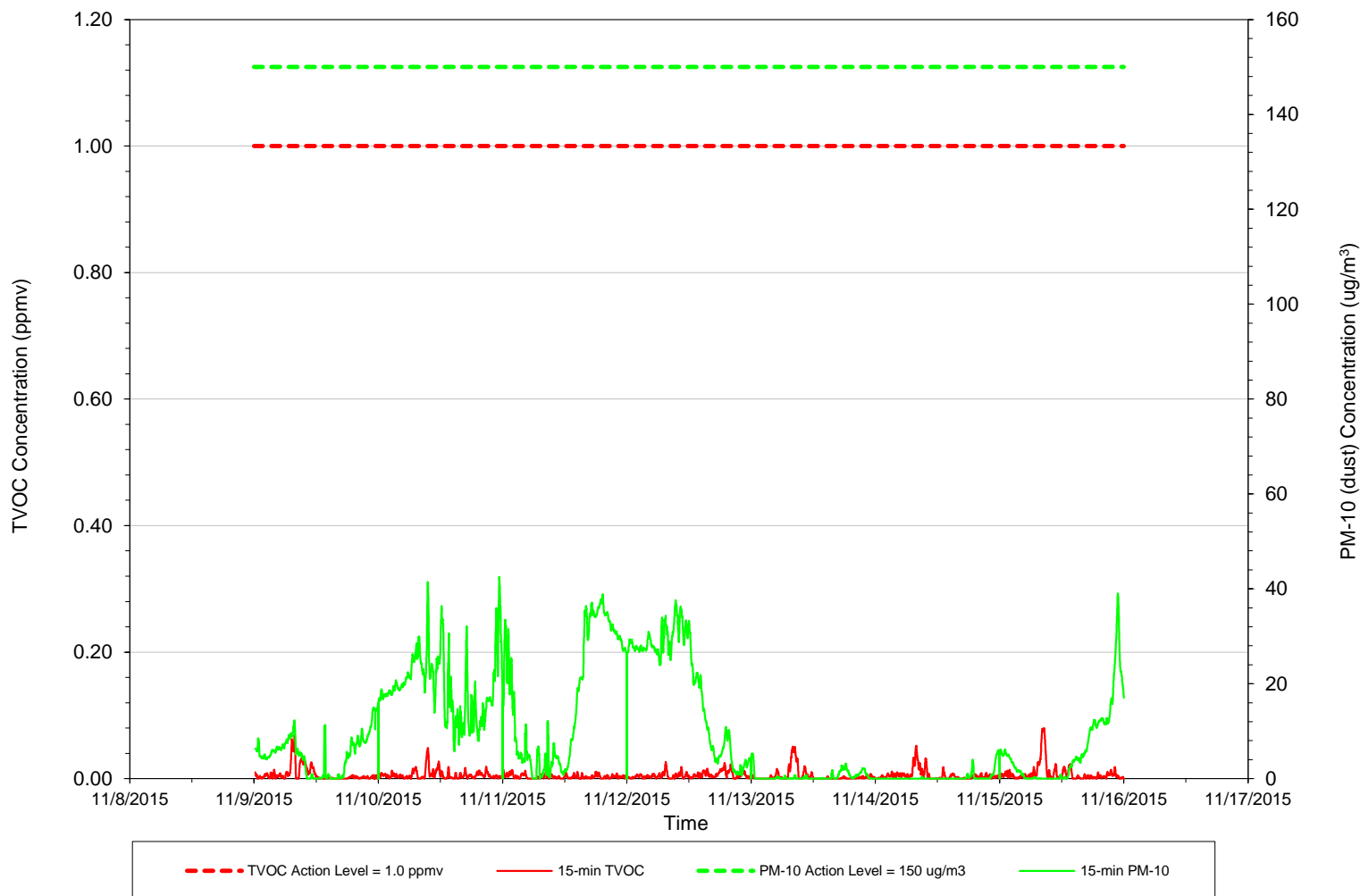
**Wind Summary Statistics**

CALM	0%
UW	17%
UW/CW	0%
CW	0%
CW/DW	0%
DW	16%
DW/CW	0%
CW/UW	67%
<b>TOTAL</b>	<b>100%</b>

Nov 9, 2015

**AirLogics Perimeter Air Monitoring System - Weekly Results**  
**Wynn Casino and Resort Site**  
**Everett, Massachusetts**

**Perimeter Air Monitoring Station - STA 6**  
15-minute average concentrations



**Weekly**  
**Data Summary Statistics**

TVOC Avg = 0.01  
PM-10 Avg = 9.69

**Daily**  
**Data Summary Statistics**

TVOC max = (15Min Avg)  
11/9/2015 0.07  
11/10/2015 0.05  
11/11/2015 0.01  
11/12/2015 0.03  
11/13/2015 0.05  
11/14/2015 0.05  
11/15/2015 0.08  
PM10 max= (15Min Avg)  
11/9/2015 15.84  
11/10/2015 42.50  
11/11/2015 38.79  
11/12/2015 37.56  
11/13/2015 5.31  
11/14/2015 6.05  
11/15/2015 39.03

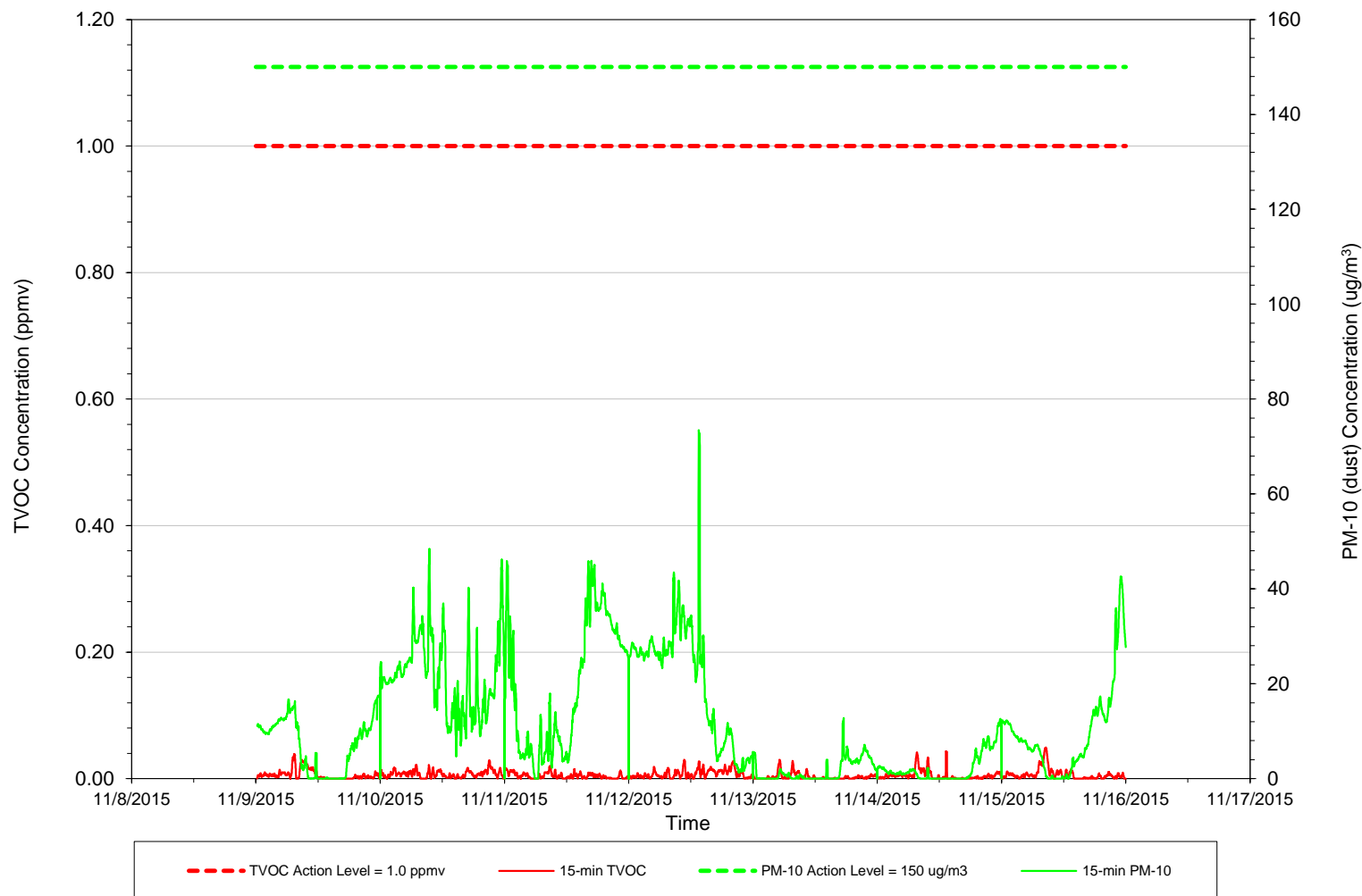
**Wind Summary Statistics**

CALM	0%
UW	0%
UW/CW	0%
CW	22%
CW/DW	2%
DW	10%
DW/CW	0%
CW/UW	66%
<b>TOTAL</b>	<b>100%</b>

Nov 9, 2015

**AirLogics Perimeter Air Monitoring System - Weekly Results**  
**Wynn Casino and Resort Site**  
**Everett, Massachusetts**

**Perimeter Air Monitoring Station - STA 7**  
15-minute average concentrations



**Weekly**  
**Data Summary Statistics**

TVOC Avg = 0.01  
PM-10 Avg = 11.79

**Daily**  
**Data Summary Statistics**

TVOC max = (15Min Avg)  
11/9/2015 0.04  
11/10/2015 0.03  
11/11/2015 0.02  
11/12/2015 0.03  
11/13/2015 0.03  
11/14/2015 0.04  
11/15/2015 0.05  
PM10 max= (15Min Avg)  
11/9/2015 21.28  
11/10/2015 48.43  
11/11/2015 45.90  
11/12/2015 73.47  
11/13/2015 12.78  
11/14/2015 12.59  
11/15/2015 42.63

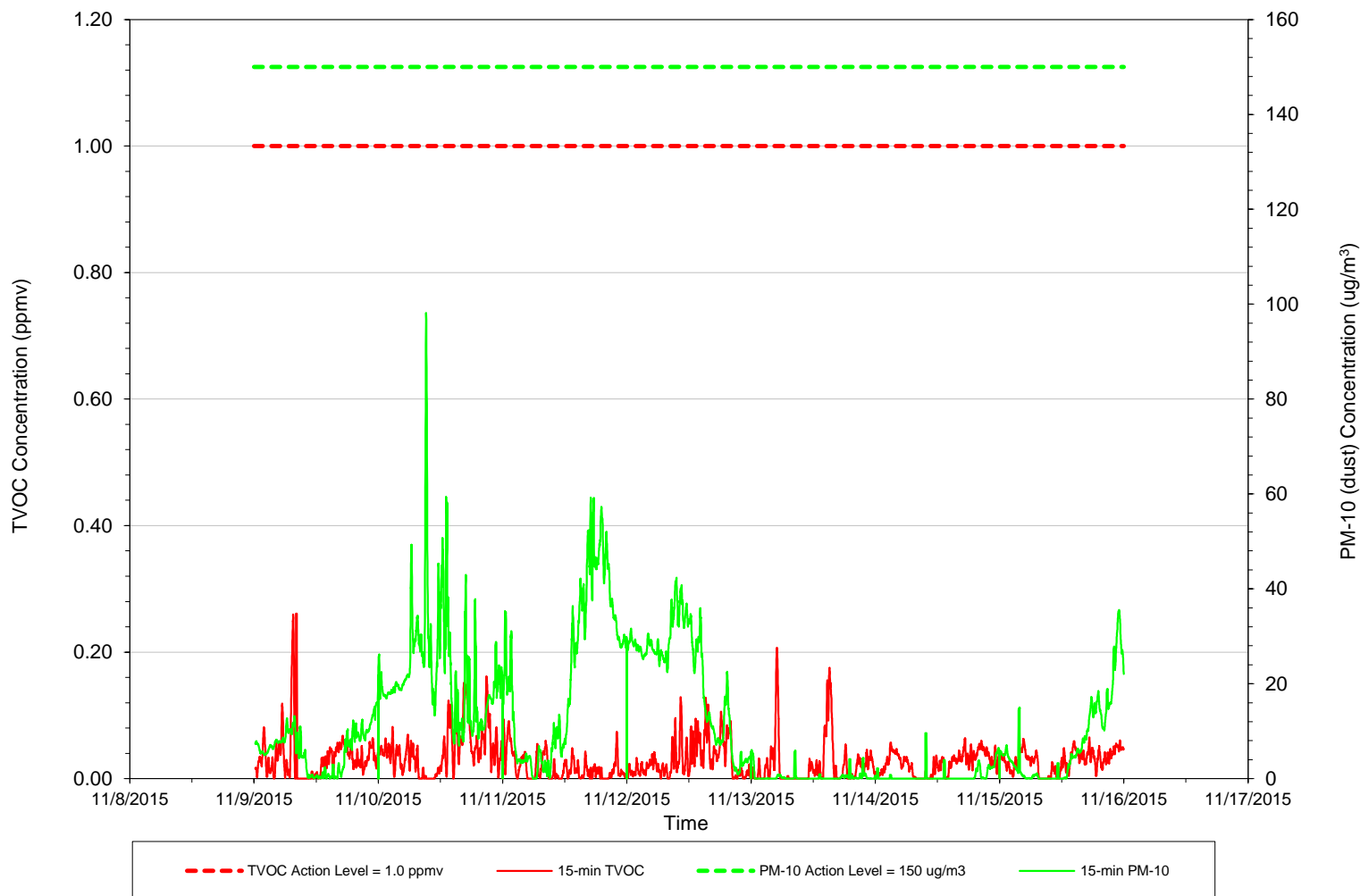
**Wind Summary Statistics**

CALM	0%
UW	14%
UW/CW	0%
CW	0%
CW/DW	2%
DW	17%
DW/CW	2%
CW/UW	65%
<b>TOTAL</b>	<b>100%</b>

Nov 9, 2015

**AirLogics Perimeter Air Monitoring System - Weekly Results**  
**Wynn Casino and Resort Site**  
**Everett, Massachusetts**

**Perimeter Air Monitoring Station - STA 8**  
 15-minute average concentrations



**Weekly**  
**Data Summary Statistics**

TVOC Avg = 0.03  
 PM-10 Avg = 11.53

**Daily**  
**Data Summary Statistics**

TVOC max = (15Min Avg)  
 11/9/2015 0.26  
 11/10/2015 0.16  
 11/11/2015 0.09  
 11/12/2015 0.13  
 11/13/2015 0.21  
 11/14/2015 0.06  
 11/15/2015 0.07  
 PM10 max= (15Min Avg)  
 11/9/2015 21.81  
 11/10/2015 98.13  
 11/11/2015 59.16  
 11/12/2015 42.39  
 11/13/2015 6.03  
 11/14/2015 9.56  
 11/15/2015 35.54

**Wind Summary Statistics**

CALM	0%
UW	14%
UW/CW	0%
CW	0%
CW/DW	2%
DW	17%
DW/CW	2%
CW/UW	65%
<b>TOTAL</b>	<b>100%</b>

**AirLogics Air Monitoring Systems**  
**Daily Field Report**  
**Wynn Site - Everett, MA**

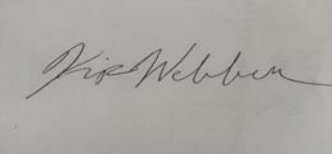
System Operations			General Observations							
Sampling Date	11/2/2015	<div style="border-bottom: 1px solid black; padding-bottom: 5px;">General Weather Conditions</div> <div style="border-bottom: 1px solid black; padding-bottom: 5px;">▪ Partly sunny</div> <div style="border-bottom: 1px solid black; padding-bottom: 5px;">▪ 40s-60s</div> <div style="border-bottom: 1px solid black; padding-bottom: 5px;">▪ Light winds</div> <div style="border-bottom: 1px solid black; padding-bottom: 5px;">General Description of Site Activities</div> <div style="border-bottom: 1px solid black; padding-bottom: 5px;">▪ General site preparation</div> <div style="border-bottom: 1px solid black; padding-bottom: 5px;">▪ Excavation of decontamination area</div> <div style="border-bottom: 1px solid black; padding-bottom: 5px;"> </div> <div style="border-bottom: 1px solid black; padding-bottom: 5px;"> </div>								
System Start Time	cont.									
System Stop Time	cont.									
Total Hours Monitored	24									
System Calibrations (Time/Status)	All systems calibrated 0700-0830									
System Alarm Log										
Alarm Level	Time	Station No.	Alarm	Location	[TVOC/Dust] 15-min. avg.	[TVOC/Dust] 15-min avg conc. range	Total # of Alarms	Comments/ Observations	Site Person/Time Notified	
								No Alerts/Alarms		
Notes:										
<b>Day Totals: Air Mon. Use Only</b>										
TVOC Action limit> 1.0 (15-min avg.) --					0		Dust Action limit> 150 (15-min avg.) --			0
TVOC Alert limit> 0.75 (15-min avg.) --					0		Dust Alert limit> 113 (15-min avg.) --			0

Key:

G - Green	P - Particulate	[TVOC] - Total VOC Conc. [ppm]
Y - Yellow	U - Upwind	[Dust] - Particulate [ug/m3]
R - Red	C - Crosswind	cont. - continuous monitoring
V - VOC	D - Downwind	

Field Representative: Kip Webber

Signed:



Date: 11/2/2015

**AirLogics Air Monitoring Systems**  
**Daily Field Report**  
**Wynn Site - Everett, MA**

[illegible]

Key:

G - Green  
Y - Yellow  
R - Red  
V - VOC

P - Particulate  
U - Upwind  
C - Crosswind  
D - Downwind

[TVOC] - Total VOC Conc. [ppm]  
[Dust] - Particulate [ug/m3]  
cont. - continuous monitoring

Field Representative: Kip Webber

Signed:

*Joe Webber*

Date: 11/3/2015



**AirLogics Air Monitoring Systems**  
**Daily Field Report**  
**Wynn Site - Everett, MA**

[illegible]

Key:

G - Green  
Y - Yellow  
R - Red  
V - VOC

P - Particulate  
U - Upwind  
C - Crosswind  
D - Downwind

[TVOC] - Total VOC Conc. [ppm]  
[Dust] - Particulate [ug/m3]  
cont. - continuous monitoring

Field Representative: Kip Webber

Signed:

*Kirk Webber*

Date: 11/4/2015

**AirLogics Air Monitoring Systems**  
**Daily Field Report**  
**Wynn Site - Everett, MA**

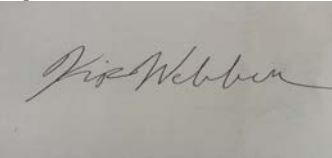
System Operations			General Observations							
Sampling Date	11/5/2015		<div style="border-bottom: 1px solid black; padding-bottom: 5px;">General Weather Conditions</div> <div style="border-bottom: 1px solid black; padding-bottom: 5px;">▪ Sunny</div> <div style="border-bottom: 1px solid black; padding-bottom: 5px;">▪ 60s</div> <div style="border-bottom: 1px solid black; padding-bottom: 5px;">▪ Light winds</div> <div style="border-bottom: 1px solid black; padding-bottom: 5px;">General Description of Site Activities</div> <div style="border-bottom: 1px solid black; padding-bottom: 5px;">▪ Pre-trenching activities within CES-2 area</div> <div style="border-bottom: 1px solid black; padding-bottom: 5px;">▪ Constuction of material management area (MMA)</div> <div style="border-bottom: 1px solid black; padding-bottom: 5px;"> </div> <div style="border-bottom: 1px solid black; padding-bottom: 5px;"> </div>							
System Start Time	cont.									
System Stop Time	cont.									
Total Hours Monitored	24									
System Calibrations (Time/Status)	All systems calibrated 0900-1000									
System Alarm Log										
Alarm Level	Time	Station No.	Alarm	Location	[TVOC/Dust] 15-min. avg.	[TVOC/Dust] 15-min avg conc. range	Total # of Alarms	Comments/ Observations	Site Person/Time Notified	
								No Alerts/Alarms		
Notes:										
<b>Day Totals: Air Mon. Use Only</b>										
TVOC Action limit> 1.0 (15-min avg.) --					0		Dust Action limit> 150 (15-min avg.) --			0
TVOC Alert limit> 0.75 (15-min avg.) --					0		Dust Alert limit> 113 (15-min avg.) --			0

Key:

G - Green	P - Particulate	[TVOC] - Total VOC Conc. [ppm]
Y - Yellow	U - Upwind	[Dust] - Particulate [ug/m3]
R - Red	C - Crosswind	cont. - continuous monitoring
V - VOC	D - Downwind	

Field Representative: Kip Webber

Signed:



Date: 11/5/2015

**AirLogics Air Monitoring Systems**  
**Daily Field Report**  
**Wynn Site - Everett, MA**

[illegible]

Key:

G - Green  
Y - Yellow  
R - Red  
V - VOC

P - Particulate  
U - Upwind  
C - Crosswind  
D - Downwind

[TVOC] - Total VOC Conc. [ppm]  
[Dust] - Particulate [ug/m3]  
cont. - continuous monitoring

Field Representative: Kip Webber

Signed:

*Joe Webber*

Date: 11/6/2015

**AirLogics Air Monitoring Systems**  
**Daily Field Report**  
**Wynn Site - Everett, MA**

[illegible]

Key:

G - Green  
Y - Yellow  
R - Red  
V - VOC

P - Particulate  
U - Upwind  
C - Crosswind  
D - Downwind

[TVOC] - Total VOC Conc. [ppm]  
[Dust] - Particulate [ug/m3]  
cont. - continuous monitoring

Field Representative: Kip Webber

Signed:

*Joe Webber*

Date: 11/7/2015

**AirLogics Air Monitoring Systems**  
**Daily Field Report**  
**Wynn Site - Everett, MA**

[illegible]

Key:

G - Green  
Y - Yellow  
R - Red  
V - VOC

P - Particulate  
U - Upwind  
C - Crosswind  
D - Downwind

[TVOC] - Total VOC Conc. [ppm]  
[Dust] - Particulate [ug/m3]  
cont. - continuous monitoring

Field Representative: Kip Webber

Signed:

*Joe Webber*

Date: 11/8/2015

**AirLogics Air Monitoring Systems**  
**Daily Field Report**  
**Wynn Site - Everett, MA**

[illegible]

Key:

G - Green  
Y - Yellow  
R - Red  
V - VOC

P - Particulate  
U - Upwind  
C - Crosswind  
D - Downwind

[TVOC] - Total VOC Conc. [ppm]  
[Dust] - Particulate [ug/m3]  
cont. - continuous monitoring

Field Representative: Kip Webber

Signed:

*Pipe Webber*

Date: 11/9/2015

**AirLogics Air Monitoring Systems**  
**Daily Field Report**  
**Wynn Site - Everett, MA**

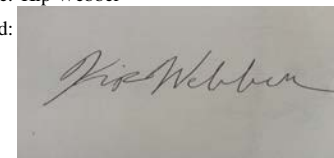
System Operations				General Observations						
Sampling Date <u>11/10/2015</u> System Start Time <u>cont.</u> System Stop Time <u>cont.</u>  Total Hours Monitored <u>24</u>  System Calibrations <u>All systems calibrated</u> (Time/Status) <u>0715-0815</u>				General Weather Conditions <ul style="list-style-type: none"> <li>▪ Cloudy</li> <li>▪ 40s-50s</li> <li>▪ Light winds; rain in the afternoon</li> </ul> General Description of Site Activities <ul style="list-style-type: none"> <li>▪ Pre-trenching activities within CES-2 area</li> <li>▪ Mobilization of crane by Coastal for sheet piling in CES-2 area</li> </ul>						
System Alarm Log										
Alarm Level	Time	Station No.	Alarm	Location	[TVOC/Dust] 15-min. avg.	[TVOC/Dust] 15-min avg conc. range	Total # of Alarms	Comments/ Observations	Site Person/Time Notified	
Y	2041-2207	2	P	U		113.25-118.41	4	No active work being conducted on-site. Elevated readings due to meteorological conditions (high moisture/mist)	N/A	
Notes:										
<b>Day Totals: Air Mon. Use Only</b>										
TVOC Action limit> 1.0 (15-min avg.) --		0		Dust Action limit> 150 (15-min avg.) --		0				
TVOC Alert limit> 0.75 (15-min avg.) --		0		Dust Alert limit> 113 (15-min avg.) --		4				

Key:

G - Green	P - Particulate	[TVOC] - Total VOC Conc. [ppm]
Y - Yellow	U - Upwind	[Dust] - Particulate [ug/m3]
R - Red	C - Crosswind	cont. - continuous monitoring
V - VOC	D - Downwind	

Field Representative: Kip Webber

Signed:



Date: 11/10/2015

**AirLogics Air Monitoring Systems**  
**Daily Field Report**  
**Wynn Site - Everett, MA**

System Operations		General Observations							
Sampling Date	11/11/2015	General Weather Conditions ▪ Rainy ▪ 40s ▪ Moderate winds General Description of Site Activities ▪ Pre-trenching activities within ISS area ▪ Live taps performed on discovered utility lines to ensure they are inactive    							
System Start Time	cont.								
System Stop Time	cont.								
Total Hours Monitored	24								
System Calibrations (Time/Status)	All systems calibrated 1015-1130								
System Alarm Log									
Alarm Level	Time	Station No.	Alarm	Location	[TVOC/Dust] 15-min. avg.	[TVOC/Dust] 15-min avg conc. range	Total # of Alarms	Comments/ Observations	Site Person/Time Notified
Y	0002	2	P	U	122.07		1	No active work being conducted on-site. Elevated readings due to meteorological conditions (high moisture/mist)	N/A
Notes:									
Day Totals: Air Mon. Use Only									
TVOC Action limit> 1.0 (15-min avg.) -- 0					Dust Action limit> 150 (15-min avg.) -- 0				
TVOC Alert limit> 0.75 (15-min avg.) -- 0					Dust Alert limit> 113 (15-min avg.) -- 1				

Key:

G - Green

P - Particulate

[TVOC] - Total VOC Conc. [ppm]

Y - Yellow

U - Upwind

[Dust] - Particulate [ug/m3]

R - Red

C - Crosswind

cont. - continuous monitoring

V - VOC

D - Downwind

Field Representative: Kip Webber

Signed:

Date: 11/11/2015



**AirLogics Air Monitoring Systems**  
**Daily Field Report**  
**Wynn Site - Everett, MA**

[illegible]

Key:

G - Green  
Y - Yellow  
R - Red  
V - VOC

P - Particulate  
U - Upwind  
C - Crosswind  
D - Downwind

[TVOC] - Total VOC Conc. [ppm]  
[Dust] - Particulate [ug/m3]  
cont. - continuous monitoring

Field Representative: Kip Webber

Signed:

*Pipe Webber*

Date: 11/12/2015

**AirLogics Air Monitoring Systems**  
**Daily Field Report**  
**Wynn Site - Everett, MA**

System Operations			General Observations														
Sampling Date	11/13/2015		General Weather Conditions ▪ Partly sunny ▪ Mid 50s ▪ Moderate winds General Description of Site Activities ▪ Pre-trenching activities within ISS area ▪ Sheet piles driven within CES-2 area   														
System Start Time	cont.																
System Stop Time	cont.																
Total Hours Monitored	24																
System Calibrations (Time/Status)	All systems calibrated 0730-0910																
System Alarm Log																	
Alarm Level	Time	Station No.	Alarm	Location	[TVOC/Dust] 15-min. avg.	[TVOC/Dust] 15-min avg conc. range	Total # of Alarms	Comments/ Observations	Site Person/Time Notified								
								No Alerts/Alarms									
Notes:																	
<div> <div>Day Totals: Air Mon. Use Only</div> <table> <tr> <td>TVOC Action limit&gt; 1.0 (15-min avg.) --</td> <td>0</td> <td>Dust Action limit&gt; 150 (15-min avg.) --</td> <td>0</td> </tr> <tr> <td>TVOC Alert limit&gt; 0.75 (15-min avg.) --</td> <td>0</td> <td>Dust Alert limit&gt; 113 (15-min avg.) --</td> <td>0</td> </tr> </table> </div>										TVOC Action limit> 1.0 (15-min avg.) --	0	Dust Action limit> 150 (15-min avg.) --	0	TVOC Alert limit> 0.75 (15-min avg.) --	0	Dust Alert limit> 113 (15-min avg.) --	0
TVOC Action limit> 1.0 (15-min avg.) --	0	Dust Action limit> 150 (15-min avg.) --	0														
TVOC Alert limit> 0.75 (15-min avg.) --	0	Dust Alert limit> 113 (15-min avg.) --	0														

Key:


G - Green  
Y - Yellow  
R - Red  
V - VOC

P - Particulate  
U - Upwind  
C - Crosswind  
D - Downwind

[TVOC] - Total VOC Conc. [ppm]  
[Dust] - Particulate [ug/m3]  
cont. - continuous monitoring

Field Representative: Kip Webber

Signed:

1: 

Date: 11/13/2015

**AirLogics Air Monitoring Systems**  
**Daily Field Report**  
**Wynn Site - Everett, MA**

[illegible]

Key:

G - Green  
Y - Yellow  
R - Red  
V - VOC

P - Particulate  
U - Upwind  
C - Crosswind  
D - Downwind

[TVOC] - Total VOC Conc. [ppm]  
[Dust] - Particulate [ug/m3]  
cont. - continuous monitoring

Field Representative: Kip Webber

Signed:

*Joe Webber*

Date: 11/14/2015

**AirLogics Air Monitoring Systems**  
**Daily Field Report**  
**Wynn Site - Everett, MA**

[illegible]

Key:

G - Green  
Y - Yellow  
R - Red  
V - VOC

P - Particulate  
U - Upwind  
C - Crosswind  
D - Downwind

[TVOC] - Total VOC Conc. [ppm]  
[Dust] - Particulate [ug/m3]  
cont. - continuous monitoring

Field Representative: Kip Webber

Signed:

*Pipe Webber*

Date: 11/15/2015



*Proactive by Design*



## **APPENDIX E**

### **GROUNDWATER ANALYTICAL DATA**



*CERTIFICATE OF ANALYSIS*

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

**RE: Wynn Everett - MCP (01.0171521.41 Task 2)**  
**ESS Laboratory Work Order Number: 1510111**

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 3:02 pm, Oct 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.



*CERTIFICATE OF ANALYSIS*

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

ESS Laboratory Work Order: 1510111

**SAMPLE RECEIPT**

The following samples were received on October 05, 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.

**Question I: All samples for Metals were analyzed for a subset of the required MCP list per the client's request.**

<b><u>Lab Number</u></b>	<b><u>Sample Name</u></b>	<b><u>Matrix</u></b>	<b><u>Analysis</u></b>
1510111-01	W-4	Ground Water	6010C, 7010, 7470A
1510111-02	RIZ-105	Ground Water	6010C, 7010, 7470A
1510111-03	B-MW-207	Ground Water	6010C, 7010, 7470A
1510111-04	RIZ-5	Ground Water	6010C, 7010, 7470A



*CERTIFICATE OF ANALYSIS*

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

ESS Laboratory Work Order: 1510111

**PROJECT NARRATIVE**

**Dissolved Metals**

CJ50625-BSD1 [Blank Spike recovery is above upper control limit \(B+\).](#)

Mercury (143% @ 80-120%)

CJ50625-BSD1 [Relative percent difference for duplicate is outside of criteria \(D+\).](#)

Mercury (37% @ 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 - MCP

ESS Laboratory Work Order: 1510111

**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: 1510111

**MassDEP Analytical Protocol Certification Form**

MADEP RTN: \_\_\_\_\_

This form provides certification for the following data set: **1510111-01 through 1510111-04**

Matrices: ☐ Ground Water/Surface Water ☐ Soil/Sediment ☐ Drinking Water ☐ Air ☐ Other: \_\_\_\_\_

**CAM Protocol** (check all that apply below):

- |  |   |  |   |   |  |
|--|---|--|---|---|--|
| <input type="checkbox"/> 8260 VOC<br>CAM II A                | <input checked="" type="checkbox"/> 7470/7471 Hg<br>CAM III B | <input type="checkbox"/> MassDEP VPH<br>CAM IV A | <input type="checkbox"/> 8081 Pesticides<br>CAM V B     | <input type="checkbox"/> 7196 Hex Cr<br>CAM VI B            | <input type="checkbox"/> MassDEP APH<br>CAM IX A |
| <input type="checkbox"/> 8270 SVOC<br>CAM II B               | <input checked="" type="checkbox"/> 7010 Metals<br>CAM III C  | <input type="checkbox"/> MassDEP EPH<br>CAM IV B | <input type="checkbox"/> 8151 Herbicides<br>CAM V C     | <input type="checkbox"/> 8330 Explosives<br>CAM VIII A      | <input type="checkbox"/> TO-15 VOC<br>CAM IX B   |
| <input checked="" type="checkbox"/> 6010 Metals<br>CAM III A | <input type="checkbox"/> 6020 Metals<br>CAM III D             | <input type="checkbox"/> 8082 PCB<br>CAM V A     | <input type="checkbox"/> 6860 Perchlorate<br>CAM VIII B | <input type="checkbox"/> 9014 Total Cyanide/PAC<br>CAM VI A |  |

**Affirmative responses to questions A through F are required for Presumptive Certainty's 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 <input checked="" type="checkbox"/> No <input type="checkbox"/> |
| B | Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?  | Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> |
| 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 <input checked="" type="checkbox"/> No <input type="checkbox"/> |
| 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 <input checked="" type="checkbox"/> No <input type="checkbox"/> |
| 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 <input type="checkbox"/> No <input type="checkbox"/>            |
|   | b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?  | Yes <input type="checkbox"/> No <input type="checkbox"/>            |
| 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 <input checked="" type="checkbox"/> No <input type="checkbox"/> |

**Responses to Questions G, H and I below are required for Presumptive Certainty's status**

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

**\*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  
Printed Name: Laurel Stoddard

Date: October 09, 2015  
Position: Laboratory Director



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Wynn Everett - MCP  
Client Sample ID: W-4  
Date Sampled: 10/01/15 13:25  
Percent Solids: N/A

ESS Laboratory Work Order: 1510111  
ESS Laboratory Sample ID: 1510111-01  
Sample Matrix: Ground Water  
Units: ug/L

Extraction Method: 3005A/200.7

**Dissolved Metals**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Arsenic	435 (125)		7010		50	KJK	10/08/15 21:41	50	25	CJ50623
Barium	45.7 (25.0)		6010C		1	KJK	10/07/15 4:20	50	25	CJ50623
Cadmium	4.9 (2.5)		6010C		1	KJK	10/07/15 18:04	50	25	CJ50623
Chromium	ND (10.0)		6010C		1	KJK	10/07/15 4:20	50	25	CJ50623
Lead	ND (10.0)		6010C		1	KJK	10/07/15 4:20	50	25	CJ50623
Mercury	ND (0.20)		7470A		1	KJK	10/06/15 18:07	20	40	CJ50625
Selenium	ND (5.0)		7010		1	KJK	10/08/15 1:40	50	25	CJ50623
Silver	ND (5.0)		6010C		1	KJK	10/07/15 4:20	50	25	CJ50623



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Wynn Everett - MCP  
Client Sample ID: RIZ-105  
Date Sampled: 10/01/15 14:45  
Percent Solids: N/A

ESS Laboratory Work Order: 1510111  
ESS Laboratory Sample ID: 1510111-02  
Sample Matrix: Ground Water  
Units: ug/L

Extraction Method: 3005A/200.7

**Dissolved Metals**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Arsenic	9.3 (2.5)		7010		1	KJK	10/08/15 21:46	50	25	CJ50623
Barium	30.9 (25.0)		6010C		1	KJK	10/07/15 4:26	50	25	CJ50623
Cadmium	ND (2.5)		6010C		1	KJK	10/07/15 18:09	50	25	CJ50623
Chromium	ND (10.0)		6010C		1	KJK	10/07/15 4:26	50	25	CJ50623
Lead	ND (10.0)		6010C		1	KJK	10/07/15 4:26	50	25	CJ50623
Mercury	ND (0.20)		7470A		1	KJK	10/06/15 18:10	20	40	CJ50625
Selenium	16.9 (5.0)		7010		1	KJK	10/08/15 1:46	50	25	CJ50623
Silver	ND (5.0)		6010C		1	KJK	10/07/15 4:26	50	25	CJ50623



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Wynn Everett - MCP  
Client Sample ID: B-MW-207  
Date Sampled: 10/01/15 16:10  
Percent Solids: N/A

ESS Laboratory Work Order: 1510111  
ESS Laboratory Sample ID: 1510111-03  
Sample Matrix: Ground Water  
Units: ug/L

Extraction Method: 3005A/200.7

**Dissolved Metals**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Arsenic	4.7 (2.5)		7010		1	KJK	10/08/15 21:52	50	25	CJ50623
Barium	40.9 (25.0)		6010C		1	KJK	10/07/15 4:30	50	25	CJ50623
Cadmium	ND (2.5)		6010C		1	KJK	10/07/15 18:26	50	25	CJ50623
Chromium	ND (10.0)		6010C		1	KJK	10/07/15 4:30	50	25	CJ50623
Lead	ND (10.0)		6010C		1	KJK	10/07/15 4:30	50	25	CJ50623
Mercury	ND (0.20)		7470A		1	KJK	10/06/15 18:13	20	40	CJ50625
Selenium	5.1 (5.0)		7010		1	KJK	10/08/15 1:51	50	25	CJ50623
Silver	ND (5.0)		6010C		1	KJK	10/07/15 4:30	50	25	CJ50623



*CERTIFICATE OF ANALYSIS*

Client Name: GZA GeoEnvironmental, Inc.  
Client Project ID: Wynn Everett - MCP  
Client Sample ID: RIZ-5  
Date Sampled: 10/01/15 18:00  
Percent Solids: N/A

ESS Laboratory Work Order: 1510111  
ESS Laboratory Sample ID: 1510111-04  
Sample Matrix: Ground Water  
Units: ug/L

Extraction Method: 3005A/200.7

**Dissolved Metals**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Arsenic	8.2 (2.5)		7010		1	KJK	10/08/15 21:58	50	25	CJ50623
Barium	88.3 (25.0)		6010C		1	KJK	10/07/15 4:34	50	25	CJ50623
Cadmium	3.8 (2.5)		6010C		1	KJK	10/07/15 18:31	50	25	CJ50623
Chromium	ND (10.0)		6010C		1	KJK	10/07/15 4:34	50	25	CJ50623
Lead	ND (10.0)		6010C		1	KJK	10/07/15 4:34	50	25	CJ50623
Mercury	ND (0.20)		7470A		1	KJK	10/06/15 18:15	20	40	CJ50625
Selenium	ND (5.0)		7010		1	KJK	10/08/15 1:57	50	25	CJ50623
Silver	ND (5.0)		6010C		1	KJK	10/07/15 4:34	50	25	CJ50623



*CERTIFICATE OF ANALYSIS*

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

ESS Laboratory Work Order: 1510111

**Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Dissolved Metals										
<b>Batch CJ50623 - 3005A/200.7</b>										
<b>Blank</b>										
Arsenic	ND	2.5	ug/L							
Barium	ND	25.0	ug/L							
Cadmium	ND	2.5	ug/L							
Chromium	ND	10.0	ug/L							
Lead	ND	10.0	ug/L							
Selenium	ND	5.0	ug/L							
Silver	ND	5.0	ug/L							
<b>LCS</b>										
Arsenic	254	50.0	ug/L	250.0		102	80-120			
Barium	252	25.0	ug/L	250.0		101	80-120			
Cadmium	125	2.5	ug/L	125.0		100	80-120			
Chromium	250	10.0	ug/L	250.0		100	80-120			
Lead	250	10.0	ug/L	250.0		100	80-120			
Selenium	516	100	ug/L	500.0		103	80-120			
Silver	122	5.0	ug/L	125.0		98	80-120			
<b>LCS Dup</b>										
Arsenic	251	50.0	ug/L	250.0		100	80-120	1	20	
Barium	246	25.0	ug/L	250.0		98	80-120	3	20	
Cadmium	125	2.5	ug/L	125.0		100	80-120	0.3	20	
Chromium	243	10.0	ug/L	250.0		97	80-120	3	20	
Lead	247	10.0	ug/L	250.0		99	80-120	1	20	
Selenium	521	100	ug/L	500.0		104	80-120	1	20	
Silver	119	5.0	ug/L	125.0		95	80-120	3	20	
<b>Batch CJ50625 - 245.1/7470A</b>										
<b>Blank</b>										
Mercury	ND	0.20	ug/L							
<b>LCS</b>										
Mercury	5.90	0.20	ug/L	6.000		98	80-120			
<b>LCS Dup</b>										
Mercury	8.58	0.20	ug/L	6.000		143	80-120	37	20	B+, D+



*CERTIFICATE OF ANALYSIS*

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

ESS Laboratory Work Order: 1510111

**Notes and Definitions**

U	Analyte included in the analysis, but not detected
D+	Relative percent difference for duplicate is outside of criteria (D+).
D	Diluted.
B+	Blank Spike recovery is above upper 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: 1510111

**ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS**

**ENVIRONMENTAL**

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](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: RI00002

<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](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](http://www.depweb.state.pa.us/portal/server.pt/community/labs/13780/laboratory_accreditation_program/590095)

**Sample and Cooler Receipt Checklist**

Client: GZA GeoEnvironmental, Inc.

Client Project ID: \_\_\_\_\_

Shipped/Delivered Via: ESS CourierESS Project ID: 15100111Date Project Due: 10/12/15 10/13/15

Days For Project: 5 Day

DJ 10/6/15

10/9/15

4 day TAT per CMT

**Items to be checked upon receipt:**

1. Air Bill Manifest Present?

☐ \* No

Air No.:

2. Were Custody Seals Present?

☐ Yes

3. Were Custody Seals Intact?

☐ Yes

4. Is Radiation count &lt; 100 CPM?

☐ Yes

5. Is a cooler present?

☐ YesCooler Temp: 3.2Iced 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?

☐ No16. Are ESS labels on correct containers? Yes No17. Were samples received intact? Yes No

ESS Sample IDs: \_\_\_\_\_

Sub Lab: \_\_\_\_\_

Analysis: \_\_\_\_\_

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	250 ml Plastic	1	HNO3
2	Yes	250 ml Plastic	1	HNO3
3	Yes	250 ml Plastic	1	HNO3
4	Yes	250 ml Plastic	1	HNO3

Completed By: [Signature]Date/Time: 10/5/15 1753Reviewed By: [Signature]Date/Time: 10/5/15 1935**CUSTODY SEAL**

ENVIRONMENTAL SAMPLING SUPPLY

www.essvial.com 800-233-8425

Date: 10/2/15Signature: [Signature]

# 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

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

Project # 171521.41 Task 2

Project Name Wynn Everett

Proj. Location

1 Horizon Way, Everett, MA

City, State Norwood, MA

Zip 02062

email: david.e.leone@gza.com

Grab - G

Composite - C

Collection Time

Date

Matrix

Sample ID

Pres Code

# of Containers

Type of Container

Vol of Container

Analysis

RCRA-8 Metals

discolored

X

X

X

X

ESS Lab # 1570111

Reporting Limits - 62-3

Electronic Deliverables \*Excel Access PDF

RCRA-8 Metals

discolored

X

X

X

X

Matrix: S-Soil SO-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAc2, 9-

Sampled by: Maria Firstenberg

Comments: 1. Use MA MCP CAM criteria.

2. Samples filtered with 0.45 µm in line field filter.

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)

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Relinquished by: (Signature, Date & Time)

Received by: (Signature, Date & Time)

Please fax to the laboratory all changes to Chain of Custody

## Report Method Blank & Laboratory Control Sample Results

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