



DRAFT

Partial Permanent Solution with Conditions

Sediment Portion of the Former Everett Staging Yard Disposal Site

One Broadway, Everett, Massachusetts

Release Tracking Number (RTN) 3-13341



Prepared by:
AMEC Massachusetts, Inc.
Chelmsford, MA 01824

December 2018

Project No. 3651170065

DRAFT
PARTIAL PERMANENT SOLUTION WITH CONDITIONS

Sediment Portion of the Former Everett Staging Yard Disposal Site
One Broadway, Everett, Massachusetts
Release Tracking Number (RTN) 3-13341

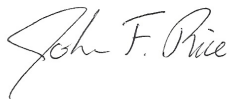
Submitted by:

AMEC Massachusetts, Inc.
271 Mill Road, 3rd Floor
Chelmsford, MA 01824

Project No. 3651170065

December 2018

Prepared and Reviewed by:



John Rice
Geologist



Matt Grove, Ph.D.
Licensed Site Professional

TABLE OF CONTENTS

1.0	INTRODUCTION	1
2.0	BACKGROUND INFORMATION	2
2.1	Ownership History	2
2.2	Summary of Investigation and Remediation	2
3.0	PERMANENT SOLUTION STATEMENT SUMMARY	5
3.1	Disposal Site Name, Address, and RTN [310 CMR 40.1056(1)(a)]	5
3.2	Category of Permanent Solution [310 CMR 40.1056(1)(b)]	5
3.3	Risk Characterization Method [310 CMR 40.1056(1)(c)]	5
3.4	Relationship of this Permanent Solution to any Other Permanent or Temporary Solution Statements for the Site [310 CMR 40.1056(1)(d)]	6
3.5	Dependence of Permanent Solution on Implementation of an AUL [310 CMR 40.1056(1)(e)]	6
3.6	Dependence of Permanent Solution on Conditions that Do Not Require an AUL [310 CMR 40.1056(1)(f)]	7
3.7	Operation of Active Exposure Pathway Mitigation Measures [310 CMR 40.1056(1)(g)]	7
3.8	License Site Professional Opinion and Certification of the Permanent Solution Statement [310 CMR 40.1056(1)(h) and (i)]	7
3.9	Comparison to UCL [310 CMR 40.1056(1)(j)]	7
3.10	Indication that Analytical Data Meets CAM Requirements [310 CMR 40.1056(1)(k)]	7
4.0	SUPPORTING DOCUMENTATION FOR THE PERMANENT SOLUTION	9
4.1	Location and Description of the Site [310 CMR 40.1056(2)(a)]	9
4.2	Conceptual Site Model [310 CMR 40.1056(2)(b)]	9
4.2.1	Potential Sources and Release Mechanisms	9
4.2.1.1	Disposal Site-Related Sources	9
4.2.1.2	Non-Site Sources	10
4.2.2	Potential Migration Pathways	11
4.3	Demonstration that all Sources of OHM Have Been Eliminated or Controlled [310 CMR 40.1056(2)(c)]	11
4.3.1	Upgradient Sources	11
4.3.1.1	Pre-Construction RAM	12
4.3.1.2	Construction RAM	12
4.3.2	Residual Sediment	12
4.3.3	Summary and Conclusions	13
4.4	Demonstration that Response Actions have been Taken to Adequately Assess and Control the Subsurface Migration of OHM Remaining [310 CMR 40.1056(2)(d)]	13
4.5	Demonstration that Response Actions have been Taken to Adequately Assess and Control LNAPL Mobility [310 CMR 40.1056(2)(e)]	14
4.6	Information Supporting Conclusion of No Significant Risk [310 CMR 40.1056(2)(f)]	14
4.6.1	Risk to Human Health	14
4.6.2	Risk to the Environment	14
4.6.3	Risk to Public Welfare	16
4.6.4	Risk to Safety	16
4.6.5	Risk Summary for Sediment Portion of the Disposal Site	16
4.7	Extent to Which Levels of OHM Have Been Reduced to Background or to the Extent Feasible [310 CMR 40.1056(2)(g)]	16
4.8	Copy of Activity and Use Limitation [310 CMR 40.1056(2)(h)]	17

4.9	Permanent Solution with Conditions with UCL Exceedances in Soil at Depth Greater than 15 Feet [310 CMR 40.1056(2)(i)]	17
4.10	Current or Future Site Activities, Uses, or Conditions that do not Require an Activity and Use Limitation [310 CMR 40.1056(2)(j)]	17
4.11	Data Usability Assessment and Representativeness Evaluation [310 CMR 40.1056(2)(k)] .	18
4.11.1	Analytical Data Usability Assessment.....	18
4.11.1.1	Sample Analytical Data Usability	18
4.11.1.2	Sample Field Data Usability.....	19
4.11.2	Representativeness Evaluation	19
4.11.2.1	Conceptual Site Model.....	19
4.11.2.2	Use of Field/Screening Data.....	19
4.11.2.3	Sampling Rationale, Number and Spatial Distribution, and Handling of Samples.....	20
4.11.2.4	Temporal Distribution of Samples	23
4.11.2.5	Critical Samples.....	23
4.11.2.6	Completeness	23
4.11.2.7	Inconsistency and Uncertainty.....	23
4.11.2.8	Information Considered Unrepresentative	24
4.11.3	REDUA Summary	24
4.12	Description of Operation, Maintenance, or Monitoring Required [310 CMR 40.1056(2)(l)] ...	24
5.0	SUMMARY AND CONCLUSIONS	26
6.0	REFERENCES	28

FIGURES

Figure 1-1	Site Location Map
Figure 1-2	Site Plan

APPENDICES

Appendix A	Copies of the Activity and Use Limitations
Appendix B	Operation, Maintenance and Monitoring Plan
Appendix C	Analytical Data Usability Assessment

1.0 INTRODUCTION

This Partial Permanent Solution with Conditions has been prepared on behalf of Wynn MA, LLC and Everett Property, LLC (collectively, “Wynn”) in accordance with 310 CMR 40.1000. This Partial Permanent Solution applies to a portion of two properties located at One Broadway (formerly 1 Horizon Way) in Everett and an unnumbered parcel on Alford Street in Boston (collectively, the “Wynn Property”, **Figures 1-1 and 1-2**). Specifically, this Partial Permanent Solution applies to 7.8-acres of Mystic River sediments below Mean High Water (MHW, elevation +4.35 feet relative to the North American Vertical Datum of 1988). The sediments are part of a larger disposal site known as the Former Everett Staging Yard Disposal Site (the “Disposal Site”) which is identified by Release Tracking Number (RTN) 3-13341. The Disposal Site includes both a portion of the Mystic River and an upland area.

In accordance with 310 CMR 40.1041(1), a Partial Permanent Solution Statement with Conditions applies to the sediment portion of the Disposal Site since:

- ▶ A level of No Significant Risk, as specified in 310 CMR 40.0900, exists or has been achieved;
- ▶ All sources of oil and/or hazardous materials (OHM) have been eliminated or controlled, as specified in 310 CMR 40.1003(5)(a) and (b);
- ▶ No plumes of dissolved OHM in groundwater or vapor-phase OHM in the vadose zone existed on this portion of the Disposal Site;
- ▶ No Non-Aqueous Phase Liquid (NAPL) was present;
- ▶ All threats of release have been eliminated;
- ▶ The level of OHM in the environment have been reduced to as close to background levels as feasible, as specified at 310 CMR 40.1020; and
- ▶ An Activity and Use Limitation (AUL) is required pursuant to 310 CMR 40.1012 to maintain a Condition of No Significant Risk.

It should be noted that the Massachusetts Department of Environmental Protection (MassDEP) has not published Upper Concentration Limits (UCLs) for sediment; therefore, there are no applicable UCLs.

A separate Permanent Solution with Conditions for the upland portion of the Disposal Site is being prepared. A Downgradient Property Status (DPS) Submittal related to phthalate (primarily bis(2-ethylhexyl)phthalate or BEHP) and polychlorinated biphenyl (PCB) contamination in sediment has also been filed for the Wynn Property (RTN 3-35073; AMEC, 2018a).

This Partial Permanent Solution Statement has been structured to follow the content requirements provided in 310 CMR 40.1056, as applicable. Section 2 provides background information on the Disposal Site. The requirements of 40.1056(1) are addressed in Section 3.0. The requirements of 40.1056(2) are addressed in Section 4.0.

2.0 BACKGROUND INFORMATION

2.1 Ownership History

The Wynn Property was previously used by various chemical companies, including Cochrane Chemical Company, the Merrimac Chemical Company, and the Monsanto Chemical Company (Monsanto), from the 1860s until the late 1960s. The same companies which operated on the Wynn Property also had operations on an adjacent property (referred to herein as “Monsanto West”) which has since been redeveloped as the Gateway Center (response actions for that property were handled under RTNs 3-313, 3-4200, and 3-4425). The buildings associated with chemical manufacturing on the Wynn Property were demolished in the late 1960s and 1970s. According to Tetra Tech Rizzo (2007), the Wynn Property was generally vacant by about 1980.

Portions of the upland property were also filled at various times with dredged materials (and potentially manufacturing wastes) which resulted in the current configuration. The embayment had reportedly not been dredged since 1943 which predates the end of chemical manufacturing operations (MassDEP, 2016).

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

2.2 Summary of Investigation and Remediation

O'Donnell submitted the initial notification of a release on the Wynn Property in January 1996 based on the presence of elevated concentrations of certain metals and petroleum hydrocarbons in soil as well as areas of low pH in groundwater. CES filed a Phase I Initial Site Investigation and Tier Classification (classifying the Former Everett Staging Yard Site as Tier II) on behalf of O'Donnell in January 1997 (CES, 1997). Following Mystic Landing's purchase of the property in 2001, additional subsurface and sediment investigations were completed by Tetra Tech Rizzo and others which were documented in a Phase II Report submitted in December 2007.

FBT purchased the property in October 2009 and in February 2012 GEI submitted a Phase II Comprehensive Site Assessment (CSA) which summarized the work previously described in the Tetra Tech Rizzo Phase II Report (no new sampling was performed). Wynn purchased the property in January 2015 and in December 2015, GZA GeoEnvironmental, Inc. (GZA) submitted a Supplemental Phase II CSA Report which contained the results from an extensive sampling program as well as an updated Disposal Site boundary and risk characterization (GZA, 2015b).

In December 2016, AMEC prepared a Revised Supplemental Phase II CSA Report (AMEC, 2016) which presented the Conceptual Site Model (CSM), assessed risks to human health and the environment and defined the limits of those areas which could pose a risk. The CSM and an evaluation of local conditions identified arsenic, lead, mercury, and vanadium as specific contaminants of concern tied to historical manufacturing operations and processes on the Wynn Property. The disposal site boundary established as result of this evaluation is shown on **Figure 1-2**.

In June 2017, a combined Phase III Remedial Action Plan (RAP) and Phase IV Remedy Implementation Plan (RIP) for the sediment portion of the Former Everett Staging Yard Site was submitted to MassDEP (AMEC, 2017). The goal of the remedial action was to eliminate significant risk to benthic organisms associated with exposure to contaminated sediment at concentrations which exceed benchmarks or local conditions. Based on the outcome of the Phase III RAP and a feasibility assessment, the selected comprehensive remedial alternative included dredging and capping or capping alone of contaminated sediments.

Sediment remediation was conducted between October 2017 and August 2018 (see **Figure 1-2** for the limits of the remediation).

These remedial actions addressed sediment contamination associated with former operations on the Wynn Property (i.e., arsenic, lead, mercury and vanadium). Contamination from other sources (metals likely from a drain pipe, phthalates and PCBs from Monsanto West, and polycyclic aromatic hydrocarbons (PAHs) and petroleum from stormwater runoff, industrial releases, and shipping-related impacts) was remediated incidentally during the remediation of the four metals associated with former operations on the Wynn Property.

Approximately 24,621 cubic yards of sediment were dredged, dewatered, and processed. Approximately 39,916 tons of processed sediment was transported off-site to licensed facilities for disposal. Capping both dredged and non-dredge portions of the remediation involved the placement of approximately 21,795 cubic yards of clean, off-site material divided between five different cap types:

- ▶ Sand Cap (Type A) – coarse sand designed to resist propeller induced erosion in the channel.
- ▶ Blended Sand Cap (Modified Type A) – coarse sand blended with ¾-inch stone to resist erosion and downslope movement on subtidal slopes.
- ▶ Navigation Area Cap (Type B) – 2-layer cap composed of a layer of coarse sand capped with a medium gravel material to resist propeller induced erosion near the docks.
- ▶ Tidal Flat Cap (Type C) – a silty sand to match existing material in the tidal flats.
- ▶ Rounded Gravel Cap (Type D) – rounded ¾-inch stone topped with larger rounded stone to resist erosion by waves and naturally occurring groundwater seeps.

In addition, rip rap placed beneath the pile-supported wharf on the west side of the embayment is considered part of the cap.

The remedial actions performed under Phase IV addressed sediment contamination associated with former operations on the Wynn Property (i.e., arsenic, lead, mercury and vanadium). Contamination from other sources (metals likely from a drain pipe, phthalates and PCBs from

Monsanto West, and PAHs and petroleum from stormwater runoff, industrial releases, and shipping-related impacts) was remediated incidentally during the remediation of the four metals associated with former operations on the Wynn Property. Successful implementation and completion of the remedial action were achieved by placing a clean surficial sediment layer (within the top 18 inches) across the capping area. A Phase IV As-Built Construction and Final Inspection Report was submitted on **December X, 2018** (AMEC, 2018b).

Operation, maintenance and monitoring (OMM) will be required to assess the integrity of the cap and ensure the thickness of the cap is maintained. This OMM will be performed as a condition of the Partial Permanent Solution.

On July 18, 2018 following discussion with MassDEP (Mr. Andrew Clark), Matt Grove of AMEC notified MassDEP of a Condition of Substantial Release Migration (SRM) which had resulted in the presence of BEHP and PCBs in sediment on the Wynn Property at concentrations above local conditions. MassDEP issued RTN 3-35073 for this release so that it could be tracked separately from remedial actions related to metals contamination associated with the Former Everett Staging Yard Disposal Site. In accordance with Massachusetts General Law (M.G.L.) Chapter 21E, Section 5D(a)(4), Wynn is not required to conduct an Immediate Response Action (IRA) to address RTN 3-35073 because the concentrations of BEHP and PCBs have migrated in surface water from a known upstream source and do not pose an Imminent Hazard at the downstream Wynn Property. Wynn never owned or operated the upstream property from which BEHP and PCBs are derived. In August 2018, Wynn filed a DPS Submittal for BEHP and PCBs which remain in sediments on its property following remediation of metals in sediments derived from RTN 3-13341 (AMEC, 2018a).

3.0 PARTIAL PERMANENT SOLUTION STATEMENT SUMMARY

3.1 Disposal Site Name, Address, and RTN [310 CMR 40.1056(1)(a)]

The Disposal Site name for RTN 3-13341 is the Former Everett Staging Yard. The Disposal Site includes two properties owned by Wynn: One Broadway (formerly 1 Horizon Way) in Everett, and an unnumbered parcel on Alford Street in Boston (**Figures 1-1 and 1-2**). The Wynn Property encompasses approximately 35 acres, which includes an upland portion (approximately 22 acres) and a portion of the adjacent Mystic River to the southwest (approximately 13 acres). This Partial Permanent Solution with Conditions applies to the sediment portion of the Disposal Site depicted on **Figure 1-2**. A separate Permanent Solution with Conditions is being prepared for the uplands.

3.2 Category of Permanent Solution [310 CMR 40.1056(1)(b)]

A Partial Permanent Solution with Conditions has been prepared for the sediment portion of the Disposal Site. A Partial Permanent Solution with Conditions is appropriate for the sediment portion of the Disposal Site since:

- ▶ A level of No Significant Risk, as specified in 310 CMR 40.0900, exists or has been achieved;
- ▶ All sources of OHM contamination have been eliminated or controlled, as specified in 310 CMR 40.1003(5)(a) and (b);
- ▶ The level of OHM in the environment has been reduced to as close to background levels as feasible, as specified at 310 CMR 40.1020; and
- ▶ The sediment cap constitutes a Passive Exposure Pathway Mitigation Measure for benthic organisms. Therefore, an AUL is required pursuant to 310 CMR 40.1012(2)(b) to maintain a Condition of No Significant Risk to the environment.

It should be noted that MassDEP has not published UCLs for sediment; therefore, there are no applicable UCLs for comparison to Disposal Site data.

3.3 Risk Characterization Method [310 CMR 40.1056(1)(c)]

A Method 3 Risk Characterization (RC) was prepared in support of the Revised Supplemental Phase II CSA (AMEC, 2016) to characterize the risk of harm to human health, public welfare, safety, and the environment posed by the sediments of the Disposal Site. The ecological portion of the Method 3 risk assessment was presented as a Stage I Ecological Screening which concluded that there were potentially significant exposure pathways with respect to the benthic community exposed to sediment. This conclusion was based on the results of a comparison of Disposal Site data to ecological benchmarks which is a component of a Stage II Ecological Risk Characterization (ERC). Following submittal of the Revised Supplemental Phase II CSA Report, MassDEP requested that the ecological risk assessment be revised to more explicitly follow a Stage II ERC approach. The ecological portion of the risk characterization was updated and presented as a Method 3 Stage II ERC in the combined Phase III RAP and Phase IV RIP.

The following is a summary of the RC and the Stage II ERC findings for the sediment portion of the Disposal Site prior to remediation:

- ▶ A condition of No Significant Risk exists for current and future trespassers who might go wading along the shoreline,
- ▶ A condition of No Significant Risk exists for trespassers who catch and consume fish irregularly on the Disposal Site.
- ▶ No Significant Risk of harm to aquatic life from surface water exists,
- ▶ No Significant Risk exist for shorebirds and other shoreline wildlife,
- ▶ A condition of No Significant Risk does not exist for benthic organisms exposed to sediment.

The objective of the remediation performed under the Phase IV RIP was to eliminate significant risk to benthic organisms associated with exposure to sediment at concentrations which exceed ecological benchmarks or local conditions.

Sediment remediation was accomplished through the capping or dredging and capping of contaminated sediments conducted between October 2017 and August 2018. Dredged materials were transported off-site for reuse or disposal. These remedial actions addressed sediment contamination associated with Disposal Site-related metal contamination (arsenic, lead, mercury and vanadium) as well as non-Disposal Site contamination (other metals, petroleum hydrocarbons, PAHs, and PCBs).

Successful implementation and completion of the remedial action was achieved through the installation of a clean surficial sediment layer (within the top 18 inches) across the area which posed a significant risk. The cap constitutes a Passive Exposure Pathway Mitigation Measure as defined by 310 CMR 40.0006(12). Post-remediation monitoring (primarily topographic and bathymetric surveys) will be used to assess the stability of the cap and to ensure that a condition of No Significant Risk to benthic organisms is maintained. AULs have been filed to memorialize the limits of the capped area and post-construction operation, maintenance and monitoring requirements.

Therefore, a condition of No Significant Risk exists for benthic organisms exposed to sediment.

3.4 Relationship of this Permanent Solution to any Other Permanent or Temporary Solution Statements for the Site [310 CMR 40.1056(1)(d)]

This Partial Permanent Solution with Conditions applies to the sediment portion of the Disposal Site. A separate Permanent Solution statement will be prepared and submitted for the upland portion of the Disposal Site in the future.

3.5 Dependence of Permanent Solution on Implementation of an AUL [310 CMR 40.1056(1)(e)]

This Partial Permanent Solution with Conditions is dependent on AULs to maintain the integrity of the sediment cap and to maintain a condition of No Significant Risk for the sediment portion of the Disposal Site. The sediment cap constitutes a Passive Exposure Pathway Mitigation Measure and therefore an AUL is required per 310 CMR 40.1012(2)(b). Two AULs are required as the

sediment portion of the Disposal Site is located in both Everett (Middlesex County) and Boston (Suffolk County). Copies of the AULs which were previously submitted to the appropriate Registry of Deeds are included in **Appendix A**. The AULs prohibit certain activities and uses which could compromise the integrity of the sediment cap. The AULs also require inspection and monitoring of the sediment cap and repair of damaged areas.

An OMM Plan has been prepared to ensure the continued effective performance and integrity of the remedial action (see **Appendix B**). The primary objective of the OMM Plan is to assess the integrity of the cap and ensure the thickness of the cap is maintained, thereby ensuring that a condition of No Significant Risk to benthic organisms is maintained. In accordance with 310 CMR 40.0891(3), the OMM Plan will be revised and updated as warranted in response to changes in site conditions or as otherwise necessary to ensure remedial goals (i.e., a condition of No Significant Risk) are achieved.

3.6 Dependence of Permanent Solution on Conditions that Do Not Require an AUL [310 CMR 40.1056(1)(f)]

This Partial Permanent Solution is not based on assumptions about the current or future site activities, uses, or conditions that do not require an AUL pursuant to 310 CMR 40.1013. None of the limitations, assumptions, or conditions on current or future site uses identified in 310 CMR 40.1013 are applicable to the Disposal Site.

3.7 Operation of Active Exposure Pathway Mitigation Measures [310 CMR 40.1056(1)(g)]

This Partial Permanent Solution does not rely on the operation of an Active Exposure Pathway Mitigation Measure pursuant to 310 CMR 40.1025.

3.8 License Site Professional Opinion and Certification of the Permanent Solution Statement [310 CMR 40.1056(1)(h) and (i)]

The Licensed Site Professional (LSP) Opinion required by 310 CMR 40.1056(1)(h) and the certification required by 310 CMR 40.1056(1)(i) are provided in the BWSC-104 transmittal form which is being submitted concurrently with this Partial Permanent Solution via electronic submittal to the MassDEP. The LSP Opinion is supported by the information presented in this Partial Permanent Solution Statement.

3.9 Comparison to UCL [310 CMR 40.1056(1)(j)]

There are no UCLs established for sediment, therefore, this comparison is not applicable to the data from sediment portion of the Disposal Site.

3.10 Indication that Analytical Data Meets CAM Requirements [310 CMR 40.1056(1)(k)]

The MassDEP Compendium of Analytical Methods (“CAM”) has been used for all analytical data that were used in support of this Partial Permanent Solution Statement. A further evaluation of data usability is included in Section 4.11 of this Partial Permanent Solution Statement.

Sediment, groundwater, surface water, cap material and clam tissue data were provided to Menzie-Cura & Associates, Inc. (MCA), GZA, AMEC, and Charter Contracting Corporation (Charter), Alpha Analytical, Inc. of Westborough, Massachusetts (Alpha), or ESS Laboratory (ESS) of Cranston, Rhode Island for laboratory analysis. Each laboratory analytical report was reviewed for the following elements: laboratory control samples, matrix spike samples, field duplicates, surrogate recoveries, blank results, and case narratives. Sediment, soil and surface water data are considered to be usable under the MCP. The data are scientifically valid and defensible and of a sufficient level of precision, accuracy, and completeness to support this Partial Permanent Solution Statement.

4.0 SUPPORTING DOCUMENTATION FOR THE PARTIAL PERMANENT SOLUTION

4.1 Location and Description of the Site [310 CMR 40.1056(2)(a)]

This Partial Permanent Solution applies to the sediment portion the Former Everett Staging Yard Disposal Site (RTN 3-13341) located at One Broadway in Everett and an unnumbered parcel on Alford Street in Boston. The general site location is shown on **Figures 1-1** and the Disposal Site plan is shown on **Figure 1-2**.

The boundaries of the Disposal Site are shown on **Figure 1-2**. The disposal site boundary for the sediment portion of the Wynn Property depicted on **Figure 1-2** was drawn to separate areas where concentrations of Disposal Site-related chemicals are above “local conditions”¹ from areas where concentrations are generally at or below local conditions. The disposal boundary was also drawn considering the CSM (see Section 4.2 below) and principles of sediment transport dynamics. Delineating the extent of Disposal Site-related chemicals in sediment based on local conditions indicates the maximum potential extent of the aquatic disposal site boundary. Given the many historical and ongoing sources of contamination to the Mystic River (as well as natural sources of the same chemicals) this may be an over-estimate of the impacts directly associated with chemical manufacturing on the upland portion of the Wynn Property.

The sediment portion of the Disposal Site consists of approximately 7.8 acres of sediment. The main portion in the embayment encompasses approximately 7.3 acres and a smaller intertidal area to the west is approximately 0.5 acres.

4.2 Conceptual Site Model [310 CMR 40.1056(2)(b)]

4.2.1 Potential Sources and Release Mechanisms

4.2.1.1 Disposal Site-Related Sources

The Disposal Site includes both an upland area and sediments in an embayment of the Mystic River. The upland portion consists of approximately 22 acres above MHW. This area was the location of chemical manufacturing facilities (primarily sulfuric acid and alcohols) for over 100 years. Portions of the upland property were also filled at various times with dredged materials (and potentially manufacturing wastes) which resulted in the current configuration. Chemical manufacturing operations began in the 1800s and continued through the late 1960s. The

¹ The MassDEP’s Guidance for Disposal Site Risk Characterization in Support of the Massachusetts Contingency Plan (MassDEP, 1996) defines “local conditions” as “...levels of OHM present consistently and uniformly throughout the surface water body, or throughout a larger section of a river that contains the area potentially affected by contamination at or from the site.” The “local conditions” concept acknowledges that sediments in certain water bodies, particularly those located in industrial urban areas, contain constituents from sources such as other disposal sites, permitted discharges, and non-point sources. The data and method for establishing local conditions for the Disposal Site are described full in the Revised Supplemental Phase II Comprehensive Site Assessment Report dated December 2016.

buildings on the property were demolished in the late 1960s and 1970s and the property was generally vacant by about 1980. Beginning in the mid-1990s, the upland areas were used as a material storage and staging yard.

Historical manufacturing operations and processes resulted in the release of metals to the upland portion of the Disposal Site, evidenced by the presence of impacted subsurface soil. Specific metals of concern are arsenic, lead and vanadium based on the following historical information:

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

In addition, the production of sulfuric acid on the upland portion of the Disposal Site resulted in areas of low pH in groundwater (see **Figure 1-2**). Remediation of the upland portion of the Disposal Site was completed under the Pre-Construction and Construction Release Abatement Measures (RAMs; see GZA, 2015a and 2016).

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

4.2.1.2 Non-Site Sources

A secondary area of high metals concentrations was observed along a tidal channel in the flats on the south side of the embayment prior to remediation. This is likely associated with historical discharges from a drain pipe outlet located on Boston Water and Sewer Commission (BWSC) property to the south.

Phthalates and PCBs associated with the historical operations on the adjacent Monsanto West property have also been detected in sediments on the Wynn Property. However, the spatial distribution of phthalates and PCBs in sediments is different than that of the metals which are attributed to Disposal Site operations. In addition, statistical evaluation of shallow data show a strong positive agreement among the concentrations of metals (i.e., samples that exhibit high concentrations for one metal typically exhibit high concentrations of the others) and a strong positive agreement between BEHP and PCBs. However, there is generally a weak agreement between metals and either BEHP or PCBs (i.e., peaks in metals concentrations do not correlate well with peaks in either BEHP or PCBs). A DPS Submittal related to phthalate and PCB contamination in sediment has been filed for the Wynn Property (AMEC, 2018a).

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

4.2.2 Potential Migration Pathways

Historically, contaminated soils from the upland portion of the Disposal Site likely eroded and migrated directly to the Mystic River via overland flow. This migration path was eliminated as the result of remediation and redevelopment of the upland portion of the Disposal Site.

Historically, low pH soil has also caused metals (released from Disposal Site operations and naturally occurring) to leach from the subsurface fill into groundwater which then discharged into the Mystic River. Under neutral pH conditions, the migration of metals in groundwater is limited by their low solubility and their tendency to adsorb to soil particles or precipitate out of groundwater. This migration is now limited due to the in-situ treatment of soil and groundwater in the low pH area and excavation and off-site disposal of soil from the CES-2 area (see **Figure 1-2** for the locations of these areas). Based on the results of surface water investigations performed by MCA and GZA prior to treatment, discharge of impacted groundwater is not significantly or negatively impacting surface water.

Prior to the 2017-2018 navigational and remedial dredging program, the embayment had reportedly not been dredged since 1943 which predates the end of chemical manufacturing operations (MassDEP, 2016). Sediments within the embayment do not appear to be significantly transported out of the embayment by tidal currents. The low concentrations in sediment on the northern tidal flats compared to concentrations in the channel indicate little to no tidal transport in an upstream direction (towards the dam). The presence of higher concentrations at depth in the channel and close to the uplands prior to remediation indicates that the embayment is a depositional area (i.e., sediment from other areas is being deposited on top of the sediment impacted by historical releases related to the Disposal Site). This is also supported by the relatively narrow range in concentrations observed along the channel bottom prior to remediation.

4.3 Demonstration that all Sources of OHM Have Been Eliminated or Controlled [310 CMR 40.1056(2)(c)]

In accordance with 310 CMR 40.1003(5), a Permanent Solution shall not be achieved unless and until each source of OHM has been eliminated or controlled. For the sediment portion of the Disposal Site there are two categories of sources which must be considered: upgradient sources (impacted soil and groundwater) and the residual sediment. Each of those categories is discussed in more detail in the following sections.

4.3.1 Upgradient Sources

Releases to the embayment area likely occurred during the period of time when the upland area was used for chemical manufacturing (spills and discharges) and may have continued after the chemical manufacturing ended due to the discharge of contaminated groundwater and the erosion of contaminated soil. The chemical manufacturing ended in mid-1960s and the buildings associated with the chemical manufacturing were demolished by the 1970s. The recent construction and remediation activities which occurred during redevelopment of the upland portion of the Wynn Property have removed contaminated upland soils, eliminated potential erosion of residual contaminated soils, and raised the pH of groundwater to normal (near neutral) levels.

These activities are briefly described below. Details of the remediation activities can be found in previously filed reports for the Pre-Construction and Construction RAMs.

4.3.1.1 Pre-Construction RAM

Prior to the start of construction on the upland portion of the Disposal Site, soil remediation was conducted in 2015 and 2016 at several locations:

- ▶ The A-5 area (lead, arsenic, and PCB soil contamination) in the northern portion of the upland area was excavated to a depth of 8 feet below ground surface (bgs) and the portion of the A-5 area with elevated PCBs was excavated to a depth of 9 feet bgs. This area is located at the northernmost extent of the Wynn Property and is unlikely to have contributed PCBs to the sediment portion of the Disposal Site.
- ▶ The soil from the CES-2 area (arsenic soil contamination) in the northern portion of the peninsula was excavated to a depth of 18 feet bgs. Soil from 6 to 18 feet bgs was excavated and disposed of off-site. During the excavation, an underground storage tank was discovered, and the tank and associated soil was excavated.
- ▶ The Low pH area in the southern corner of the peninsula had groundwater with a pH below 4. This area was remediated through in-situ stabilization (ISS) to lower the permeability and raise the pH. The soil from 4 to 15 feet bgs was mixed with a stabilizing grout slurry using an excavator.

In total, 10,900 tons of metals impacted soil were excavated and disposed of at Turnkey Landfill in Rochester, New Hampshire and 124 tons of PCB-impacted soil were excavated and disposed of at U.S. Ecology in Belleville, Michigan. Hydraulic containment of groundwater was maintained by dewatering the excavations. In total, 1,078,095 gallons of groundwater were treated onsite and discharged back to the site in accordance with 310 CMR 40.0045(4)(a) and (b).

4.3.1.2 Construction RAM

As part of the construction activities on the upland portion of the property, impacted soils were excavated for various construction activities (earthwork, construction, foundations, utilities installation, landscaping, bulkhead installation, pier construction, etc.). Excavations also required dewatering of groundwater which was treated with an onsite treatment system and discharged to the embayment area in accordance with the Remediation General Permit requirements.

According to RAM Status Reports prepared by GZA approximately 773,850 tons of impacted materials (soil, slurry spoils, iron sludge, and sediment) were removed from the site and disposed of at various landfills between the start of construction (May 2016) and January 31, 2018. Construction of the building itself, stormwater structures, and landscaping of the property has, and will continue to, significantly reduce the potential for erosion and transport of residual contaminated soil.

4.3.2 Residual Sediment

While a majority of the most heavily metals-contaminated sediment of the embayment has been removed, some residually impacted material was left at depth beneath the sediment cap. The dredging, which was completed as part of MCP Phase IV, removed approximately 18-inches of

contaminated sediments in the tidal flats and up to 11.5 feet in the navigation channel totalling approximately 40,162 tons of metals-impacted sediment. Residual sediment was then capped with at least 18-inches of clean material (sand, sand & gravel, or silty sand) eliminating the significant risk to benthic organisms associated with exposure to sediments at concentrations which exceed benchmarks or local conditions. The depth of dredging was selected based on the depth of bioturbation by organisms found (or likely to be found in the future) in the embayment, which was anticipated to be 18 inches (USEPA, 2015).

The residual sediment remaining beneath the cap does not represent an uncontrolled source. In oxygenated environments and under neutral pH the migration of metals is limited by their low solubility and tendency to absorb to sediment particles. However, partitioning of metals from shallow impacted sediment to pore water and surface water was likely ongoing. As these impacted sediments were present in the environment for a minimum of 50 years, equilibrium likely developed between sediment, pore water, and surface water.

Since the remediation resulted in the removal of a large quantity of contaminated sediment and the construction of a clean sediment cap over the residual contaminated sediment (as well as contaminated sediment outside the dredged area) there is no reason to expect that partitioning from shallow sediment to pore water and surface water would have increased or will increase in the future. Therefore, the remaining contaminated sediment beneath the cap does not represent an uncontrolled source of contamination to pore water and surface water.

4.3.3 Summary and Conclusions

Based on the investigation results from both the upland and sediment portions of the Disposal Site, the removal and isolation of upland contaminated soil, and the removal of shallow impacted sediment and capping of residual sediment in the embayment, AMEC concludes that there are no uncontrolled sources present on the Disposal Site in accordance with 310 CMR 40.1003(5).

4.4 Demonstration that Response Actions have been Taken to Adequately Assess and Control the Subsurface Migration of OHM Remaining [310 CMR 40.1056(2)(d)]

Groundwater migrating from the upland portion of the Disposal Site prior to remediation of the uplands was determined to not pose a risk to surface water. Arsenic above surface water quality benchmarks was detected in one groundwater seep near the Low pH Area in 2015 (arsenic in the nearby surface water sample was below benchmarks) and again in April 2017. However, the Low pH Area was remediated by ISS to reduce or eliminate the discharge of high arsenic to surface water. In addition, limited excavation of discolored soil between the limits of the ISS area and shoreline seep was performed in May/June 2017 and the soil was disposed of off-site.

There is no vadose zone soil in the sediment portion of the Disposal Site and no soil gas (subsurface vapor) plumes in the upland portion of the Disposal Site. Therefore, no response actions were necessary to assess and/or control migration of vapor-phase plumes of OHM.

4.5 Demonstration that Response Actions have been Taken to Adequately Assess and Control LNAPL Mobility [310 CMR 40.1056(2)(e)]

Light non-aqueous phase liquid (LNAPL) was not detected in the sediment portion of the Disposal Site, therefore, no response actions were necessary to assess and/or control LNAPL.

4.6 Information Supporting Conclusion of No Significant Risk [310 CMR 40.1056(2)(f)]

As described in Section 3.3, a Method 3 Risk Characterization was prepared in support of the Revised Supplemental Phase II CSA Report (AMEC 2016) to characterize the risk of harm to human health, public welfare, safety, and the environment posed by the sediment portion of the Disposal Site. At MassDEP's request, the Ecological Risk Characterization was presented as a Method 3 Stage II ERC in the combined Phase III RAP and Phase IV RIP. The following discussion is based on those prior risk characterizations and an evaluation of current and reasonable foreseeable site conditions.

4.6.1 Risk to Human Health

The Method 3 Human Health Risk Characterization performed as part of the Revised Supplemental Phase II CSA evaluated direct contact with shallow sediment in “wadable” areas (i.e., areas above Mean Low Water) and ingestion of fish. A condition of No Significant Risk exists for current and future repeat trespassers who might go wading along the shoreline. This conclusion is based on extremely conservative inputs (maximum detected concentration and 60 days of exposure per year for 7 years). A condition of No Significant Risk is also considered to exist for trespassers who catch and consume fish irregularly on the property. This pathway was not evaluated quantitatively as it is not considered a likely scenario given the Massachusetts Department of Public Health (DPH) fish advisory for the Mystic River below the Amelia Earhart dam (MassDPH, 2018).

The conclusion of No Significant Risk to human health was made based on pre-remediation sediment data. Dredging and installation of a clean sediment cap across a large portion of the wadable area of the property has significantly reduced the concentrations of Disposal Site and non-Disposal Site contaminants in sediment. If human health risks were to be recalculated using data representative of the current shallow, wadable sediment the values would be lower. **Therefore, a condition of No Significant Risk of harm to human health exists at the sediment portion of the Disposal Site.**

4.6.2 Risk to the Environment

The 2006 Stage I ES (MCA, 2006) demonstrated that a condition of No Significant Risk exists for surface water based on modelled surface water results. This was confirmed by subsequent surface water and groundwater seep sample results (GZA, 2015b; AMEC, 2016). Remediation of the upland portion of the Disposal Site has significantly reduced concentrations of Disposal Site-related contaminants in groundwater which could discharge to surface water, thereby further reducing risk.

The 2006 Stage II ERC (MCA, 2006) demonstrated that a condition of No Significant Risk exists for shorebirds and other shoreline wildlife. Remediation of a large portion of the intertidal and shallow subtidal areas on the Wynn Property has significantly reduced the concentrations of Disposal Site and non-Disposal Site contaminants in sediment. Therefore, if ecological risks were to be recalculated using data representative of the current shallow sediment the values would be lower.

The Stage II ERC presented in the combined Phase III RAP and Phase IV RIP (AMEC, 2017) evaluated each of the contaminants in the top six inches of sediment (both Disposal Site and non-Disposal Site related). Based on the comparison of maximum sediment concentrations to the measurement endpoints, and considering uncertainties, a condition of No Significant Risk did not exist for benthic organisms which are exposed to sediment. Therefore, remedial action was required to address exposure to impacted sediments by benthic organisms in order to achieve a condition of No Significant Risk.

As described in the Phase IV As-Built Construction and Final Inspection Report (AMEC, 2018b), sediment remediation was accomplished through the dredging and capping or capping of contaminated sediments. Approximately 40,163 tons of impacted sediments were dredged and transported off-site for disposal. Following dredging, an approximately 18-inch thick clean cap was placed over both dredged and non-dredged portions of the remediation area. The cap is considered a Passive Exposure Pathway Mitigation Measure; therefore, AULs have been filed for the sediment portion of the Disposal Site to ensure the integrity of the sediment cap and a condition of No Significant Risk are maintained (see **Appendix A**). The AULs prohibit certain activities and uses which could compromise the integrity of the sediment cap. The AULs also require inspection and monitoring the sediment cap and repair of damaged areas.

An OMM Plan (**Appendix B**) has been prepared to ensure the effective performance and integrity of the remedial action and/or the achievement of remedial goals. The cap is a Passive Exposure Pathway Mitigation Measure for addressing ecological risk to benthic organisms. The primary objective of the OMM Plan is to assess the integrity of the cap and to ensure the thickness of the cap and condition of No Significant Risk are maintained. Verification of the thickness and stability of the cap will be done by monitoring and maintenance including the following:

- ▶ Scheduled monitoring of the capped area;
- ▶ Weather-based monitoring of the capped area;
- ▶ Additional monitoring based on the results of scheduled and weather-based monitoring, if appropriate; and
- ▶ Cap maintenance activities, performed as needed based on the scheduled and weather-based monitoring results.

Therefore, following remediation, filing of the AULs, and implementation of the OMM Plan a condition of No Significant Risk of harm to the environment exists and will be maintained in the sediment portion of the Disposal Site.

4.6.3 Risk to Public Welfare

A risk to public welfare can be due to nuisance conditions (such as odor), loss of use, community impacts, or degradation of property use. None of these conditions exist in association with the sediment portion of the Disposal Site. In addition, a risk to public welfare can be based on soil and groundwater concentrations exceeding Upper Concentration Limits (there are no UCLs for sediment). **Therefore, a condition of No Significant Risk of harm to public welfare exists at the sediment portion of the Disposal Site.**

4.6.4 Risk to Safety

According to 310 CMR 40.0960, risk to safety occurs when “current and reasonably foreseeable site conditions can cause possible physical harm or bodily injury to people. Such conditions may include, but are not limited to: the presence of rusted or corroded drums or containers, open pits, lagoons or other dangerous structures; any threat of fire or explosion, including the presence of explosive vapors resulting from a release of oil and/or hazardous material; and any uncontained materials which exhibit the characteristics of corrosivity, reactivity or flammability.”

There are no drums or containers, open pits, lagoons or other dangerous structures present within the sediment portion of the Disposal Site. Also, there is no evidence of uncontained materials that are explosive, corrosive, reactive or flammable. Other kinds of threats such as infectious or radioactive materials are not present on the sediment portion of the Disposal Site. **Therefore, the sediment portion of the Disposal Site does not pose a risk to safety.**

4.6.5 Risk Summary for Sediment Portion of the Disposal Site

The following conclusions about risk in the sediment portion of the Disposal Site are based on prior investigations, the Method 3 RC, Stage II ERC, implementation of the upland and sediment remediation, and the filing of the AULs to ensure the sediment cap is maintained:

- ▶ No Significant Risk of harm to human health exists,
- ▶ No Significant Risk of harm to the environment exists and will be maintained,
- ▶ No Significant Risk of harm to public welfare exists, and
- ▶ No Significant Risk of harm to safety exists.

4.7 Extent to Which Levels of OHM Have Been Reduced to Background or to the Extent Feasible [310 CMR 40.1056(2)(g)]

The MCP at 310 CMR 40.0006 defines background concentrations as “levels of oil and hazardous material that would exist in the absence of the disposal site of concern, including both Natural Background and Anthropogenic Background.” Natural Background reflects concentrations “that would exist in the absence of the disposal site of concern, are ubiquitous and consistently present in the environment at and in the vicinity of the disposal site of concern and are attributable to geologic or ecological conditions.” Anthropogenic Background includes atmospheric deposition of industrial process or vehicle emissions, Historic Fill, and petroleum residues incidental to the normal operation of motor vehicles.

MassDEP has not published background concentrations for sediment which can be used for direct comparison. However, they have established naturally occurring levels of metals and PAHs in soil, and background concentrations of metals and PAHs naturally occurring in sediment would not be expected to be any lower than background concentrations in natural soil. It is important to note that the local conditions concept for sediments which was used to establish the Disposal Site boundary is not the same as the MCP definition of background. Local conditions acknowledge that sediments in certain water bodies, particularly those located in industrial urban areas, contain constituents from sources such as other disposal sites, permitted discharges, and non-point sources. In the case of the Mystic River and this Disposal Site, the established local conditions concentrations chemicals are significantly elevated, which means that sediments entering the Disposal Site from the surrounding area will likely exceed background.

The sediment remediation performed between October 2017 and August 2018 reduced the concentrations of OHM in sediment to background in the areas that were dredged and capped or capped only as the clean backfill material used in the cap is presumed to be equivalent to background. Concentrations in the small area of sediment outside the Remediation Area but within the Disposal Site boundary on the south side of the peninsula exceed background. However, a condition of No Significant Risk with respect to Disposal Site contaminants exists in this area as concentrations are below ecological benchmarks. Therefore, no remedial actions are required to achieve No Significant Risk for Disposal Site contaminants.

Remedial actions to achieve or approach background are infeasible as the cost of any such actions (dredging and/or capping) are more than 20 percent of the cost of achieving a condition of No Significant Risk (Section 9.3.3.4 of MassDEP Policy #04-160). Therefore, the cost far outweighs the incremental benefit in risk reduction. In addition, remedial actions to achieve or approach background would disturb approximately 20,000 SF of intertidal habitat which exceeds the 5,000 SF threshold in Section 3.0 of MassDEP Policy #04-160. Taken either separately or together these two factors support the conclusion that further remediation to achieve or approach background is infeasible.

4.8 Copy of Activity and Use Limitation [310 CMR 40.1056(2)(h)]

Copies of the AULs filed with the Middlesex County South District and Suffolk County Registries of Deeds are included in **Appendix A**.

4.9 Permanent Solution with Conditions with UCL Exceedances in Soil at Depth Greater than 15 Feet [310 CMR 40.1056(2)(i)]

There are no UCLs established for sediment and this Partial Permanent Solution does not apply to soil. Therefore, there is no need to evaluate the feasibility of achieving concentrations below UCLs.

4.10 Current or Future Site Activities, Uses, or Conditions that do not Require an Activity and Use Limitation [310 CMR 40.1056(2)(j)]

This Partial Permanent Solution is not based on assumptions about the current or future site activities, uses, or conditions that do not require an AUL pursuant to 310 CMR 40.1013. None of

the limitations, assumptions, or conditions on current or future site uses identified in 310 CMR 40.1013 are applicable to the sediment portion of the Disposal Site.

4.11 Data Usability Assessment and Representativeness Evaluation [310 CMR 40.1056(2)(k)]

4.11.1 Analytical Data Usability Assessment

A Data Usability Assessment (DUA) has been prepared to support this Partial Permanent Solution Statement. The data usability assessment has both an analytical and field component. The DUA documents that the data relied upon are scientifically valid, defensible, and of a sufficient level of precision, accuracy, and completeness to support this Partial Permanent Solution Statement. The field data usability assessment evaluates whether each sample that is collected and delivered to the laboratory is representative of the sampling point. All of the sediment, groundwater, surface water, cap material and clam tissue samples used to support this Partial Permanent Solution Statement were submitted to Alpha or ESS for laboratory analysis.

All CAM-compliant laboratory analytical reports document the results of quality assurance/quality control (QA/QC) batch samples such as method blank, laboratory control spike (LCS), laboratory control spike duplicate (LCSD), matrix spike (MS), and matrix spike duplicate (MSD) samples. In addition, the laboratory must meet all equipment calibration and internal standard quality control requirements to meet the CAM definition of “Presumptive Certainty,” although the CAM does not always require this quality control information to be documented in the laboratory report. However, the CAM does require that any quality control issues identified by the laboratory be included within each data package’s Case Narrative. All data analyzed under the CAM guidelines were reported by the laboratory as having met Presumptive Certainty requirements. Data reported and presented in previous reports are not being included in this Partial Permanent Solution.

4.11.1.1 Sample Analytical Data Usability

All of the analytical data are subject to the “Presumptive Certainty” requirements as defined in “Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data” (BWSC-CAM-VIIA, rev. 2 dated January 19, 2017). AMEC utilized the data usability criteria as defined in “MCP Representativeness Evaluations and Data Usability Assessments” (MassDEP, 2007; Policy #WSC-07-350), as well as the individual analytical methods defined in MassDEP’s Compendium of Analytical Methods, to assess data quality and data usability.

Sediment, groundwater, surface water, cap material and clam tissue data were provided to MCA, GZA, AMEC, and Charter by Alpha and ESS. Each laboratory analytical report was reviewed for the following elements: laboratory control samples, matrix spike samples, field duplicates, surrogate recoveries, blank results, and case narratives. Any data with QA/QC elements outside of method criteria were qualified as necessary. The data were qualified/marked with a “J” or “UJ”. Any datum that was rejected was excluded from use at the Disposal Site. Qualifications that may affect the usability of the data can be found in **Appendix C**. The laboratories followed the necessary CAM methods and any of the QA/QC elements that were outside the method protocols were noted.

Another important aspect of the Data Usability Assessment is to ensure that the necessary sensitivity has been attained for Disposal Site data and that the reporting limits achieved the applicable standards. All samples have achieved the necessary sensitivity.

4.11.1.2 Sample Field Data Usability

The field component of the Data Usability Assessment evaluates whether the sampling procedure ensures that the samples collected and delivered to the laboratory are representative of the sampling points. The review elements included, but were not limited to appropriate sample collection procedures, holding times, sample receipt, appropriate sample containers, and sample preservation, if applicable. As summarized in previous reports and in previous sections of this report, MCA, GZA, AMEC, and Charter collected sediment, surface water, groundwater, cap material and clam tissue samples for laboratory analysis. The samples were collected in laboratory-supplied containers. All samples were stored in a cooler on ice or in a refrigerator at temperatures ranging $\leq 6^{\circ}\text{C}$ in order to aid in sample preservation. All samples were transferred to the laboratories under chain-of-custody protocols and analyzed within the appropriate holding times. Sample results with field sampling anomalies that may affect data usability were qualified as estimated with a “J” or “UJ” and can be found in **Appendix C**.

Sediment, surface water, groundwater, cap material and clam tissue data are considered to be usable under the MCP. The data are scientifically valid and defensible and of a sufficient level of precision, accuracy, and completeness to support this Partial Permanent Solution Statement.

4.11.2 Representativeness Evaluation

The content of this Representativeness Evaluation is based on Section 6.0 (Representativeness Evaluation) of MassDEP Policy #WSC-07-350.

4.11.2.1 Conceptual Site Model

The conceptual site model for the sediment portion of the Disposal Site is presented in Section 4.2 of this Partial Permanent Solution Statement.

4.11.2.2 Use of Field/Screening Data

As part of their 2006 ecological risk characterization, MCA measured field parameters in surface water (temperature, dissolved oxygen, pH, and conductivity) to assess whether the discharge of groundwater was negatively impacting surface water. These data were supplemented by modelling of surface water discharge from groundwater analytical data. GZA collected surface water and groundwater seep samples for laboratory analysis in 2015 which were ultimately used in the ecological risk characterization.

In sediment, field screening data were used only to determine which discrete intervals should be sampled for volatile organic compounds (VOCs) when collecting sediment samples in support of a permit application and waste characterization. Field data were not used to delineate the extent of contamination or for characterizing Exposure Point Concentrations (EPCs).

Sediment sampling was conducted by AMEC in March 2017 to support the Combined Water Quality Certification for the potential remediation dredging. The sediment sampling consisted of the collection of 42 sediment cores with the compositing of the core sediment into 16 samples for laboratory analysis. The 16 sediment samples for VOC analysis were not composited and were collected from one sediment core location within each of the composite areas in accordance with 314 CMR 9.00. The sediment core that was the most visually impacted (staining, sheen, or separate phase) was sampled for VOCs.

Prior to dredging, Charter pre-characterized the sediment for off-site transport and disposal. The pre-characterization sampling consisted of the collection of five soil cores from each of the 86 sampling cells. Each of the cores from the sample cell was field screened with a photo-ionization detector (PID) and the location of the highest PID reading was sampled for Toxicity Characteristic Leaching Procedure (TCLP) VOC analysis. The remainder of the sediment from each core was composited for the other laboratory analyses.

4.11.2.3 Sampling Rationale, Number and Spatial Distribution, and Handling of Samples

The media and locations (both area and depth) sampled are appropriate to support the conclusions of this Partial Permanent Solution. Sampling locations were sufficient to delineate the Disposal Site boundary, identify local conditions, calculate Exposure Point Concentrations, identify exposure pathways and receptors, and demonstrate source elimination and control.

As described in the CSM (Section 4.2), contamination in the sediment portion of the Disposal Site is attributed primarily to the release of metals associated with historical chemical manufacturing operations on the upland portion of the Wynn Property. Spillage during loading and unloading of raw materials on and near the water, principally along the northern and northeastern side of the embayment, likely also contributed contaminants directly to sediment. Non-Disposal Site-related sources of contamination resulted in phthalate, PCB, PAH and petroleum contamination across the property.

Between December 2005 and April 2006, MCA collected 20 sediment samples from the Wynn Property and three samples from the Mystic River downstream of the Wynn Property to evaluate sediment conditions. These samples were analyzed for a subset of the following: RCRA 8 or MCP 14 metals, SVOCs, EPH fractions and target PAHs, PCBs, total organic carbon (TOC), and grain size. These samples were used by GEI in the 2012 Phase II CSA; however, they were not used to support this Partial Permanent Solution as subsequent sampling provided a larger and more complete dataset.

As part of the Phase II investigation, GZA performed sediment coring and sampling programs in August 2013 and March-April 2015. Approximately 200 sediment samples from 60 locations were collected from within the Wynn Property on an approximately 100-foot grid pattern. GZA collected a sediment core and a grab sample at each sample location. Targeted depth intervals for samples in the sediment cores were 0.5 to 2 feet (ft), 2 to 4 ft, 4 to 6 ft, 6 to 8 ft and 8 to 10 ft below the sediment surface. The grab samples were used to characterize sediment from 0 to 0.5 feet. Samples were analyzed for SVOCs, PAHs, EPH fractions, MCP 14 metals, and TOC, though not all samples were analyzed for all targeted compounds. This grid pattern of coring was appropriate to delineate the extent of contamination from both Disposal Site-related and non-Disposal Site-

related sources. The majority of the sediment samples collected for laboratory analysis were collected from shallow sediments (zero to two feet) because this is the depth range which is accessible to human and ecological receptors.

GZA also collected 22 additional sediment samples upstream and downstream of the Amelia Earhart Dam in order to characterize local conditions. As discussed in the Revised Phase II CSA (AMEC, 2016) a subset of the GZA data was supplemented with samples from two independent studies (Wehran, 1989 and Breault et al., 2005) to develop the local conditions dataset used to identify Disposal Site-related chemicals of concern and delineate the disposal site boundary in sediment.

Results from the Wynn Property cores were confirmed and supplemented by additional cores collected by GZA and AMEC in support of permit applications (2015 and 2017) and by Charter to pre-characterize sediment to be dredged (2017). The frequency, handling, and analysis of those samples were based on the anticipated remedial dredging at the time and the permit requirements (GZA and AMEC) or the requirements of the planned receiving facilities sampling frequency requirements (Charter). The proposed dredge area was subdivided into sampling cells and a sediment core was advanced to a depth corresponding to the proposed dredge depth. Composite samples were collected from each sediment core and analyzed for permit or waste characterization parameters including reactivity (sulfide and cyanide), ignitability, corrosivity (pH), PCBs, total and/or TCLP Metals, VOCs, SVOCs, herbicides, pesticides, petroleum hydrocarbons, grain size, TOC, and moisture content. Sample volumes were held to run TCLP VOCs, SVOCs, pesticides, and herbicides if needed.

Four near-shore surface water samples and two groundwater seep samples were collected from the intertidal zone on May 21 and 22, 2015. Surface water and seep samples were analyzed for SVOCs, PAHs, EPH fractions, dissolved MCP 14 metals, and hexavalent chromium. Field parameters were also measured. Locations were selected to assess potential impact from groundwater discharge associated with the low pH area and CES-2 (high arsenic area). Results from these samples confirmed prior field measurements and conclusions based on modeled groundwater reached by MCA.

During remediation both chemical and physical properties testing was conducted on cap materials prior to the delivery to the site at a frequency of one sample per 500 cubic yards of material. This test was conducted to ensure that the cap materials were clean and conformed to the physical requirements of the specifications. The cap material was chemically analyzed for VOCs, SVOCs, PCBs, pesticides, herbicides, dioxins, MCP 14 metals (antimony, arsenic, beryllium, cadmium, chromium, copper, lead, nickel, selenium, silver, thallium, vanadium, and zinc), and TOC. Cap materials were also physically tested for grain size, material classification, and moisture content.

The samples collected were adequate to determine local conditions in the sediment. As described in the Revised Supplemental Phase II CSA (AMEC, 2016), a local conditions dataset was developed using a subset of the local conditions samples collected by GZA (5 samples), and supplemented with selected data from the Wehran (5 samples) and Breault et al. (42 samples) reports. In order to more quantitatively define the Disposal Site-related chemicals of concern for which Wynn bears responsibility, the compounds detected in the 0-6-inch interval on the property were compared to the local conditions dataset described in the previous section. This was done

through a comparison of the Disposal Site concentrations to local conditions concentrations using the 75th percentile concentration of each chemical. Through this process and by agreement with MassDEP, arsenic, lead, mercury, and vanadium were identified as the Disposal Site-related chemicals of concern.

The samples collected are adequate to delineate the disposal site boundary. The disposal site boundary in sediment was drawn to separate areas where concentrations of Disposal Site-related chemicals are above a local condition value from areas where concentrations are generally at or below the local condition value. The disposal boundary was also drawn considering the CSM and principles of sediment transport dynamics. By agreement with MassDEP, the 75th percentile statistic was conservatively used to determine the local condition concentration for each chemical. These local condition concentrations were then used to draw the disposal site boundary. The 75th percentile concentration is more conservative than the 90th percentile concentration that MassDEP used to derive background soil values for metals (MassDEP, 1995), and more recently, PAHs (MassDEP, 2002). Delineating the extent of Disposal Site-related chemicals in sediment based on the local conditions data indicates the maximum potential extent of the aquatic disposal site boundary. Given the many historical and ongoing sources of contamination to the Mystic River (as well as natural sources of the same chemicals), using the 75th percentile value may be an over-estimate of the impacts directly associated with chemical manufacturing on the upland portion of the Wynn Property.

The samples collected were sufficient to calculate EPCs in the risk characterization. For the ecological risk characterizations (Stage I Ecological Screenings and Stage II ERCs completed by MCA and AMEC), the maximum concentrations for each constituent were compared to local conditions values (sediment) and benchmarks (sediment, surface water, calculated ecological doses). While there were sufficient data to calculate EPCs using averages (i.e., a large number of samples), maximum concentrations were selected in order to be conservative. Similarly, in the human health risk characterization, the maximum concentration of each detected constituent was used to assess potential risk.

The samples collected were adequate to evaluate hot spots. No hot spots were identified in the sediment portion of the Disposal Site.

The samples collected were adequate to identify exposure pathways in the sediment portion of the Disposal Site. Based on the sediment and surface water sampling results from the Disposal Site, ecological exposure pathways prior to remediation were determined to be direct contact with sediments, incidental sediment ingestion, and the consumption of contaminated prey. For human receptors, the potential exposure pathways were determined to be direct contact with sediment when wading and ingestion of fish caught on the Wynn Property. Note that the fish ingestion pathway was not evaluated quantitatively as it is not considered a likely scenario.

The samples collected are sufficient to document the elimination or control of the potential OHM sources in and to the sediment portion of the Disposal Site. Surface water samples collected prior to the sediment dredging indicate that metals in sediment were not acting as an ongoing source of contamination to surface water. Dredging removed the sediment with metals concentrations above local conditions and the sand cap separates the remaining metals contaminated sediment from the surface water. Therefore, there is no reason to expect that

residual contaminated sediment beneath the cap would be prone to partitioning to pore water and surface water. Based on this information, there are no uncontrolled OHM sources at the sediment portion of the Disposal Site.

As described in **Appendix C**, samples were generally collected using proper sampling techniques, sample preservation, and analyzed within specific holding times. Duplicate samples and trip blanks were generally collected as appropriate.

4.11.2.4 Temporal Distribution of Samples

The primary source of contamination in sediment is historical releases which occurred during manufacturing operations which began in the late 1800s and terminated by the late 1960s and 1970s. Therefore, it is unlikely that concentrations in groundwater, surface water or sediment would vary considerably over the time since investigations began.

This is confirmed, for example, by the similarity between results of the 2005-2007 initial investigations, 2013 and 2015 Phase II sediment sampling, the March 2017 Water Quality Certification sediment sampling, and the 2017 pre-characterization sampling.

4.11.2.5 Critical Samples

Critical samples identified for the sediment portion of the Disposal Site include the on-site sediment samples used to delineate the extent of the Disposal Site, the onsite sediment samples from a depth of 0 to 6-inches which were used to evaluate the potential risks to human health and the environment, and the off-site sediment samples from the Mystic River that were used to determine the local conditions.

4.11.2.6 Completeness

No significant data gaps have been identified for the sediment portion of the Disposal Site. The additional sampling performed between in August 2013 and March-May 2015 collected sufficient data to fill identified data gaps. The data sets utilized in the risk characterizations were determined to be sufficient to adequately characterize risk associated with the sediment portion of the Disposal Site.

Sampling of cap material during construction was sufficient to ensure that clean material was used in the construction of the cap. Bathymetric surveying during dredging and capping was used to ensure that the required dredge depths and cap thicknesses were achieved.

4.11.2.7 Inconsistency and Uncertainty

No inconsistency was associated with data used to support this Partial Permanent Solution.

Uncertainty in the risk characterizations is expected to be low. The receptors chosen for the risk assessment cover the range of organisms that are expected to be found at the site (ecological) and the likely ways humans could come into contact with contaminated media. Conservative assumptions were made throughout the risk characterization process so that the risk estimations are expected to overestimate actual risks.

Detection limits for chemicals in surface water, sediment, groundwater and biota were sufficiently low and appropriate for use in site characterization and risk assessment.

4.11.2.8 Information Considered Unrepresentative

Data generated during pre-remediation site investigations are representative of site conditions at the time the samples were collected. Sediment samples collected for waste characterization purposes and those within the horizontal and vertical limits of the remedial and navigational dredging program are no longer representative of current site conditions as the material has been removed. In addition, samples collected within top 18 inches of sediment in the cap-only area are no longer representative of the current exposure for ecological receptors following capping with clean, off-site materials.

4.11.3 REDUA Summary

The analytical data used to support this Partial Permanent Solution for the sediment portion of the Disposal Site were generated from site investigations and remediation conducted over a 10-year period. The analytical data used to directly support this Partial Permanent Solution are CAM Compliant data which meet the requirements for Presumptive Certainty. An extensive data quality review has been conducted for the site and the analytical data used to support this Partial Permanent Solution are scientifically valid and defensible; of a sufficient level of precision, accuracy and completeness; and are spatially adequate to represent Disposal Site conditions. In summary, the available analytical and field data are sufficient to characterize the risk posed by the Disposal Site.

A comprehensive evaluation of the site history, sampling programs, field observations, and analytical data conducted as part of the Representativeness Evaluation determined that the spatial data sets are representative of conditions in the sediment portion of the Disposal Site.

4.12 Description of Operation, Maintenance, or Monitoring Required [310 CMR 40.1056(2)(I)]

The MCP at 310 CMR 40.0874(3)(d)) requires that an OMM Plan be developed when the operation, maintenance and/or monitoring of the Comprehensive Response Action is necessary to ensure the effective performance and integrity of the remedial action and/or the achievement of remedial goals. In accordance with 310 CMR 40.0891(3), the OMM Plan will be revised and updated as warranted in response to changes in site conditions or as otherwise necessary to ensure remedial goals (i.e., a condition of No Significant Risk) are achieved.

The primary objectives of the OMM Plan for the sediment portion of the Disposal Site are to assess the integrity of the cap and ensure the thickness of the cap is maintained.

Verification of the thickness and stability of the cap will be done by monitoring and maintenance including the following:

- ▶ Scheduled monitoring of the capped area;
- ▶ Weather-based monitoring of the capped area;

- ▶ Additional monitoring based on the results of scheduled and weather-based monitoring, if appropriate; and
- ▶ Cap maintenance activities, performed as needed based on the scheduled and weather-based monitoring results.

A copy of the OMM Plan is included in **Appendix B**.

5.0 SUMMARY AND CONCLUSIONS

A Partial Permanent Solution with Conditions has been prepared for a portion of two properties located at One Broadway (formerly 1 Horizon Way) in Everett and an unnumbered parcel on Alford Street in Boston. Specifically, this Partial Permanent Solution with Conditions applies to 7.8-acres of Mystic River sediments below Mean High Water (elevation +4.35 feet relative to the North American Vertical Datum of 1988). The sediments are part of a larger disposal site known as the Former Everett Staging Yard Disposal Site which is identified under RTN 3-13341. This Disposal Site includes both a portion of the Mystic River and an upland area. A separate Permanent Solution with Conditions is being prepared for the uplands.

The sediment portion of the Former Everett Staging Yard Disposal Site has been impacted by:

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

A Downgradient Property Status Submittal related to phthalate and PCB contamination in sediment has been filed under RTN 3-35073.

A Method 3 Risk Characterization was conducted to characterize the risk of harm to human health, public welfare, safety, and the environment. The risk characterization concluded that a condition of No Significant Risk did not exist for benthic organisms exposed to sediment. Therefore, sediment remediation was conducted under a Phase IV RIP to eliminate significant risk to benthic organisms.

Sediment remediation was accomplished through the dredging and capping or capping of contaminated sediments conducted between October 2017 and August 2018. Successful implementation and completion of the remedial action was achieved through the installation of a clean surficial sediment layer (within the top 18 inches) across the area which posed a significant risk. Post-remediation monitoring will be used to assess the stability of the cap and to ensure that a condition of No Significant Risk is maintained. The cap is considered a Passive Exposure Pathway Mitigation Measure. Therefore, two AULs have been filed to memorialize the limits of the capped area and post-construction operation, maintenance and monitoring requirements.

In accordance with 310 CMR 40.1041(1), a Partial Permanent Solution Statement with Conditions applies to the sediment portion of the Disposal Site since:

- ▶ A level of No Significant Risk, as specified in 310 CMR 40.0900, exists or has been achieved;
- ▶ All sources of OHM have been eliminated or controlled, as specified in 310 CMR 40.1003(5)(a) and (b);
- ▶ No plumes of dissolved OHM in groundwater or vapor-phase OHM in the vadose zone existed on this portion of the Disposal Site;
- ▶ No NAPL was present;

- ▶ All threats of release have been eliminated;
- ▶ The level of OHM in the environment have been reduced to as close to background levels as feasible, as specified at 310 CMR 40.1020; and
- ▶ AULs have been filed pursuant to 310 CMR 40.1012 to maintain a Condition of No Significant Risk.

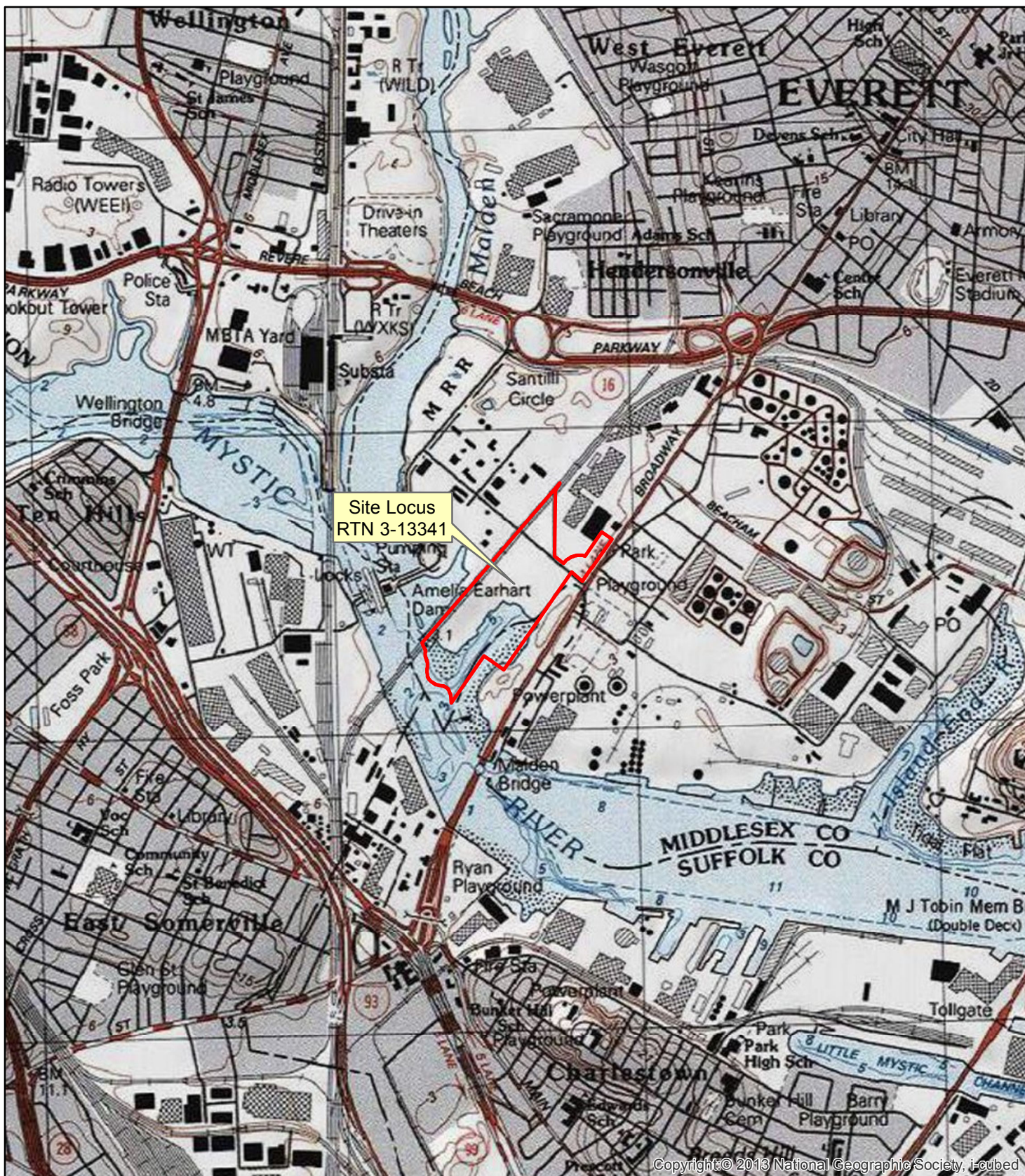
It should be noted that the Massachusetts Department of Environmental Protection has not published UCLs for sediment; therefore, there are no applicable UCLs.

6.0 REFERENCES

- AMEC Massachusetts, Inc. (AMEC), 2016. Revised Supplemental Phase II Comprehensive Site Assessment, Sediments Adjacent to the Former Everett Staging Yard, 1 Horizon Way, Everett, Massachusetts, Release Tracking Number 3-13341. December 29, 2016.
- AMEC, 2017. Phase III Remedial Action Plan Phase IV Remedy Implementation Plan, Sediments Portion of the Former Everett Staging Yard Disposal Site, 1 Horizon Way, Everett, Massachusetts, Release Tracking Number 3-13341. June 2017.
- AMEC, 2018a. Downgradient Property Status Submittal, Mystic River Sediments, One Broadway, Everett, Massachusetts, Release Tracking Number (RTN) 3-35073. August 2018.
- AMEC, 2018b. Phase IV As-Built Construction and Final Inspection Report, One Broadway, Everett, Massachusetts, Release Tracking Number (RTN) 3-13341. December 2018.
- Breault, R.F., Durant, J.L., and Robatt, A., 2005. "Sediment Quality of Lakes, River, and Estuaries in the Mystic River Basin, Eastern Massachusetts, 2001-03." U.S. Geological Survey Scientific Investigations Report 2005-5191.
- Consulting Engineers & Scientists, Inc. (CES), 1997. Phase I Initial Site Investigation Report, Alford Street, Everett, Massachusetts. January 15, 1997.
- GEI Consultants, Inc. (GEI), 2012. MassDEP RTN 3-13341, Phase II Comprehensive Site Assessment, Everett Staging Yard, 1 Horizon Way, Everett, Massachusetts. February 10, 2012.
- GZA GeoEnvironmental, Inc. (GZA), 2015a. Release Abatement Measure Plan, Pre-Construction Remediation Activities, (Former) Everett Staging Yard, 1 Horizon Way, Everett, Massachusetts, Release Tracking Number 3-13341. August 18, 2015.
- GZA, 2015b. Supplemental Phase II Comprehensive Site Assessment, Former Everett Staging Yard, Water-Side, Everett, Massachusetts, Release Tracking Number 3-13341. December 2015.
- GZA, 2016. Release Abatement Measure Plan, Construction-Related Remediation Activities, (Former) Everett Staging Yard, 1 Horizon Way, Everett, Massachusetts, Release Tracking Number (RTN) 3-13341. May 2, 2016.
- Massachusetts Department of Environmental Protection (MassDEP), 1995. Guidance for Disposal Site Risk Characterization in Support of the Massachusetts Contingency Plan. Interim Final Policy BWSC/ORS-95-141. July 1995.
- MassDEP, 2002. Technical Update - Background Levels of Polycyclic Aromatic Hydrocarbons and Metals in Soil. May 23, 2002.
- MassDEP, 2004. Conducting Feasibility Evaluations Under the MCP, Policy #WSC-04-160. July 16, 2004.
- MassDEP, 2007. MCP Representativeness Evaluations and Data Usability Assessments, Policy #WSC-07-350. September 19, 2007.

- MassDEP, 2010. Compendium of Quality Control Requirements and Performance Standards for Selected Analytical Protocols, WSC #10-320. July 1, 2010.
- MassDEP, 2016. Letter from MassDEP to Wynn MA, LLC dated January 22, 2016. "Re: Combined 401 Water Quality Certification, BRP WW07, Major Project Dredging, BRP WW 10, Major Excavation/Fill, At: Mystic River, Everett, 401 WQC Transmittal No. X266062, Wetlands File No. 22-0098, ACoE Application No. NAE-2013-1023."
- Massachusetts Department of Public Health (DPH), Lower Mystic River Advisory, Fact Sheet Summer 2018. Available online at: <https://www.mass.gov/lists/lower-mystic-river-area-advisory>
- Menzie-Cura Associates, Inc. (MCA). 2006. Stage I & II Environmental Risk Characterization, Everett Staging Area, Alford Street, Everett, MA, RTN 3-13341. December 19, 2006.
- Tetra Tech Rizzo, 2007. Phase II – Comprehensive Site Assessment, Everett Staging Yard, Chemical Lane, Everett, Massachusetts, DEP RTN 3-13341. December 26, 2007.
- United States Environmental Protection Agency (USEPA), 2015. Determination of the Biologically Relevant Sampling Depth for Terrestrial and Aquatic Ecological Risk Assessments (Final Report). U.S. Environmental Protection Agency, Ecological Risk Assessment Support Center, Cincinnati, OH, EPA/600/R-15/176, 2015.
- Wehran Engineering Corporation (Wehran), 1989. A Study of the Mystic, Malden, and Island End Rivers. Prepared for Department of Environmental Quality Engineering, DEQE TAD Number 0057. May 1989.

FIGURES



amec
foster
wheeler

Former Everett Staging Yard

One Broadway, Everett, MA
RTN 3-13341

Site Location Map

SCALE:

1 inch = 2,000 feet

DATE:

09/14/18

PROJECT:

3651160042

DRAWN BY: E. Gardiner

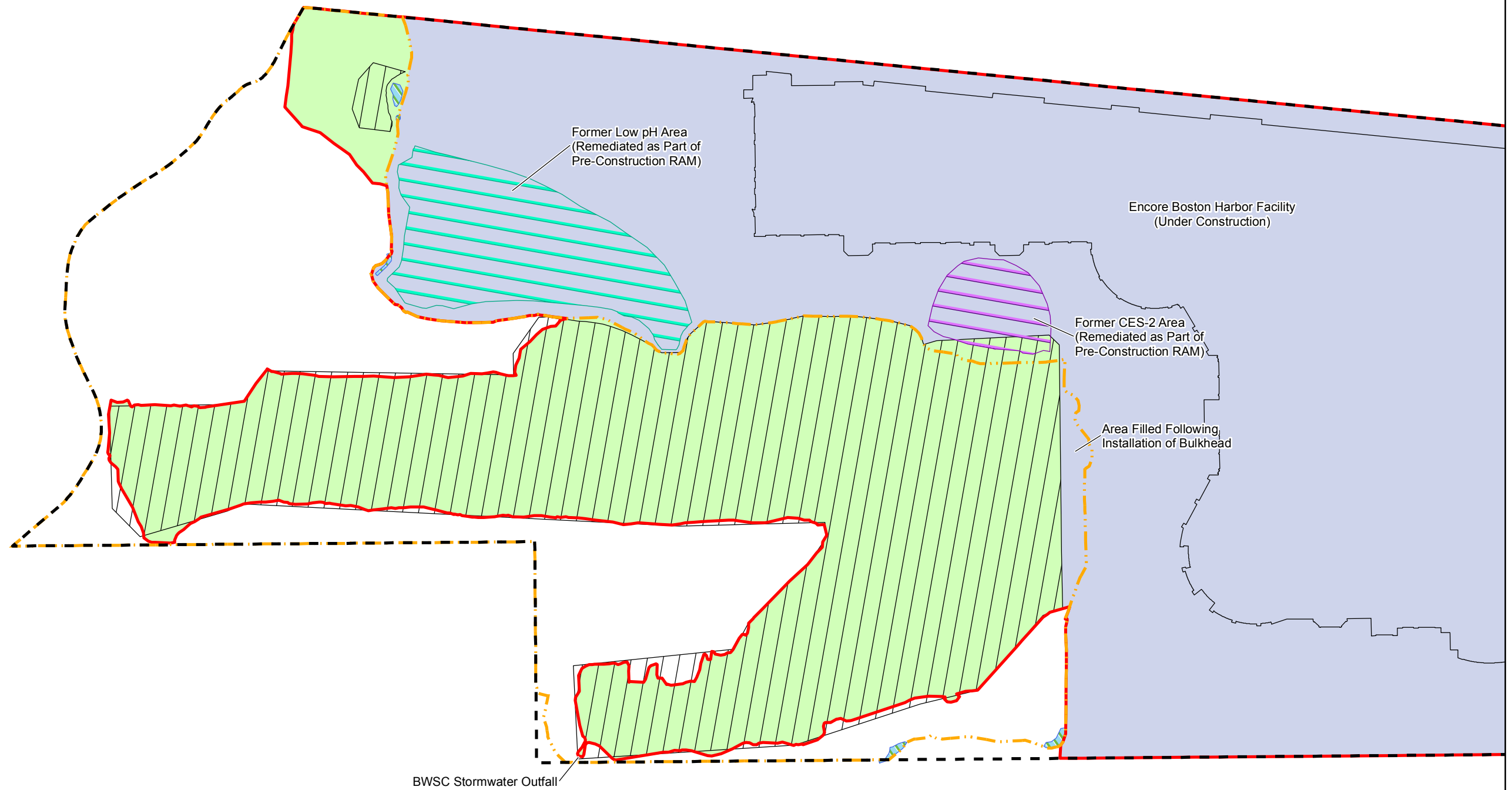
CHECKED BY: J. Rice

LOCATION:

P:\BOS\Wynn Design & Development\3651160042 - Wynn Everett Sediments\7.0 Drawings\7.3 GIS\Fig1-1_PSS_SiteLocus.mxd

FIGURE NO:

1-1



Source:
1) Approximate Parcel Boundary and Mean High Water datalayers developed from plans or electronic files provided by "Feldman Land Surveyors" entitled "Existing Conditions" Dated 02-20-2015, Original scale 1"=20', CAD file, "Post-Cap Elevations - NAVD88.dwg"

	<p>Legend</p> <ul style="list-style-type: none"> Approximate Boundary of Wynn Property Disposal Site Boundary (RTN 3-13341) Sediment Portion of Disposal Site Upland Portion of Disposal Site Downgradient Property Status Area (RTN 3-35073) Cap Limits Former CES-2 Area Former Low pH Area Salt Marsh Building Footprint Post-Remediation Topography 	<p align="center">Site Plan Sediment Portion of the Former Everett Staging Yard One Broadway, Everett, MA RTN 3-13341</p>		<p>FIGURE NO:</p> <p align="center">1-2</p>
		<p>Drawn By: E. Gardiner</p>	<p>Checked By: J. Rice</p>	
		<p>Project Number: 3651160042.003</p>	<p>Date: 11/1/2018</p>	

APPENDIX A

Copies of Activity and Use Limitations

FORM 1075

Note: Pursuant to 310 CMR 40.1074(5), upon transfer of any interest in or a right to use the property or a portion thereof that is subject to this Notice of Activity and Use Limitation, the Notice of Activity and Use Limitation shall be incorporated either in full or by reference into all future deeds, easements, mortgages, leases, licenses, occupancy agreements or any other instrument of transfer. Within 30 days of so incorporating the Notice of Activity and Use Limitation in a deed that is recorded or registered, a copy of such deed shall be submitted to the Department of Environmental Protection.

NOTICE OF ACTIVITY AND USE LIMITATION

M.G.L. c. 21E, § 6 and 310 CMR 40.0000

Disposal Site Name: Former Everett Staging Yard

DEP Release Tracking No.(s): 3-13341

This Notice of Activity and Use Limitation ("Notice") is made as of this ____ day of _____, 2018, by Wynn MA, LLC, 101 Station Landing, Suite 2200, Medford, Massachusetts, together with his/her/its/their successors and assigns (collectively "Owner").

W I T N E S S E T H:

WHEREAS, Wynn MA, LLC is the owner in fee simple of those certain parcel(s) of land located in Everett, Middlesex County, Massachusetts with the buildings and improvements thereon, pursuant to a deed recorded with the Middlesex South Registry of Deeds in Book 64748, Page 556 and filed with the Land Registration Office of the Middlesex South Registry District as Document No. 1689280 with Certificate of Title No. 258475 (See also that Notice of Voluntary Withdrawal of Land from the Registration System (Case No. 16SBQ 18691-11-001) dated November 1, 2016 and filed with the Land Court on January 18, 2017 as Document No. 1751914 on Certificate of Title 258475, and recorded with the Registry in Book 68774, Page 14);

WHEREAS, said parcel(s) of land, which is more particularly bounded and described in Exhibit A, attached hereto and made a part hereof ("Property") is subject to this Notice of Activity and Use Limitation;

WHEREAS, a portion of the Property ("Portion of the Property") is subject to this Notice of Activity and Use Limitation. The Portion of the Property is more particularly bounded and described in Exhibit A-1, attached hereto and made a part hereof. The Portion of the Property is shown on a plan recorded with the Middlesex South District Registry of Deeds in Plan Book ____, Plan ____;

WHEREAS, the Portion of the Property comprises part of a disposal site as the result of releases of oil and/or hazardous material.

Exhibit B is a sketch plan showing the relationship of the Portion of the Property subject to this Notice of Activity and Use Limitation to the boundaries of said disposal site existing within the limits of the Property and to the extent such boundaries have been established. Exhibit B is attached hereto and made a part hereof; and

WHEREAS, one or more response actions have been selected for the Portion of the Disposal Site in accordance with M.G.L. c. 21E ("Chapter 21E") and the Massachusetts Contingency Plan, 310 CMR 40.0000 ("MCP"). Said response actions are based upon (a) the restriction of human access to and contact with oil and/or hazardous material in sediment and/or (b) the restriction of certain activities occurring in, on, through, over or under the Portion of the Property. A description of the basis for such restrictions, and the oil and/or hazardous material release event(s) or site history that resulted in the contaminated media subject to the Notice of Activity and Use Limitation is attached hereto as Exhibit C and made a part hereof;

NOW, THEREFORE, notice is hereby given that the activity and use limitations set forth in this Notice of Activity and Use Limitation are as follows:

1. Activities and Uses Consistent with Maintaining No Significant Risk Conditions.
The following Activities and Uses are consistent with maintaining a Permanent

Solution and a condition of No Significant Risk and, as such, may occur on the Portion of the Property pursuant to 310 CMR 40.0000:

- (i) Use of the shoreline area as a Water Transportation Docking Facility and associated commercial activities and uses including but not limited to routine non-intrusive maintenance of the docks, pier pilings, retaining walls, outfalls, and the sediment cap as defined in Paragraph 3 (i);
- (ii) Routine maintenance activities related to the repair, resurfacing and/or replacement of the docks, pier pilings, retaining walls, outfalls, and the sediment cap provided that such activities do not result in direct contact with potentially impacted sediments located beneath the sediment cap;
- (iii) Emergency repair of any underground utilities, provided that the protective sediment cap is replaced following such activity and any on-site/offsite disposal and /or reuse of the sediment is managed in accordance with the MCP;
- (iv) Maintenance dredging as required to maintain proper navigation provided that such activities do not result in removal of the sediment cap or direct contact with potentially impacted sediments located beneath the sediment cap;
- (v) Surface and subsurface activities, including excavation, dredging or construction activities which will result in disturbance of or contact with impacted sediment below the sediment cap shown on Exhibit B provided that any such activity is conducted in accordance with Obligations (iv) through (vii) in Paragraph 3 below;
- (vi) Such other activities or uses which, in the Opinion of a Licensed Site Professional, shall present no greater risk of harm to health, safety, public welfare or the environment than the activities and uses set forth in this Paragraph; and
- (vii) Such other activities and uses not identified in Paragraph 2 as being Activities and Uses Inconsistent with maintaining No Significant Risk Conditions.

2. Activities and Uses Inconsistent with Maintaining No Significant Risk Conditions. The following Activities and Uses are inconsistent with maintaining a Permanent Solution and a condition of No Significant Risk pursuant to 310 CMR 40.0000, and, as such, may not occur on the Portion of the Property:

- (i) Any activities and/or uses other than emergency utility repair and work necessary to maintain the cap which would disturb, relocate, or otherwise result in direct contact with potentially impacted sediment beneath the sediment cap shown on Exhibit B, unless such activities are reviewed and approved by a Licensed Site Professional in accordance with Obligation (iv) in Paragraph 3 below, conducted in accordance with a Health and Safety Plan and Sediment Management Plan developed in accordance with Obligations (v) and (vi) in Paragraph 3 below and in accordance with the remediation waste and waste water management procedures specified in 310 CMR 40.0030 and CMR 40.0040;
- (ii) Activities and/or uses which cause physical or chemical deterioration, breakage, or structural damage to the sediment cap (or any replacement cap) unless the sediment cap is replaced or repaired following such damage; and
- (iii) Activities and/or uses that may decrease the thickness of the constructed sediment cap unless approved in writing by a Licensed Site Professional.

3. Obligations and Conditions. The following obligations and/or conditions are necessary and shall be undertaken and/or maintained at the Portion of the Property to maintain a Permanent Solution and a condition of No Significant Risk:

- (i) The constructed sediment cap consists of a minimum of 18-inches of clean

granular material. Any replacement of the sediment cap shall consist of 18-inches of clean granular material to match existing materials or equivalent as approved by a Licensed Site Professional;

- (ii) The constructed sediment cap must be maintained in accordance with an Operation, Maintenance and Monitoring (OMM) Plan prepared by a Licensed Site Professional to prevent future exposures to underlying impacted sediment. If disrepair or damage to the integrity of the sediment cap is identified, repair/replacement of the cap must be completed in accordance with the OMM Plan and under the direction of a Licensed Site Professional;
- (iii) Inspections and associated record-keeping activities must be performed to confirm that the constructed sediment cap is being properly maintained to prevent exposure to impacted sediment. The inspection and associated record-keeping activities for the sediment cap shall be performed in accordance with an OMM Plan prepared by a Licensed Site Professional;
- (iv) Any disturbance of the sediment beneath the sediment cap or modification to the cap must be reviewed and approved by a Licensed Site Professional;
- (v) A Sediment Management Plan must be developed and implemented prior to the initiation of any planned (non-emergency) dredging or excavation of sediment that disturbs the constructed sediment cap. The Sediment Management Plan must be prepared by a Licensed Site Professional and in accordance with the remediation waste procedures of the Massachusetts Contingency Plan at 310 CMR 40.0030. The Sediment Management Plan must include a description of the sediment dredging or excavation, handling, storage, on-site reuse, transport, and disposal procedures. The Sediment Management Plan must also include a description of the dust control and other engineering controls to limit the exposure to contaminated sediment via dermal contact and/or ingestion;
- (vi) A Health and Safety Plan must be prepared prior to the initiation of any planned (non-emergency) dredging or excavation of sediment that disturbs the constructed sediment cap. The Health and Safety Plan must be prepared by a Certified Industrial Hygienist or a qualified environmental professional sufficiently trained in worker health and safety requirements in accordance with the procedures of the Massachusetts Contingency Plan at 310 CMR 40.0018. The Health and Safety Plan shall require workers encountering sediment below the cap to be adequately protected and trained consistent with relevant federal and state occupational, health and safety requirements (e.g. 29 CFR 1910.120). The Health and Safety Plan must clearly describe the compounds of concern at the property and specifically identify the types of personal protective equipment, monitoring devices, and engineering controls necessary to ensure that workers are not exposed to oil and hazardous materials; and
- (vii) Any sediment containing oil and hazardous materials above “Local Conditions” concentrations as determined by a Licensed Site Professional that is removed from the Portion of the Property subject to this Notice of Activity and Use Limitation must be managed in a manner consistent with applicable provisions of the MCP (including but not limited to “Management Procedures for Remediation Waste” at 310 CMR 40.0030 and “Remedial Actions After a Permanent or Temporary Solution Statement has been Submitted” at 310 CMR 40.1067), and in accordance with federal, state, and local regulations.

4. Proposed Changes in Activities and Uses. Any proposed changes in activities and uses at the Portion of the Property which may result in higher levels of exposure to oil and/or hazardous material than currently exist shall be evaluated by a Licensed Site Professional who shall render an Opinion, in accordance with 310 CMR 40.1080, as to whether the proposed changes are inconsistent with maintaining a Permanent

Solution and a condition of No Significant Risk. Any and all requirements set forth in the Opinion to meet the objective of this Notice shall be satisfied before any such activity or use is commenced.

5. Violation of a Permanent or Temporary Solution. The activities, uses and/or exposures upon which this Notice is based shall not change at any time to cause a significant risk of harm to health, safety, public welfare, or the environment or to create substantial hazards due to exposure to oil and/or hazardous material without the prior evaluation by a Licensed Site Professional in accordance with 310 CMR 40.1080, and without additional response actions, if necessary, to maintain a condition of No Significant Risk.

If the activities, uses, and/or exposures upon which this Notice is based change without the prior evaluation and additional response actions determined to be necessary by a Licensed Site Professional in accordance with 310 CMR 40.1080, the owner or operator of the Portion of the Property subject to this Notice at the time that the activities, uses and/or exposures change, shall comply with the requirements set forth in 310 CMR 40.0020.

6. Incorporation Into Deeds, Mortgages, Leases, and Instruments of Transfer. This Notice shall be incorporated either in full or by reference into all future deeds, easements, mortgages, leases, licenses, occupancy agreements or any other instrument of transfer, whereby an interest in and/or a right to use the Property or a portion thereof is conveyed in accordance with 310 CMR 40.1074(5).

Owner hereby authorizes and consents to the filing and recordation and/or registration of this Notice, said Notice to become effective when executed under seal by the undersigned Licensed Site Professional, and recorded and/or registered with the appropriate Registry(ies) of Deeds and/or Land Registration Office(s).

[Signature Pages Follow]

WITNESS the execution hereof under seal this _____ day of _____, 2018.

Wynn MA, LLC

By: _____
Name: _____
Title : _____

COMMONWEALTH OF MASSACHUSETTS

_____, ss _____, 2018

On this ____ day of _____, 2018, before me, the undersigned notary public, personally appeared _____, proved to me through satisfactory evidence of identification, which was _____, to be the person whose name is signed on the preceding or attached document, and acknowledged to me that (he) (she) signed it voluntarily for its stated purpose as _____ for Wynn MA, LLC, a Nevada limited liability corporation.

Name

The undersigned Licensed Site Professional hereby certifies that in his Opinion this Notice of Activity and Use Limitation is consistent with a Permanent Solution and maintaining a condition of No Significant Risk.

Date: _____, 2018

Matthew J. Grove
LSP # 9932

COMMONWEALTH OF MASSACHUSETTS

_____, ss

_____, 2018

On this ____ day of _____, 2018, before me, the undersigned notary public, personally appeared Matthew J. Grove, proved to me through satisfactory evidence of identification, which were _____, to be the person whose name is signed on the preceding or attached document, and acknowledged to me that he signed it voluntarily for its stated purpose.

As Licensed Site Professional for the sediment remediation on behalf of Wynn MA, LLC, the Responsible Party.

Name

Upon recording, return to:

Jacqui Krum
Wynn MA, LLC
101 Station Landing, Suite 2200
Medford, MA 02155

Exhibit A

Description of the Property

Exhibit A

Legal Description

A CERTAIN PARCEL OF LAND SITUATED IN THE CITY OF EVERETT, COUNTY OF MIDDLESEX AND THE COMMONWEALTH OF MASSACHUSETTS, MORE PARTICULARLY DESCRIBED AS FOLLOWS;

BEGINNING AT A POINT AT THE INTERSECTION OF THE SOUTHWESTERLY SIDELINE OF HORIZON WAY, AND THE DIVISION LINE BETWEEN THE CITY OF BOSTON AND CITY OF EVERETT;

THENCE RUNNING GENERALLY SOUTHERLY, BY THE DIVISION LINE BETWEEN THE CITY OF BOSTON AND THE CITY OF EVERETT, A DISTANCE OF 2,174 FEET MORE OR LESS, HAVING TWO TIE COURSES, S 33°24'02" E, A DISTANCE OF 777.37 FEET AND S 51°21'19" W, A DISTANCE OF 1108.83 FEET, TO A POINT ON THE EXTREME LOW WATER MARK OF THE MYSTIC RIVER;

THENCE RUNNING GENERALLY WESTERLY, BY SAID EXTREME LOW WATER MARK, A DISTANCE OF 719 FEET MORE OR LESS, HAVING A TIE COURSE OF N 29°09'26" W AND A TIE DISTANCE OF 658.33 FEET TO A POINT;

THENCE TURNING AND RUNNING N 40°38'05" E BY LAND NOW OR FORMERLY OF BOSTON AND MAIN RAILROAD COMPANY, A DISTANCE OF 2,240 FEET MORE OR LESS TO A POINT;

THENCE TURNING AND RUNNING S 00°30'21" W BY PARCEL C AND LAND NOW OR FORMERLY MASSACHUSETTS BAY TRANSPORTATION AUTHORITY, A DISTANCE OF 741.15 FEET TO A POINT ON THE NORTHWESTERLY SIDELINE OF SAID HORIZON WAY;

THENCE TURNING AND RUNNING S 38°20'21" W BY SAID HORIZON WAY, A DISTANCE OF 50.00 FEET TO A POINT;

THENCE TURNING AND RUNNING S 51°39'39" E BY THE SOUTHWESTERLY SIDELINE OF HORIZON WAY, A DISTANCE OF 246.70 FEET TO THE POINT OF BEGINNING.

CONTAINING 30 ACRES MORE OR LESS.

Exhibit A-1

Description of the Portion of the Property Subject to the
Activity and Use Limitation

AUL Area 1

A CERTAIN PARCEL OF LAND SITUATED IN THE CITY OF EVERETT, COUNTY OF MIDDLESEX AND THE COMMONWEALTH OF MASSACHUSETTS, AS SHOWN ON A PLAN ENTITLED "ACTIVITY AND USE LIMITATION PLAN – ONE BROADWAY – EVERETT, MASS." BY FELDMAN LAND SURVEYORS, DATED AUGUST 29, 2018

COMMENCING AT A POINT AT THE SOUTHWESTERLY TERMINUS OF HORIZON WAY.

RUNNING S 56°09'03" W, A DISTANCE OF 1551.19 FEET TO THE POINT OF BEGINNING;

THENCE TURNING AND RUNNING S 08°29'13" W, A DISTANCE OF 9.06 FEET TO A POINT;

THENCE TURNING AND RUNNING S 02°39'02" W, A DISTANCE OF 9.73 FEET TO A POINT;

THENCE TURNING AND RUNNING S 15°34'04" E, A DISTANCE OF 7.71 FEET TO A POINT;

THENCE TURNING AND RUNNING S 40°04'57" E, A DISTANCE OF 5.03 FEET TO A POINT;

THENCE TURNING AND RUNNING S 51°48'11" E, A DISTANCE OF 8.12 FEET TO A POINT;

THENCE TURNING AND RUNNING S 63°50'44" E, A DISTANCE OF 4.99 FEET TO A POINT;

THENCE TURNING AND RUNNING S 54°53'57" E, A DISTANCE OF 2.59 FEET TO A POINT;

THENCE TURNING AND RUNNING S 67°45'19" E, A DISTANCE OF 5.52 FEET TO A POINT;

THENCE TURNING AND RUNNING S 57°24'38" E, A DISTANCE OF 2.60 FEET TO A POINT;

THENCE TURNING AND RUNNING S 67°03'13" E, A DISTANCE OF 5.67 FEET TO A POINT;

THENCE TURNING AND RUNNING S 85°25'34" E, A DISTANCE OF 2.26 FEET TO A POINT;

THENCE TURNING AND RUNNING S 68°10'53" E, A DISTANCE OF 6.16 FEET TO A POINT;

THENCE TURNING AND RUNNING S 81°30'40" E, A DISTANCE OF 2.71 FEET TO A POINT;

THENCE TURNING AND RUNNING S 60°18'46" E, A DISTANCE OF 2.46 FEET TO A POINT;

THENCE TURNING AND RUNNING S 48°14'01" E, A DISTANCE OF 2.51 FEET TO A POINT;

THENCE TURNING AND RUNNING S 36°41'41" E, A DISTANCE OF 7.30 FEET TO A POINT;

THENCE TURNING AND RUNNING S 41°31'51" W, A DISTANCE OF 36.87 FEET TO A POINT;

THENCE TURNING AND RUNNING N 75°50'53" W, A DISTANCE OF 24.26 FEET TO A POINT;

THENCE TURNING AND RUNNING N 42°27'04" W, A DISTANCE OF 36.32 FEET TO A POINT;

THENCE TURNING AND RUNNING N 14°19'24" W, A DISTANCE OF 26.40 FEET TO A POINT;

THENCE TURNING AND RUNNING N 50°46'26" E, A DISTANCE OF 39.98 FEET TO THE POINT OF BEGINNING.

SAID PARCEL OF LAND CONTAINING AN AREA OF 3,028 SQUARE FEET.

AUL Area 2

A CERTAIN PARCEL OF LAND SITUATED IN THE CITY OF EVERETT, COUNTY OF MIDDLESEX AND THE COMMONWEALTH OF MASSACHUSETTS, AS SHOWN ON A PLAN ENTITLED "ACTIVITY AND USE LIMITATION PLAN – ONE BROADWAY – EVERETT, MASS." BY FELDMAN LAND SURVEYORS, DATED AUGUST 29, 2018

COMMENCING AT A POINT AT THE SOUTHWESTERLY TERMINUS OF HORIZON WAY. THENCE;

RUNNING S 27°51'09" W, A DISTANCE OF 665.10 FEET TO THE POINT OF BEGINNING;

THENCE TURNING AND RUNNING S 16°34'25" W, A DISTANCE OF 24.78 FEET TO A POINT;

THENCE TURNING AND RUNNING S 14°02'42" E, A DISTANCE OF 91.10 FEET TO A POINT ON THE EVERETT/BOSTON CITY LINE;

THENCE TURNING AND RUNNING S 29°35'33" W, A DISTANCE OF 11.64 FEET TO A POINT;

THENCE TURNING AND RUNNING S 51°44'47" W, A DISTANCE OF 22.06 FEET TO A POINT;

THENCE TURNING AND RUNNING S 44°11'54" W, A DISTANCE OF 30.22 FEET TO A POINT;

THENCE TURNING AND RUNNING N 35°18'01" W, A DISTANCE OF 75.81 FEET TO A POINT;

THENCE TURNING AND RUNNING S 59°50'49" W, A DISTANCE OF 91.65 FEET TO A POINT;

THENCE TURNING AND RUNNING S 16°35'29" E, A DISTANCE OF 91.43 FEET TO A POINT;

THENCE TURNING AND RUNNING S 51°05'53" W, A DISTANCE OF 86.21 FEET TO A POINT;

THENCE TURNING AND RUNNING N 81°13'10" W, A DISTANCE OF 15.44 FEET TO A POINT;

THE PREVIOUS EIGHT COURSE RUN BY THE SAID EVERETT/BOSTON CITY LINE;

THENCE TURNING AND RUNNING N 09°48'30" W, A DISTANCE OF 67.07 FEET TO A POINT;

THENCE TURNING AND RUNNING N 20°52'55" W, A DISTANCE OF 34.64 FEET TO A POINT;

THENCE TURNING AND RUNNING N 60°02'49" W, A DISTANCE OF 18.11 FEET TO A POINT;

THENCE TURNING AND RUNNING S 33°30'18" W, A DISTANCE OF 110.33 FEET TO A POINT ON THE SAID EVERETT/BOSTON CITY LINE;

THENCE TURNING AND RUNNING N 81°13'10" W, A DISTANCE OF 53.66 FEET TO A POINT;

THENCE TURNING AND RUNNING S 56°04'27" W, A DISTANCE OF 208.16 FEET TO A POINT;

THENCE TURNING AND RUNNING S 28°45'52" W, A DISTANCE OF 361.55 FEET TO A POINT;

THENCE TURNING AND RUNNING S 20°37'13" W, A DISTANCE OF 171.10 FEET TO A POINT;

THE PREVIOUS FOUR COURSES RUN BY THE SAID EVERETT/BOSTON CITY LINE;

THENCE TURNING AND RUNNING N 56°34'55" W, A DISTANCE OF 77.62 FEET TO A POINT;

THENCE TURNING AND RUNNING S 34°26'25" W, A DISTANCE OF 0.25 FEET TO A POINT;
THENCE TURNING AND RUNNING N 55°57'03" W, A DISTANCE OF 22.91 FEET TO A POINT;
THENCE TURNING AND RUNNING N 34°12'16" E, A DISTANCE OF 131.09 FEET TO A POINT;
THENCE TURNING AND RUNNING N 27°30'54" E, A DISTANCE OF 30.14 FEET TO A POINT;
THENCE TURNING AND RUNNING N 20°02'57" W, A DISTANCE OF 44.46 FEET TO A POINT;
THENCE TURNING AND RUNNING N 35°53'43" E, A DISTANCE OF 296.75 FEET TO A POINT;
THENCE TURNING AND RUNNING N 55°31'34" W, A DISTANCE OF 25.55 FEET TO A POINT;
THENCE TURNING AND RUNNING N 19°46'47" W, A DISTANCE OF 52.70 FEET TO A POINT;
THENCE TURNING AND RUNNING N 33°06'57" E, A DISTANCE OF 9.97 FEET TO A POINT;
THENCE TURNING AND RUNNING N 42°27'08" E, A DISTANCE OF 37.54 FEET TO A POINT;
THENCE TURNING AND RUNNING N 37°00'12" E, A DISTANCE OF 8.59 FEET TO A POINT;
THENCE TURNING AND RUNNING N 43°33'08" E, A DISTANCE OF 21.83 FEET TO A POINT;
THENCE TURNING AND RUNNING N 53°49'21" E, A DISTANCE OF 23.84 FEET TO A POINT;
THENCE TURNING AND RUNNING N 60°29'43" E, A DISTANCE OF 27.82 FEET TO A POINT;
THENCE TURNING AND RUNNING N 67°47'24" E, A DISTANCE OF 13.54 FEET TO A POINT;
THENCE TURNING AND RUNNING N 42°40'03" E, A DISTANCE OF 2.17 FEET TO A POINT;
THENCE TURNING AND RUNNING N 75°40'11" E, A DISTANCE OF 9.21 FEET TO A POINT;
THENCE TURNING AND RUNNING N 54°29'05" E, A DISTANCE OF 2.05 FEET TO A POINT;
THENCE TURNING AND RUNNING N 34°29'16" E, A DISTANCE OF 28.25 FEET TO A POINT;
THENCE TURNING AND RUNNING S 72°18'50" W, A DISTANCE OF 13.84 FEET TO A POINT;
THENCE TURNING AND RUNNING N 27°49'18" E, A DISTANCE OF 2.49 FEET TO A POINT;
THENCE TURNING AND RUNNING N 20°43'49" W, A DISTANCE OF 2.62 FEET TO A POINT;
THENCE TURNING AND RUNNING N 57°40'05" W, A DISTANCE OF 23.85 FEET TO A POINT;
THENCE TURNING AND RUNNING N 32°19'08" E, A DISTANCE OF 289.04 FEET TO A POINT;
THENCE TURNING AND RUNNING S 58°15'50" E, A DISTANCE OF 39.76 FEET TO A POINT;
THENCE TURNING AND RUNNING N 17°27'56" E, A DISTANCE OF 18.84 FEET TO A POINT;
THENCE TURNING AND RUNNING N 32°17'05" E, A DISTANCE OF 134.31 FEET TO A POINT;
THENCE TURNING AND RUNNING N 78°20'14" E, A DISTANCE OF 17.03 FEET TO A POINT;

THENCE TURNING AND RUNNING S 55°40'04" E, A DISTANCE OF 247.74 FEET TO A POINT;

THENCE TURNING AND RUNNING S 56°07'39" E, A DISTANCE OF 67.78 FEET TO THE POINT OF BEGINNING.

SAID PARCEL OF LAND CONTAINING AN AREA OF 207,113 SQUARE FEET OR 4.755 ACRES.

Exhibit B

Sketch Plan Showing Relationship of the Portion of the Property
to the Disposal Site

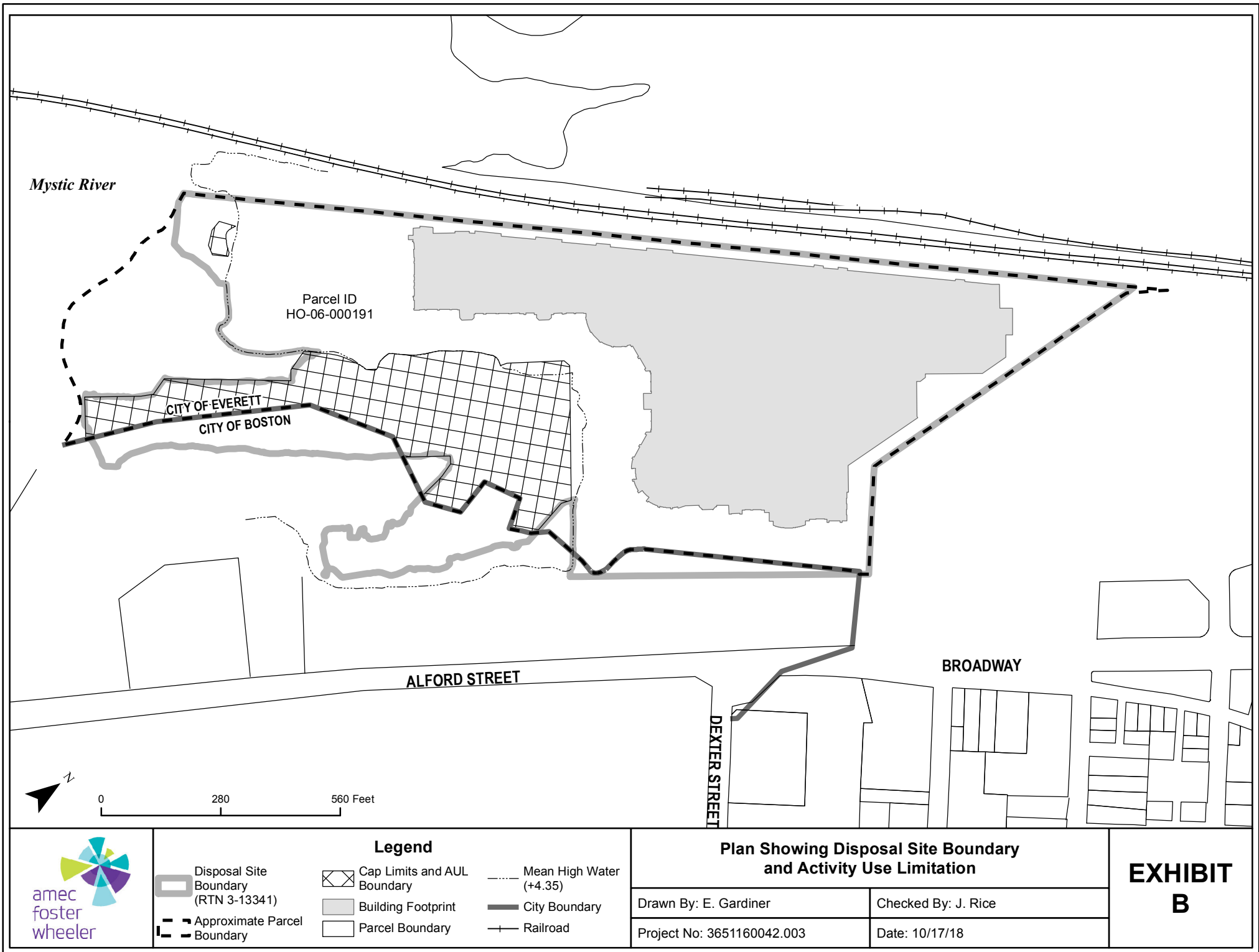


Exhibit C

Narrative Description

EXHIBIT C

Sediment Portion of the Former Everett Staging Yard Disposal Site One Broadway, Everett, Massachusetts Release Tracking Number (RTN) 3-13341

In accordance with the requirements of 310 CMR 40.1074, this Narrative Description, has been prepared to support a Notice of Activity and Use Limitation (AUL) for the sediment portion of the Former Everett Staging Yard Disposal Site (hereafter the Site) located at One Broadway, Everett, Massachusetts.

This AUL applies only to the sediment portion of the Property that has been dredged and/or capped as shown in Exhibit B. Included within the Disposal Site boundary for RTN 3-13341 but not covered by this AUL, is the upland portion of the Property (i.e., those areas above Mean High Water or elevation +4.35 feet relative to the North American Vertical Datum of 1988).

As required by 310 CMR 40.1074(2)(e) through (g), this Exhibit C provides:

- a statement that specifies why the AUL is appropriate to maintain a Permanent Solution and a condition of No Significant Risk;
- a concise summary of the oil and/or hazardous material release event(s) or site history (including response actions taken) that resulted in the contaminated media subject to the AUL; and
- a description of the contaminated media subject to the AUL.

REASON FOR ACTIVITY AND USE LIMITATION

The December 2016 Revised Supplemental Phase II Comprehensive Site Assessment Report assessed risks to human health and the environment posed by the sediment portion of the Site, and defined the limits of those areas which could pose a risk. The conceptual site model and an evaluation of “local conditions” in sediment identified arsenic, lead, mercury, and vanadium as specific contaminants of concern tied to historical manufacturing operations and processes on the property. A Method 3 human health risk characterization concluded that a condition of No Significant Risk does exist for human health. However, a Method 3 Stage I Ecological Screening concluded that potentially significant exposure pathways existed for bottom-dwelling organisms exposed to sediment.

This conclusion was based on the results of a comparison of disposal site data to ecological benchmarks which is a component of a Stage II Ecological Risk Characterization (ERC). Following submittal of the Revised Phase II Report, the Massachusetts Department of Environmental Protection (MassDEP) requested that the sediment Ecological Risk Assessment be revised to more explicitly follow a Stage II ERC approach. This updated Stage II ERC was presented in a combined Phase III Remedial Action Plan (RAP) and Phase IV Remedy Implementation Plan (RIP) which was submitted to MassDEP in June 2017.

The goal of the remedial action outlined in the Phase IV RIP was to eliminate significant risk to benthic organisms associated with exposure to contaminated sediment at concentrations which exceed benchmarks or local conditions. Sediment remediation was accomplished through the dredging and capping or capping alone of contaminated sediments. Dredged materials were transported off-site for disposal. Dredging and installation of the cap were largely completed between October 2017 and March 2018.

Successful implementation and completion of the remedial action were achieved by placing a clean surficial sediment layer (within the top 18 inches) across the capping area shown on Exhibit B. The AUL is necessary to maintain the integrity of the sediment cap and to maintain a condition of No Significant Risk for the sediment portion of the site. The AUL prohibits certain activities and uses which could compromise the integrity of the sediment cap. The AUL also requires inspection and monitoring the sediment cap and repair of damaged areas.

DESCRIPTION OF RELEASE THAT RESULTED IN CONTAMINATION

Site History

The upland portion of the Property was the location of chemical manufacturing facilities (primarily sulfuric acid and alcohols) from the 1860s until the late 1960s. Past owners/operators included Cochrane Chemical Company, the Merrimac Chemical Company, and the Monsanto Chemical Company. These same companies also had operations on an adjacent property (referred to herein as “Monsanto West”) which has since been redeveloped as the Gateway Center (response actions for that property were handled under RTNs 3-313, 3-4200, and 3-4425). Portions of the upland property were also filled at various times with dredged materials (and potentially manufacturing wastes) which resulted in the current configuration.

The buildings associated with chemical manufacturing on the upland portion of the Property were demolished in the late 1960s and 1970s and the Property was generally vacant by about 1980. Starting in the 1990s, the property was used as a storage area for equipment and excavated rock and tunnel muck from the construction of the Deer Island Outfall project and then a materials and equipment laydown yard for the Central Artery Project.

The embayment has reportedly not been dredged since 1943 which predates the end of chemical manufacturing operations.

Site-Related Sources of Contamination

Historical manufacturing operations and processes resulted in the release of metals to the upland portion of the Property. Specific metals of concern are arsenic, lead and vanadium based on the following historical information:

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

Mercury was also identified as Site-related chemical of concern through an evaluation of local conditions and agreement with MassDEP.

Spillage during loading and unloading of raw materials on and near the water, principally along the northern and northeastern side of the embayment, likely contributed contaminants directly to sediment. The highest concentrations of metals prior to remediation have generally been measured in the northern and northeastern parts of the embayment where materials were historically loaded and unloaded.

Contaminated soils from the upland portion of the Site likely eroded and migrated directly to the Mystic River via overland flow. In addition, the production of sulfuric acid on the upland portion of the Disposal Site resulted in areas of low pH in groundwater. Low pH likely caused metals (released from Site operations and naturally occurring) to leach from the subsurface fill into groundwater which discharges into the Mystic River. These migration paths are likely to be limited in the future due to the recently completed remediation of the upland portion of the Disposal Site under a Release Abatement Measure (RAM).

Non-Site Related Contaminant Sources

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

Phthalates (e.g., bis(2-ethylhexyl)phthalate or BEHP) and polychlorinated biphenyls (PCBs) associated with the historical operations on the Monsanto West property have also been detected in sediments on the Property. However, the spatial distribution of phthalates and PCBs in sediments is different than that of the metals which are attributed to Site operations. In addition, statistical evaluation of shallow data show a strong positive agreement among the concentrations of metals (i.e., samples that exhibit high concentrations for one metal typically exhibit high concentrations of the others) and a strong positive agreement between BEHP and PCBs. However, there is generally a weak agreement between metals and either BEHP or PCBs (i.e., peaks in metals concentrations do not correlate well with peaks in either BEHP or PCBs).

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

Remedial Actions Undertaken to Address the Release

As previously noted, remediation of the upland portion of the Property was conducted under a RAM.

Remedial actions for sediment were conducted under an MCP Phase IV RIP beginning in October 2017. Based on the outcome of an MCP Phase III RAP and a feasibility assessment, the selected comprehensive remedial alternative included dredging and capping or capping alone of contaminated sediments. Dredged materials were transported off-site for disposal. These remedial actions addressed sediment contamination associated with former operations on the Property (i.e., arsenic, lead, mercury and vanadium). Contamination from other non-Site sources was remediated incidentally during dredging and capping.

Approximately 24,621 cubic yards of sediment were dredged, dewatered, and processed. Approximately 39,916 tons of processed sediment was transported off-site to licensed facilities for disposal. Capping both dredged and non-dredge portions of the remediation involved the placement of approximately 21,795 cubic yards of clean, off-site material divided between five different cap types:

- ▶ Sand Cap (Type A) – coarse sand designed to resist propeller induced erosion in the channel.
- ▶ Blended Sand Cap (Modified Type A) – coarse sand blended with ¾-inch stone to resist erosion and downslope movement on subtidal slopes.
- ▶ Navigation Area Cap (Type B) – 2-layer cap composed of a layer of coarse sand capped with a medium gravel material to resist propeller induced erosion near the docks.
- ▶ Tidal Flat Cap (Type C) – a silty sand to match existing material in the tidal flats.
- ▶ Rounded Gravel Cap (Type D) – rounded ¾-inch stone topped with larger rounded stone to resist erosion by waves and naturally occurring groundwater seeps.

In addition, rip rap placed beneath the pile supported wharf on the west side of the embayment is considered part of the cap.

Successful implementation and completion of the remedial action were achieved by placing a clean surficial sediment layer (within the top 18 inches) across the capping area shown on Exhibit B. Operation, maintenance and monitoring will be required to assess the integrity of the cap and ensure the thickness of the cap is maintained.

DESCRIPTION OF CONTAMINATED MEDIA SUBJECT TO THE AUL

Sediment below Mean High Water (elevation +4.35 feet NAVD88) is the only medium subject to this AUL. The upland portion of the Property is being addressed separately. A 2006 Stage I Ecological Screening determined that a condition of No Significant Risk existed for surface water prior to any remediation of the uplands or sediment.

The horizontal limits of Site-related contamination in sediment (arsenic, lead, mercury, and vanadium) correspond to the Site boundary depicted on Exhibit B. This boundary was drawn to separate areas where concentrations of Site-related chemicals are above “local conditions” from areas where concentrations are generally at or below local conditions. The concept of local conditions is fundamental to determining the boundary of contamination from the Site which extends into a highly urbanized and industrialized waterway like the Mystic River. Local conditions represent the point beyond which exposure to potentially Site-related constituents may not be discernible from ubiquitous conditions that would likely exist in the absence of releases from the Site. Therefore, it also represents a point beyond which the incremental Site-related risks may not be quantifiable.

Only a small portion of sediment within the Site boundary was not dredged or capped as shown on Exhibit B. In the uncapped area to the west, the concentrations of arsenic were above local conditions but below ecological benchmarks (and therefore did not pose a risk).

Within the capped area shown on Exhibit B contaminated sediment is present beneath the 18-inch clean sediment cap. Depth of residual contamination remaining beneath the cap ranges from 18 inches to 10 feet below the sediment surface based on data from the Phase II Investigations. The depth and nature of residual contamination varies significantly across the capped area.

Chemicals detected in sediment remaining on-Site beneath the cap include the following:

- Phthalates: BEHP, butylbenzylphthalate, and di-n-octylphthalate
- Extractable petroleum hydrocarbon fractions and target analytes: C9-C18 aliphatics, C19-C36 aliphatics, C11-C22 aromatics, acenaphthene, acenaphthylene, anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, dibenz(a,h)anthracene, fluoranthene, fluorene, indeno(1,2,3-cd) pyrene, 2-methylnaphthalene, naphthalene, phenanthrene, and pyrene.
- PCBs: Aroclor 1254 and Aroclor 1260.
- Metals: Antimony, arsenic, barium, beryllium, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, thallium, vanadium, and zinc.

FORM 1075

Note: Pursuant to 310 CMR 40.1074(5), upon transfer of any interest in or a right to use the property or a portion thereof that is subject to this Notice of Activity and Use Limitation, the Notice of Activity and Use Limitation shall be incorporated either in full or by reference into all future deeds, easements, mortgages, leases, licenses, occupancy agreements or any other instrument of transfer. Within 30 days of so incorporating the Notice of Activity and Use Limitation in a deed that is recorded or registered, a copy of such deed shall be submitted to the Department of Environmental Protection.

NOTICE OF ACTIVITY AND USE LIMITATION

M.G.L. c. 21E, § 6 and 310 CMR 40.0000

Disposal Site Name: Former Everett Staging Yard

DEP Release Tracking No.(s): 3-13341

This Notice of Activity and Use Limitation ("Notice") is made as of this ____ day of _____, 2018, by Everett Property, LLC, 101 Station Landing, Suite 2200, Medford, Massachusetts, together with his/her/its/their successors and assigns (collectively "Owner").

W I T N E S S E T H:

WHEREAS, Everett Property, LLC is the owner in fee simple of that certain parcel of vacant land located in Boston, Suffolk County, Massachusetts, pursuant to a Certificate of Title No. 131586 issued by the Land Registration Office of the Suffolk County Registry District;

WHEREAS, said parcel(s) of land, which is more particularly bounded and described in Exhibit A, attached hereto and made a part hereof ("Property") is subject to this Notice of Activity and Use Limitation. The Property is shown as Lot C on Plan Number 18691A filed with the Suffolk County Registry District of the Land Court;

WHEREAS, a portion of the Property ("Portion of the Property") is subject to this Notice of Activity and Use Limitation. The Portion of the Property is more particularly bounded and described in Exhibit A-1, attached hereto and made a part hereof. The Portion of the Property is shown on a sketch plan attached hereto and filed herewith for registration;

WHEREAS, the Portion of the Property comprises part of a disposal site as the result of releases of oil and/or hazardous material.

Exhibit B is a sketch plan showing the relationship of the Portion of the Property subject to this Notice of Activity and Use Limitation to the boundaries of said disposal site existing within the limits of the Property and to the extent such boundaries have been established. Exhibit B is attached hereto and made a part hereof; and

WHEREAS, one or more response actions have been selected for the Portion of the Disposal Site in accordance with M.G.L. c. 21E ("Chapter 21E") and the Massachusetts Contingency Plan, 310 CMR 40.0000 ("MCP"). Said response actions are based upon (a) the restriction of human access to and contact with oil and/or hazardous material in sediment and/or (b) the restriction of certain activities occurring in, on, through, over or under the Portion of the Property. A description of the basis for such restrictions, and the oil and/or hazardous material release event(s) or site history that resulted in the contaminated media subject to the Notice of Activity and Use Limitation is attached hereto as Exhibit C and made a part hereof;

NOW, THEREFORE, notice is hereby given that the activity and use limitations set forth in this Notice of Activity and Use Limitation are as follows:

1. Activities and Uses Consistent with Maintaining No Significant Risk Conditions. The following Activities and Uses are consistent with maintaining a Permanent Solution and a condition of No Significant Risk and, as such, may occur on the Portion of the Property pursuant to 310 CMR 40.0000:

(i) Use of the shoreline area as a Water Transportation Docking Facility and associated commercial activities and uses including but not limited to routine non-

intrusive maintenance of the docks, pier pilings, retaining walls, outfalls, and the sediment cap as defined in Paragraph 3 (i);

(ii) Routine maintenance activities related to the repair, resurfacing and/or replacement of the docks, pier pilings, retaining walls, outfalls, and the sediment cap provided that such activities do not result in direct contact with potentially impacted sediments located beneath the sediment cap;

(iii) Emergency repair of any underground utilities, provided that the protective sediment cap is replaced following such activity and any on-site/offsite disposal and /or reuse of the sediment is managed in accordance with the MCP;

(iv) Maintenance dredging as required to maintain proper navigation provided that such activities do not result in removal of the sediment cap or direct contact with potentially impacted sediments located beneath the sediment cap;

(v) Surface and subsurface activities, including excavation, dredging or construction activities which will result in disturbance of or contact with impacted sediment below the sediment cap shown on Exhibit B provided that any such activity is conducted in accordance with Obligations (iv) through (vii) in Paragraph 3 below;

(vi) Such other activities or uses which, in the Opinion of a Licensed Site Professional, shall present no greater risk of harm to health, safety, public welfare or the environment than the activities and uses set forth in this Paragraph; and

(vii) Such other activities and uses not identified in Paragraph 2 as being Activities and Uses Inconsistent with maintaining No Significant Risk Conditions.

2. Activities and Uses Inconsistent with Maintaining No Significant Risk Conditions. The following Activities and Uses are inconsistent with maintaining a Permanent Solution and a condition of No Significant Risk pursuant to 310 CMR 40.0000, and, as such, may not occur on the Portion of the Property:

(i) Any activities and/or uses other than emergency utility repair and work necessary to maintain the cap which would disturb, relocate, or otherwise result in direct contact with potentially impacted sediment beneath the sediment cap shown on Exhibit B, unless such activities are reviewed and approved by a Licensed Site Professional in accordance with Obligation (iv) in Paragraph 3 below, conducted in accordance with a Health and Safety Plan and Sediment Management Plan developed in accordance with Obligations (v) and (vi) in Paragraph 3 below and in accordance with the remediation waste and waste water management procedures specified in 310 CMR 40.0030 and CMR 40.0040;

(ii) Activities and/or uses which cause physical or chemical deterioration, breakage, or structural damage to the sediment cap (or any replacement cap) unless the sediment cap is replaced or repaired following such damage;

(iii) Activities and/or uses that may decrease the thickness of the constructed sediment cap unless approved in writing by a Licensed Site Professional;

3. Obligations and Conditions. The following obligations and/or conditions are necessary and shall be undertaken and/or maintained at the Portion of the Property to maintain a Permanent Solution and a condition of No Significant Risk:

(i) The constructed sediment cap consists of a minimum of 18-inches of clean granular material. Any replacement of the sediment cap shall consist of 18-inches of clean granular material to match existing materials or equivalent as approved by a Licensed Site Professional;

(ii) The constructed sediment cap must be maintained in accordance with an

Operation, Maintenance and Monitoring (OMM) Plan prepared by a Licensed Site Professional to prevent future exposures to underlying impacted sediment. If disrepair or damage to the integrity of the sediment cap is identified, repair/replacement of the cap must be completed in accordance with the OMM Plan and under the direction of a Licensed Site Professional;

- (iii) Inspections and associated record-keeping activities must be performed to confirm that the constructed sediment cap is being properly maintained to prevent exposure to impacted sediment. The inspection and associated record-keeping activities for the sediment cap shall be performed in accordance with an OMM Plan prepared by a Licensed Site Professional;
- (iv) Any disturbance of the sediment beneath the sediment cap or modification to the cap must be reviewed and approved by a Licensed Site Professional;
- (v) A Sediment Management Plan must be developed and implemented prior to the initiation of any planned (non-emergency) dredging or excavation of sediment that disturbs the constructed sediment cap. The Sediment Management Plan must be prepared by a Licensed Site Professional and in accordance with the remediation waste procedures of the Massachusetts Contingency Plan at 310 CMR 40.0030. The Sediment Management Plan must include a description of the sediment dredging or excavation, handling, storage, on-site reuse, transport, and disposal procedures. The Sediment Management Plan must also include a description of the dust control and other engineering controls to limit the exposure to contaminated sediment via dermal contact and/or ingestion;
- (vi) A Health and Safety Plan must be prepared prior to the initiation of any planned (non-emergency) dredging or excavation of sediment that disturbs the constructed sediment cap. The Health and Safety Plan must be prepared by a Certified Industrial Hygienist or a qualified environmental professional sufficiently trained in worker health and safety requirements in accordance with the procedures of the Massachusetts Contingency Plan at 310 CMR 40.0018. The Health and Safety Plan shall require workers encountering sediment below the cap to be adequately protected and trained consistent with relevant federal and state occupational, health and safety requirements (e.g. 29 CFR 1910.120). The Health and Safety Plan must clearly describe the compounds of concern at the property and specifically identify the types of personal protective equipment, monitoring devices, and engineering controls necessary to ensure that workers are not exposed to oil and hazardous materials; and
- (vii) Any sediment containing oil and hazardous materials above “Local Conditions” concentrations as determined by a Licensed Site Professional that is removed from the Portion of the Property subject to this Notice of Activity and Use Limitation must be managed in a manner consistent with applicable provisions of the MCP (including but not limited to “Management Procedures for Remediation Waste” at 310 CMR 40.0030 and “Remedial Actions After a Permanent or Temporary Solution Statement has been Submitted” at 310 CMR 40.1067), and in accordance with federal, state, and local regulations.

4. Proposed Changes in Activities and Uses. Any proposed changes in activities and uses at the Portion of the Property which may result in higher levels of exposure to oil and/or hazardous material than currently exist shall be evaluated by a Licensed Site Professional who shall render an Opinion, in accordance with 310 CMR 40.1080, as to whether the proposed changes are inconsistent with maintaining a Permanent Solution and a condition of No Significant Risk. Any and all requirements set forth in the Opinion to meet the objective of this Notice shall be satisfied before any such activity or use is commenced.

5. Violation of a Permanent or Temporary Solution. The activities, uses and/or

exposures upon which this Notice is based shall not change at any time to cause a significant risk of harm to health, safety, public welfare, or the environment or to create substantial hazards due to exposure to oil and/or hazardous material without the prior evaluation by a Licensed Site Professional in accordance with 310 CMR 40.1080, and without additional response actions, if necessary, to maintain a condition of No Significant Risk.

If the activities, uses, and/or exposures upon which this Notice is based change without the prior evaluation and additional response actions determined to be necessary by a Licensed Site Professional in accordance with 310 CMR 40.1080, the owner or operator of the Portion of the Property subject to this Notice at the time that the activities, uses and/or exposures change, shall comply with the requirements set forth in 310 CMR 40.0020.

6. Incorporation Into Deeds, Mortgages, Leases, and Instruments of Transfer. This Notice shall be incorporated either in full or by reference into all future deeds, easements, mortgages, leases, licenses, occupancy agreements or any other instrument of transfer, whereby an interest in and/or a right to use the Property or a portion thereof is conveyed in accordance with 310 CMR 40.1074(5).

Owner hereby authorizes and consents to the filing and recordation and/or registration of this Notice, said Notice to become effective when executed under seal by the undersigned Licensed Site Professional, and recorded and/or registered with the appropriate Registry(ies) of Deeds and/or Land Registration Office(s).

[Signature Pages Follow]

WITNESS the execution hereof under seal this _____ day of _____, 2018.

Everett Property, LLC

By: _____
Name: Jacqui Krum
Title : Authorized Signatory

COMMONWEALTH OF MASSACHUSETTS

_____, ss _____, 2018

On this ____ day of _____, 2018, before me, the undersigned notary public, personally appeared Jacqui Krum, proved to me through satisfactory evidence of identification, which was _____, to be the person whose name is signed on the preceding or attached document, and acknowledged to me that she signed it voluntarily for its stated purpose as Authorized Signatory for Everett Property, LLC, a Massachusetts limited liability company.

Name

The undersigned Licensed Site Professional hereby certifies that in his Opinion this Notice of Activity and Use Limitation is consistent with a Permanent Solution and maintaining a condition of No Significant Risk.

Date: _____, 2018

Matthew J. Grove
LSP # 9932

COMMONWEALTH OF MASSACHUSETTS

_____, ss

_____, 2018

On this ____ day of _____, 2018, before me, the undersigned notary public, personally appeared Matthew J. Grove, proved to me through satisfactory evidence of identification, which were _____, to be the person whose name is signed on the preceding or attached document, and acknowledged to me that he signed it voluntarily for its stated purpose.

As Licensed Site Professional for the sediment remediation on behalf of Everett Property, LLC, the Responsible Party.

Name

Upon recording, return to:

Brown Rudnick LLP
One Financial Center
Boston, MA 02111
Attn: Greg Sampson

Exhibit A

Description of the Property

Exhibit A

Legal Description

A CERTAIN PARCEL OF LAND SITUATED IN THE CITY OF BOSTON, COUNTY OF SUFFOLK AND THE COMMONWEALTH OF MASSACHUSETTS, MORE PARTICULARLY DESCRIBED AS FOLLOWS;

BEGINNING AT A POINT AT THE INTERSECTION OF THE SOUTHWESTERLY SIDELINE OF HORIZON WAY, AND THE DIVISION LINE BETWEEN THE CITY OF BOSTON AND CITY OF EVERETT;

THENCE RUNNING BY SAID HORIZON WAY S 51°39'39" E, BY SAID HORIZON WAY, A DISTANCE OF 10.03' FEET TO A POINT;

THENCE TURNING AND RUNNING S 34°30'59" W, A DISTANCE OF 1274.69 FEET TO A POINT;

THENCE TURNING AND RUNNING N 55°29'01" W, A DISTANCE OF 264.50 FEET TO A POINT;

THENCE TURNING AND RUNNING S 34°30'59" W, A DISTANCE OF 625 FEET MORE OR LESS TO A POINT ON THE EXTREME LOW WATER MARK OF THE MYSTIC RIVER;

THENCE RUNNING GENERALLY WESTERLY ALONG SAID EXTREME LOW WATER MARK, A DISTANCE OF 79 FEET MORE OR LESS TO A POINT ON THE DIVISION LINE BETWEEN THE CITY OF BOSTON AND THE CITY OF EVERETT;

THENCE RUNNING GENERALLY NORTHERLY, BY THE DIVISION LINE BETWEEN THE CITY OF BOSTON AND THE CITY OF EVERETT, A DISTANCE OF 2,174 FEET MORE OR LESS, HAVING TWO TIE COURSES, N 33°24'02 W, A DISTANCE OF 777.37 FEET AND N 51°21'19" E, A DISTANCE OF 1108.83 FEET, TO THE POINT OF BEGINNING.

SAID PARCEL CONTAINING 5 ACRES MORE OR LESS.

Exhibit A-1

Description of the Portion of the Property Subject to the
Activity and Use Limitation

AUL Area 3

A CERTAIN PARCEL OF LAND SITUATED IN THE CITY OF BOSTON, COUNTY OF SUFFOLK AND THE COMMONWEALTH OF MASSACHUSETTS, AS SHOWN ON A PLAN ENTITLED "ACTIVITY AND USE LIMITATION PLAN – ALFORD STREET – BOSTON, MASS." BY FELDMAN LAND SURVEYORS, DATED AUGUST 29, 2018

COMMENCING AT A POINT AT THE SOUTHWESTERLY TERMINUS OF HORIZON WAY. THENCE;

RUNNING S 35°58'04" W, A DISTANCE OF 1054.77 FEET TO THE POINT OF BEGINNING;

THENCE TURNING AND RUNNING S 33°30'18" W, A DISTANCE OF 64.28 FEET TO A POINT;

THENCE TURNING AND RUNNING S 37°54'22" W, A DISTANCE OF 522.05 FEET TO A POINT;

THENCE TURNING AND RUNNING S 10°35'57" W, A DISTANCE OF 21.32 FEET TO A POINT;

THENCE TURNING AND RUNNING S 18°44'36" W, A DISTANCE OF 108.73 FEET TO A POINT;

THENCE TURNING AND RUNNING S 80°43'43" W, A DISTANCE OF 47.39 FEET TO A POINT;

THENCE TURNING AND RUNNING N 56°34'55" W, A DISTANCE OF 21.75 FEET TO A POINT ON THE BOSTON/EVERETT CITY LINE;

THENCE TURNING AND RUNNING N 20°37'13" E, A DISTANCE OF 171.10 FEET TO A POINT;

THENCE TURNING AND RUNNING N 28°45'52" E, A DISTANCE OF 361.55 FEET TO A POINT;

THENCE TURNING AND RUNNING N 56°04'27" E, A DISTANCE OF 208.16 FEET TO A POINT;

THENCE TURNING AND RUNNING S 81°13'10" E, A DISTANCE OF 53.66 FEET TO THE POINT OF BEGINNING.

THE PREVIOUS FOUR COURSES RUN BY THE SAID BOSTON/EVERETT CITY LINE.

SAID PARCEL OF LAND CONTAINING AN AREA OF 58,143 SQUARE FEET OR 1.335 ACRES.

AUL Area 4

A CERTAIN PARCEL OF LAND SITUATED IN THE CITY OF BOSTON, COUNTY OF SUFFOLK AND THE COMMONWEALTH OF MASSACHUSETTS, AS SHOWN ON A PLAN ENTITLED "ACTIVITY AND USE LIMITATION PLAN – ALFORD STREET – BOSTON, MASS." BY FELDMAN LAND SURVEYORS, DATED AUGUST 29, 2018

COMMENCING AT A POINT AT THE SOUTHWESTERLY TERMINUS OF HORIZON WAY. THENCE;
RUNNING N 29°17'48"W, A DISTANCE OF 784.02 FEET TO A POINT THE POINT OF BEGINNING;
THENCE TURNING AND RUNNING S 35°18'01" E, A DISTANCE OF 75.81 FEET TO A POINT;
THENCE TURNING AND RUNNING N 44°11'54" E, A DISTANCE OF 30.22 FEET TO A POINT;
THENCE TURNING AND RUNNING N 51°44'47" E, A DISTANCE OF 22.06 FEET TO A POINT;
THENCE TURNING AND RUNNING N 29°35'33" E, A DISTANCE OF 11.64 FEET TO A POINT;
THE PREVIOUS EIGHT COURSES RUN BY THE SAID BOSTON/EVERETT CITY LINE;
THENCE TURNING AND RUNNING S 14°02'42" E, A DISTANCE OF 27.51 FEET TO A POINT;
THENCE TURNING AND RUNNING S 21°33'07" W, A DISTANCE OF 71.25 FEET TO A POINT;
THENCE TURNING AND RUNNING S 16°52'54" W, A DISTANCE OF 157.72 FEET TO A POINT;
THENCE TURNING AND RUNNING S 31°16'23" W, A DISTANCE OF 260.27 FEET TO A POINT;
THENCE TURNING AND RUNNING N 57°52'04" W, A DISTANCE OF 111.80 FEET TO A POINT;
THENCE TURNING AND RUNNING N 29°07'33" E, A DISTANCE OF 193.58 FEET TO A POINT;
THENCE TURNING AND RUNNING N 26°20'08" W, A DISTANCE OF 37.06 FEET TO A POINT;
THENCE TURNING AND RUNNING N 09°48'30" W, A DISTANCE OF 36.07 FEET TO A POINT;
THENCE TURNING AND RUNNING S 81°13'10" E, A DISTANCE OF 15.44 FEET TO A POINT;
THENCE TURNING AND RUNNING N 51°05'53" E, A DISTANCE OF 86.21 FEET TO A POINT;
THENCE TURNING AND RUNNING N 16°35'29" W, A DISTANCE OF 91.43 FEET TO A POINT;
THENCE TURNING AND RUNNING N 59°50'49" E, A DISTANCE OF 91.65 FEET TO THE POINT OF BEGINNING.

SAID PARCEL OF LAND CONTAINING AN AREA OF 60,346 SQUARE FEET OR 1.385 ACRES.

Exhibit B

Sketch Plan Showing Relationship of the Portion of the Property
to the Disposal Site

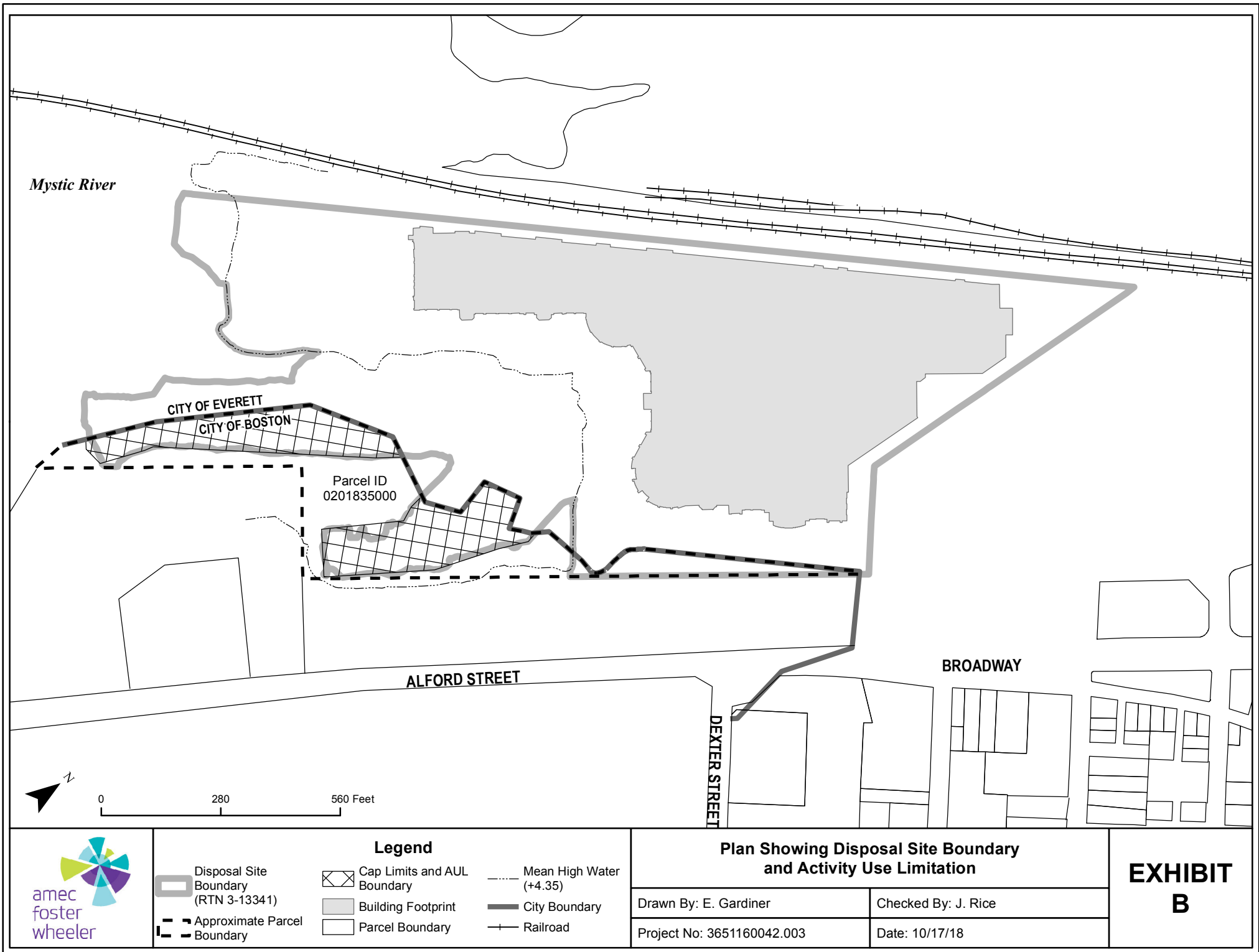


Exhibit C

Narrative Description

EXHIBIT C

Sediment Portion of the Former Everett Staging Yard Disposal Site Alford Street, Boston, Massachusetts Release Tracking Number (RTN) 3-13341

In accordance with the requirements of 310 CMR 40.1074, this Narrative Description, has been prepared to support a Notice of Activity and Use Limitation (AUL) for the sediment portion of the Former Everett Staging Yard Disposal Site (hereafter the Site) located at an unnumbered parcel on Alford Street Boston, Massachusetts.

This AUL applies only to the sediment portion of the Property that has been dredged and/or capped as shown in Exhibit B. Included within the Disposal Site boundary for RTN 3-13341 but not covered by this AUL, is the upland portion of the Property (i.e., those areas above Mean High Water or elevation +4.35 feet relative to the North American Vertical Datum of 1988).

As required by 310 CMR 40.1074(2)(e) through (g), this Exhibit C provides:

- a statement that specifies why the AUL is appropriate to maintain a Permanent Solution and a condition of No Significant Risk;
- a concise summary of the oil and/or hazardous material release event(s) or site history (including response actions taken) that resulted in the contaminated media subject to the AUL; and
- a description of the contaminated media subject to the AUL.

REASON FOR ACTIVITY AND USE LIMITATION

The December 2016 Revised Supplemental Phase II Comprehensive Site Assessment Report assessed risks to human health and the environment posed by the sediment portion of the Site, and defined the limits of those areas which could pose a risk. The conceptual site model and an evaluation of “local conditions” in sediment identified arsenic, lead, mercury, and vanadium as specific contaminants of concern tied to historical manufacturing operations and processes on the property. A Method 3 human health risk characterization concluded that a condition of No Significant Risk does exist for human health. However, a Method 3 Stage I Ecological Screening concluded that potentially significant exposure pathways existed for bottom-dwelling organisms exposed to sediment.

This conclusion was based on the results of a comparison of disposal site data to ecological benchmarks which is a component of a Stage II Ecological Risk Characterization (ERC). Following submittal of the Revised Phase II Report, the Massachusetts Department of Environmental Protection (MassDEP) requested that the sediment Ecological Risk Assessment be revised to more explicitly follow a Stage II ERC approach. This updated Stage II ERC was presented in a combined Phase III Remedial Action Plan (RAP) and Phase IV Remedy Implementation Plan (RIP) which was submitted to MassDEP in June 2017.

The goal of the remedial action outlined in the Phase IV RIP was to eliminate significant risk to benthic organisms associated with exposure to contaminated sediment at concentrations which exceed benchmarks or local conditions. Sediment remediation was accomplished through the dredging and capping or capping alone of contaminated sediments. Dredged materials were transported off-site for

disposal. Dredging and installation of the cap were largely completed between October 2017 and March 2018.

Successful implementation and completion of the remedial action were achieved by placing a clean surficial sediment layer (within the top 18 inches) across the capping area shown on Exhibit B. The AUL is necessary to maintain the integrity of the sediment cap and to maintain a condition of No Significant Risk for the sediment portion of the site. The AUL prohibits certain activities and uses which could compromise the integrity of the sediment cap. The AUL also requires inspection and monitoring the sediment cap and repair of damaged areas.

DESCRIPTION OF RELEASE THAT RESULTED IN CONTAMINATION

Site History

The upland portion of the Property was the location of chemical manufacturing facilities (primarily sulfuric acid and alcohols) from the 1860s until the late 1960s. Past owners/operators included Cochrane Chemical Company, the Merrimac Chemical Company, and the Monsanto Chemical Company. These same companies also had operations on an adjacent property (referred to herein as “Monsanto West”) which has since been redeveloped as the Gateway Center (response actions for that property were handled under RTNs 3-313, 3-4200, and 3-4425). Portions of the upland property were also filled at various times with dredged materials (and potentially manufacturing wastes) which resulted in the current configuration.

The buildings associated with chemical manufacturing on the upland portion of the Property were demolished in the late 1960s and 1970s and the Property was generally vacant by about 1980. Starting in the 1990s, the property was used as a storage area for equipment and excavated rock and tunnel muck from the construction of the Deer Island Outfall project and then a materials and equipment laydown yard for the Central Artery Project.

The embayment has reportedly not been dredged since 1943 which predates the end of chemical manufacturing operations.

Site-Related Sources of Contamination

Historical manufacturing operations and processes resulted in the release of metals to the upland portion of the Property. Specific metals of concern are arsenic, lead and vanadium based on the following historical information:

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

Mercury was also identified as Site-related chemical of concern through an evaluation of local conditions and agreement with MassDEP.

Spillage during loading and unloading of raw materials on and near the water, principally along the northern and northeastern side of the embayment, likely contributed contaminants directly to sediment.

The highest concentrations of metals prior to remediation have generally been measured in the northern and northeastern parts of the embayment where materials were historically loaded and unloaded.

Contaminated soils from the upland portion of the Site likely eroded and migrated directly to the Mystic River via overland flow. In addition, the production of sulfuric acid on the upland portion of the Disposal Site resulted in areas of low pH in groundwater. Low pH likely caused metals (released from Site operations and naturally occurring) to leach from the subsurface fill into groundwater which discharges into the Mystic River. These migration paths are likely to be limited in the future due to the recently completed remediation of the upland portion of the Disposal Site under a Release Abatement Measure (RAM).

Non-Site Related Contaminant Sources

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

Phthalates (e.g., bis(2-ethylhexyl)phthalate or BEHP) and polychlorinated biphenyls (PCBs) associated with the historical operations on the Monsanto West property have also been detected in sediments on the Property. However, the spatial distribution of phthalates and PCBs in sediments is different than that of the metals which are attributed to Site operations. In addition, statistical evaluation of shallow data show a strong positive agreement among the concentrations of metals (i.e., samples that exhibit high concentrations for one metal typically exhibit high concentrations of the others) and a strong positive agreement between BEHP and PCBs. However, there is generally a weak agreement between metals and either BEHP or PCBs (i.e., peaks in metals concentrations do not correlate well with peaks in either BEHP or PCBs).

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

Remedial Actions Undertaken to Address the Release

As previously noted, remediation of the upland portion of the Property was conducted under a RAM.

Remedial actions for sediment were conducted under an MCP Phase IV RIP beginning in October 2017. Based on the outcome of an MCP Phase III RAP and a feasibility assessment, the selected comprehensive remedial alternative included dredging and capping or capping alone of contaminated sediments. Dredged materials were transported off-site for disposal. These remedial actions addressed sediment contamination associated with former operations on the Property (i.e., arsenic, lead, mercury and vanadium). Contamination from other non-Site sources was remediated incidentally during dredging and capping.

Approximately 24,621 cubic yards of sediment were dredged, dewatered, and processed. Approximately 39,916 tons of processed sediment was transported off-site to licensed facilities for disposal. Capping both

dredged and non-dredge portions of the remediation involved the placement of approximately 21,795 cubic yards of clean, off-site material divided between five different cap types:

- ▶ Sand Cap (Type A) – coarse sand designed to resist propeller induced erosion in the channel.
- ▶ Blended Sand Cap (Modified Type A) – coarse sand blended with ¾-inch stone to resist erosion and downslope movement on subtidal slopes.
- ▶ Navigation Area Cap (Type B) – 2-layer cap composed of a layer of coarse sand capped with a medium gravel material to resist propeller induced erosion near the docks.
- ▶ Tidal Flat Cap (Type C) – a silty sand to match existing material in the tidal flats.
- ▶ Rounded Gravel Cap (Type D) – rounded ¾-inch stone topped with larger rounded stone to resist erosion by waves and naturally occurring groundwater seeps.

In addition, rip rap placed beneath the pile supported wharf on the west side of the embayment is considered part of the cap.

Successful implementation and completion of the remedial action were achieved by placing a clean surficial sediment layer (within the top 18 inches) across the capping area shown on Exhibit B. Operation, maintenance and monitoring will be required to assess the integrity of the cap and ensure the thickness of the cap is maintained.

DESCRIPTION OF CONTAMINATED MEDIA SUBJECT TO THE AUL

Sediment below Mean High Water (elevation +4.35 feet NAVD88) is the only medium subject to this AUL. The upland portion of the Property is being addressed separately. A 2006 Stage I Ecological Screening determined that a condition of No Significant Risk existed for surface water prior to any remediation of the uplands or sediment.

The horizontal limits of Site-related contamination in sediment (arsenic, lead, mercury, and vanadium) correspond to the Site boundary depicted on Exhibit B. This boundary was drawn to separate areas where concentrations of Site-related chemicals are above “local conditions” from areas where concentrations are generally at or below local conditions. The concept of local conditions is fundamental to determining the boundary of contamination from the Site which extends into a highly urbanized and industrialized waterway like the Mystic River. Local conditions represent the point beyond which exposure to potentially Site-related constituents may not be discernible from ubiquitous conditions that would likely exist in the absence of releases from the Site. Therefore, it also represents a point beyond which the incremental Site-related risks may not be quantifiable.

Only a small portion of sediment within the Site boundary was not dredged or capped as shown on Exhibit B. In the uncapped area to the west, the concentrations of arsenic were above local conditions but below ecological benchmarks (and therefore did not pose a risk).

Within the capped area shown on Exhibit B contaminated sediment is present beneath the 18-inch clean sediment cap. Depth of residual contamination remaining beneath the cap ranges from 18 inches to 10

feet below the sediment surface based on data from the Phase II Investigations. The depth and nature of residual contamination varies significantly across the capped area.

Chemicals detected in sediment remaining on-Site beneath the cap include the following:

- Phthalates: BEHP, butylbenzylphthalate, and di-n-octylphthalate
- Extractable petroleum hydrocarbon fractions and target analytes: C9-C18 aliphatics, C19-C36 aliphatics, C11-C22 aromatics, acenaphthene, acenaphthylene, anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, dibenz(a,h)anthracene, fluoranthene, fluorene, indeno(1,2,3-cd) pyrene, 2-methylnaphthalene, naphthalene, phenanthrene, and pyrene.
- PCBs: Aroclor 1254 and Aroclor 1260.
- Metals: Antimony, arsenic, barium, beryllium, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, thallium, vanadium, and zinc.

APPENDIX B

Operation, Maintenance, and Monitoring Plan

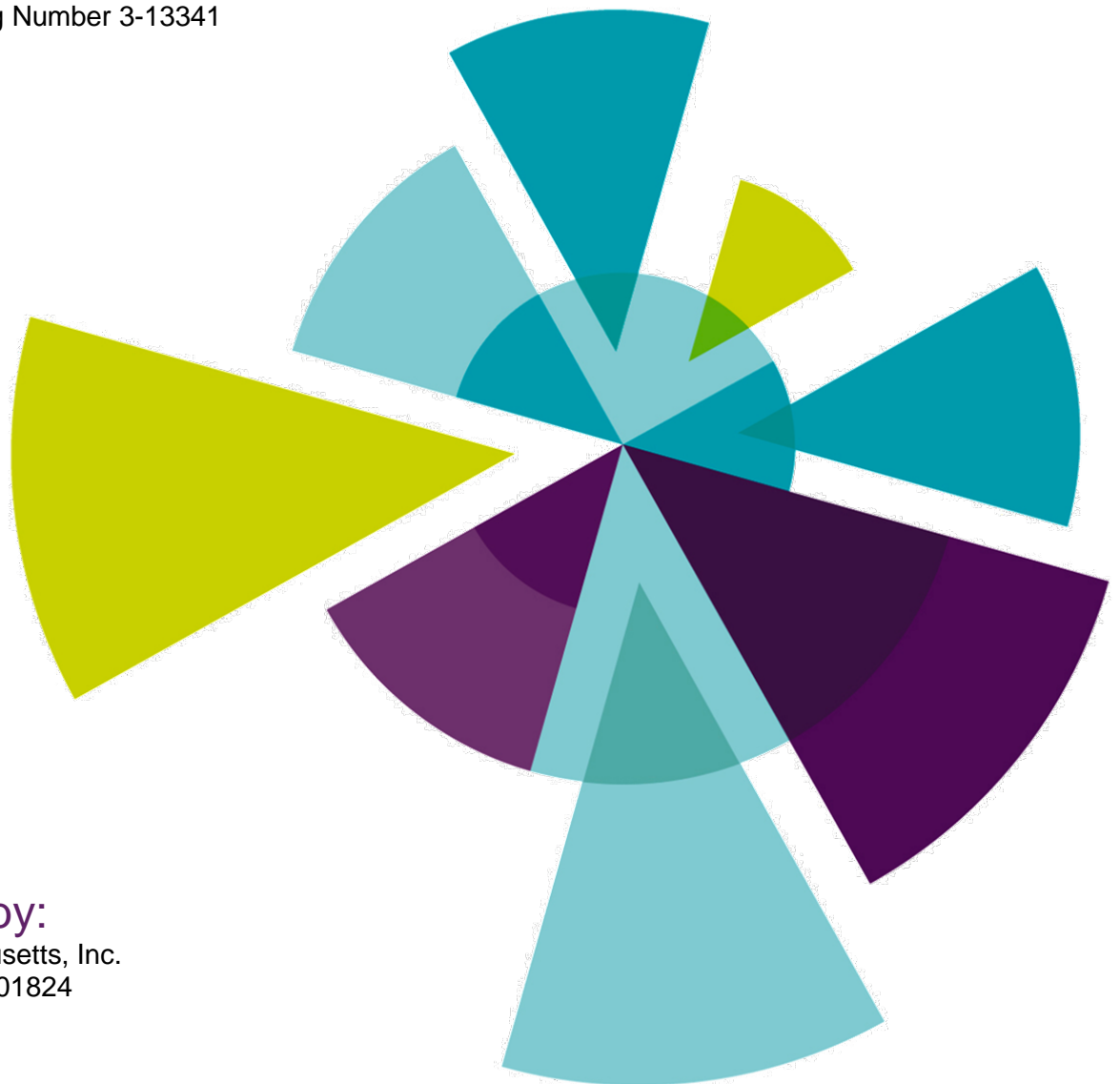


Operation, Maintenance And Monitoring Plan

Sediment Portion of the Former Everett Staging Yard Disposal Site

1 Horizon Way, Everett, Massachusetts

Release Tracking Number 3-13341



Prepared by:

AMEC Massachusetts, Inc.
Chelmsford, MA 01824

November 2018

Project No. 365117005

TABLE OF CONTENTS

1.0 INTRODUCTION.....	1
1.1 Purpose and Scope	1
1.2 Remediation Summary	1
1.3 Relevant Contacts	2
2.0 INSPECTION AND MONITORING PROGRAM	3
2.1 Bathymetric and Topographic Surveys	3
2.2 Sediment Cores.....	4
2.3 Data Evaluation	5
2.4 Corrective Measures.....	5
2.5 Cap Materials	6
3.0 RECORD-KEEPING AND REPORTING	7
4.0 REFERENCES.....	7

FIGURES

- Figure 1-1: Site Location Map
Figure 1-2: As-Built Capping Plan

TABLES

- Table 1: Monitoring Program Summary

1.0 INTRODUCTION

1.1 Purpose and Scope

This Operation, Maintenance and Monitoring Plan (OMM Plan) has been prepared for the sediment portion of the Former Everett Staging Yard Disposal Site located at 1 Horizon Way, Everett, Massachusetts (the Disposal Site, shown on **Figures 1-1** and **1-2**). The Disposal Site has been given Release Tracking Number (RTN) 3-13341 by the Massachusetts Department of Environmental Protection (MassDEP). The sediment has been impacted by:

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

The Massachusetts Contingency Plan (MCP, 310 CMR 40.0874(3)(d)) requires that an OMM Plan be developed when the operation, maintenance and/or monitoring of the Comprehensive Response Action is necessary to ensure the effective performance and integrity of the remedial action and/or the achievement of remedial goals. The primary objective of the OMM Plan is to assess the integrity of the cap and ensure the thickness of the cap is maintained.

Verification of the thickness and stability of the cap will be done by monitoring and maintenance including the following:

- ▶ Scheduled monitoring of the capped area;
- ▶ Weather-based monitoring of the capped area;
- ▶ Additional monitoring based on the results of scheduled and weather-based monitoring, if appropriate; and
- ▶ Cap maintenance activities, performed as needed based on the scheduled and weather-based monitoring results.

This OMM Plan summarizes the monitoring and maintenance activities to be performed by Wynn MA, LLC and Everett Property, LLC (collectively, Wynn), the current owners of the property.

1.2 Remediation Summary

Sediment remediation was accomplished through the dredging and capping or capping of contaminated sediments. Dredged materials were transported off-site for disposal. These remedial actions addressed sediment contamination associated with Site-related metal contamination (arsenic, lead, mercury and vanadium) as well as non-Site contamination (other metals, petroleum hydrocarbons, phthalates, polycyclic aromatic hydrocarbons, and polychlorinated biphenyls).

Successful implementation and completion of the remedial action was achieved by placing a clean surficial sediment layer (within the top 18 inches) across the capping area depicted on **Figure 1-2**. Remediation activities included the demolition and removal of five deteriorated barges, dredging, and capping both dredged and non-dredge portions of the remediation area with five different caps:

- ▶ Sand Cap (Type A) – coarse sand designed to resist propeller induced erosion in the channel.
- ▶ Blended Sand Cap (Modified Type A) – coarse sand blended with ¾-inch stone to resist erosion and downslope movement on subtidal slopes.
- ▶ Navigation Area Cap (Type B) – 2-layer cap composed of a layer of coarse sand capped with a medium gravel material to resist propeller induced erosion near the docks.
- ▶ Tidal Flat Cap (Type C) – a silty sand to match existing material in the tidal flats.
- ▶ Rounded Gravel Cap (Type D) – rounded ¾-inch stone topped with larger rounded stone to resist erosion by waves and naturally occurring groundwater seeps.

In addition, rip rap placed beneath the pile supported wharf on the west side of the embayment is considered part of the cap.

Dredging and installation of the cap were largely completed between October 2017 and March 2018 (the rip rap was placed prior to the start of dredging and capping). Additional capping of one area was completed in August 2018. Following completion of the Encore Boston Harbor development, the area will be an active waterfront. Floating docks will be installed along the northern and western sides of the cove to allow vessel berthing. Anchoring will not be allowed under any circumstances within the cap limits. A harbor master will be responsible for the waterfront facility. They will ensure proper care is taken with respect to the cap and prohibit waterfront activities which may impact the cap.

1.3 Relevant Contacts

The following is a list of relevant contacts for the proposed remediation as required by 310 CMR 40.0874(3)(a):

Potentially Responsible Party/Site Owner:	Wynn MA, LLC Everett Property, LLC 101 Station Landing, Suite 2200 Medford, MA 02155 Contact: Jacqui Krum Telephone: 857-770-7000 E-mail: jacqui.krum@encorebostonharbor.com
--	---

Licensed Site Professional (LSP):	Matthew J. Grove, PhD, LSP LSP No. 9932 AMEC Massachusetts, Inc. 271 Mill Rd., 3rd Floor Chelmsford, MA 01824 Telephone: 978-392-5398 Fax: 978-692-6633 E-mail: matt.grove@amecfw.com
Remedy Design and Implementation Engineer	Danielle Ahern, P.E. AMEC Massachusetts, Inc. 271 Mill Rd., 3rd Floor Chelmsford, MA 01824
Person(s) Monitoring OMM Activities	Wynn MA, LLC Everett Property, LLC AMEC Massachusetts, Inc.

2.0 INSPECTION AND MONITORING PROGRAM

Physical monitoring of the cap will be performed to verify the presence and stability of the cap material. Multibeam bathymetric, topographic, and lidar surveys were conducted upon completion of the remediation to establish “as-built” conditions which are depicted on **Figure 1-2**. The results of these surveys are considered the baseline post-construction conditions for comparison to information collected during long-term monitoring of the OMM Plan.

Post construction activities to be performed at the Site include monitoring and maintaining the 18-inch cap placed over impacted sediment. The thickness of the cap will be monitored and additional cap material added to maintain the as-built thickness and/or elevations. Specific inspection, monitoring and maintenance activities are summarized in **Table 1** and described further below. Note that the scope and frequency of scheduled monitoring events may be adjusted if the initial monitoring events indicate that the cap is functioning in accordance with the design or that more frequent monitoring is required.

2.1 Bathymetric and Topographic Surveys

Bathymetric and topographic surveys will be performed to monitor the elevation of the sediment cap surface and calculate overall cap thickness within the remediation areas. For consistency the same survey methods are preferred to be used during each survey. Multibeam bathymetric surveys are the preferred method of data collection as this was the method employed during construction.

Multibeam bathymetric surveys will be conducted by a Registered Hydrographic Surveyor certified by the American Congress on Surveying and will comply with the standards defined in the USACE Engineering and Design – Hydrographic Surveying guidance. If multibeam survey data is not able to be achieved due to future in-water infrastructure, single beam survey data will be collected using a minimum 15-foot transect spacing.

Topographic surveys will be conducted by a Professional Land Surveyor licensed in the State of Massachusetts. Topographic survey point data will be collected at 15-foot transect intervals, at 5-foot spacing with additional points collected at inflection points along transects and additional lines, points, and transects collected as needed.

The survey data will be sorted and processed to present a 5-foot by 5-foot grid with an average elevation within each 5-foot by 5-foot grid square at centroid of the grid.

Bathymetric and topographic surveys will be conducted annually for the first 5 years, with the first round conducted approximately 1 year following installation (i.e., monitoring in Years 1, 2, 3, 4, 5). Three rounds of monitoring will be conducted at 2-year intervals after the initial 5 years (i.e., monitoring in Years 7, 9, 11). Subsequent rounds of monitoring (if necessary) will be conducted at 5-year intervals.

In addition, weather-based bathymetric and topographic surveys will be conducted after the following specific events, should they occur:

- ▶ Greater than or equal to a 10-year recurrence interval episodic storm based on rainfall amount or wind speed and direction as measured at the Boston Logan airport National Weather Service Station (KBOS).
 - For rainfall - greater than 2 inches over a 2-hour period or 5 inches over a 24-hour period.
 - For wind speed – average wind speed greater than 69 mph over a 1-minute time duration from the south, southwest or west.

The frequency and scope of weather-based surveys will be re-evaluated every 5 years depending on the actual occurrence of storms and their impact on the cap.

2.2 Sediment Cores

Sediment cores may be collected if required to address data gaps or anomalies in bathymetric and topographic surveys. Sediment cores will be collected from select locations if data gaps represent more than 10 percent of the area of either the tidal flat (Type C) or subtidal sand (Types A and Modified A) caps. Sediment cores may also be collected to assess whether changes in cap elevation are due to erosion, subsidence, or compaction. Cores will be progressed via push or vibratory methods to a depth sufficient to obtain both cap material and native sediment based on final as-built cap thickness or the most recent survey data, as applicable. A minimum of 80% recovery is required to consider the core acceptable for comparison. The cores will be split and layers measured to visually verify cap thickness.

Note that it is not possible to core through the gravel cap (Type B); therefore, to determine if cap thickness changes occur in that area a diver would need to be employed to physically evaluate the thickness of the cap.

2.3 Data Evaluation

The bathymetric and topographic survey data will be compared as follows:

- As-built post-dredge survey to the current OMM survey to identify the current cap thickness and verify the presence of the minimum cap thickness.
- As-built post-cap survey to the current OMM survey to identify changes in the surface of the cap compared to as-built conditions.
- Current OMM survey to the previous OMM survey once multiple surveys have been collected to assess changes in the cap between monitoring events.

Further evaluation and possible corrective actions will be conducted if more than 20% of the cap thickness is less than 15 inches compared to the as-built post dredge surface. It is anticipated that consolidation of the cap material and underlying sediment will occur in the first few years after construction. Therefore, assessment of the survey data will need to consider the effect of consolidation on apparent cap thickness particularly during the initial events. Supplemental data may be collected and evaluated to provide an understanding of the elevation of, and fluctuations in, the cap.

2.4 Corrective Measures

In the event that the bathymetric surveys or topographic surveys identify areas of significant disturbance or where the sediment elevation is significantly different from the post-construction elevation (or the most recent survey), then additional data will be collected (e.g., re-survey, sediment cores, underwater video surveying, or diver survey) to verify initial survey and response actions will be taken, as appropriate, to repair or enhance the cap.

If the bathymetric or topographic surveys indicate the cap thickness criteria are not met, but additional data indicate that substrate settlement has occurred rather than loss of cap thickness, such settlement would not trigger maintenance activities. The settled surface elevations would serve as the new baseline for future monitoring comparisons. If the data collected during surveys and subsequent assessment activities indicate unacceptable loss of cap thickness, one of the following response actions would be conducted:

- ▶ Repair the area where unacceptable loss of material was observed through addition of material to the cap area; or
- ▶ Increase armoring in the area where unacceptable loss was observed with more suitable material or a thicker layer of material, and consider similar changes in areas that may be susceptible to similar damage in the future.

Corrective measures will be implemented under appropriate approvals and permits issued by federal, state, and local agencies as required

2.5 Cap Materials

Cap repairs will be made using material equivalent to the capping material used during construction and conform to the gradation requirements in the tables below. Capping materials will be free from loam, clay, ice, snow, roots, sod, rubbish, surface coatings, or other deleterious materials. Materials used in intertidal areas will be similar in color to the material placed during construction as determined by Wynn.

Sand Cap (Type A)	
SIEVE SIZE	PERCENT FINER BY WEIGHT
No. 8	75
No. 10	63-88
No. 20	6-48
No. 200	0-10

Blended Sand Cap (Modified Type A)	
SIEVE SIZE	PERCENT FINER BY WEIGHT
½-inch	100
No. 8	40-55
No. 10	35-55
No. 20	6-26
No. 200	0-10

Navigation Area Cap (Type B)	
SIEVE SIZE	PERCENT FINER BY WEIGHT
1-inch	100
½-inch	50-85
No. 4	40-75
No. 50	8-28
No. 200	0-10
Note: The Navigation Area Cap is a 2-layer cap comprised of 6 inches of gravel (specified above) overlying 12-inches of sand (Type A material).	

Tidal Flat Cap (Type C)	
SIEVE SIZE	PERCENT FINER BY WEIGHT
No. 4	95-100
No. 10	90-95
No. 40	75-90
No. 60	60-75
No. 200	50-60

Rounded Gravel Cap (Type D)	
Base layer	¾-inch rounded, natural stone
Armor layer	1.5 to 2.5-inch rounded, natural stone
Channel armor layer	4-inch minus rounded, natural stone

3.0 RECORD-KEEPING AND REPORTING

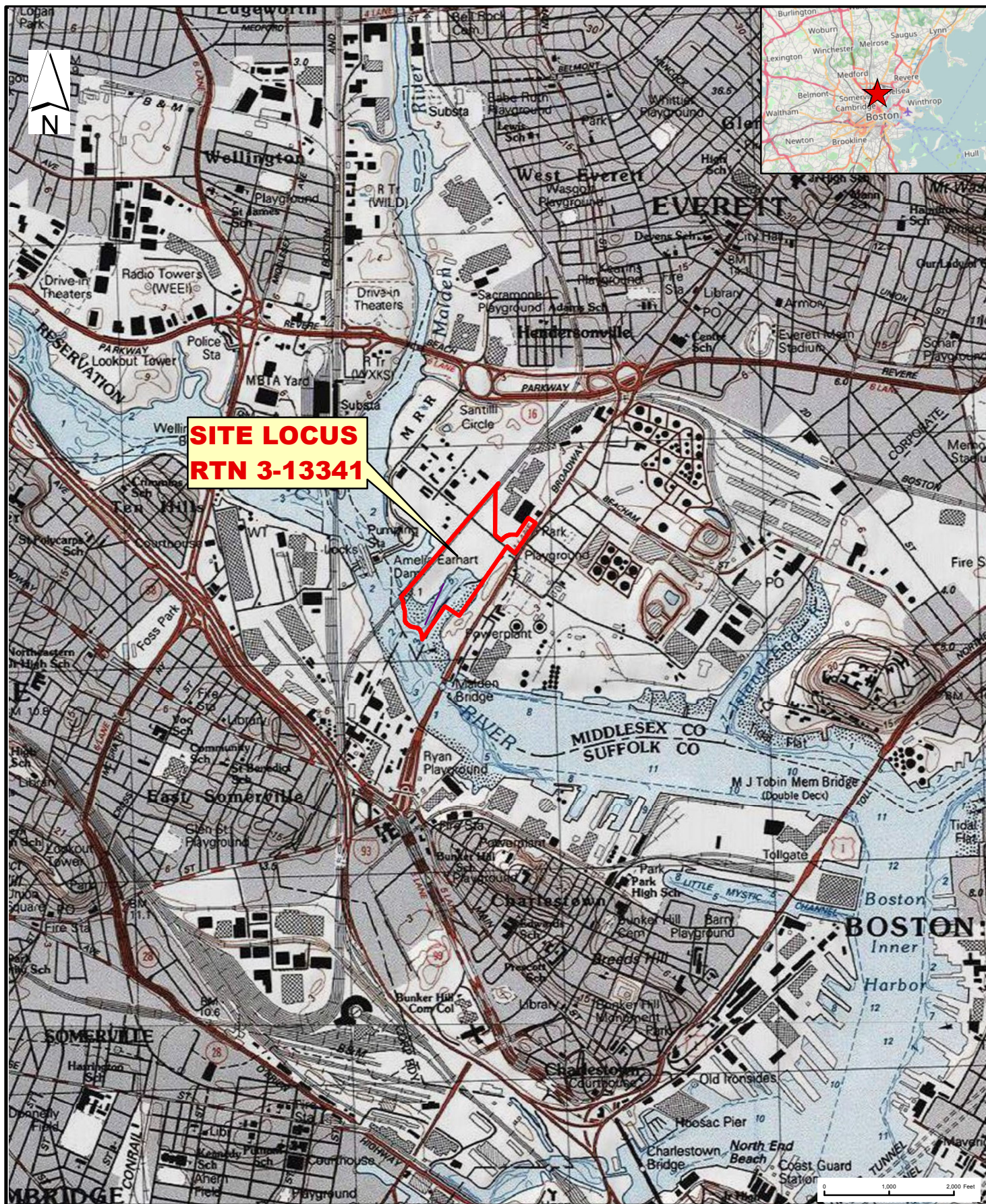
Wynn will document reports from the harbormaster or other reputable source(s) that erosion from storms or vessels may have impacted the cap area. These incidents should be recorded for potential evaluation during a subsequent bathymetric and/or topographic survey.

A memorandum will be developed by Wynn on an annual basis that presents the results of the monitoring activities performed during the previous year and will include an assessment of the performance of the cap, as well as provide recommendations for additional data collection or cap maintenance activities (if appropriate).

Wynn will also maintain electronic copies of all photos, bathymetric, and topographic surveys conducted during the OMM period.

4.0 REFERENCES

AMEC, 2017. Phase III Remedial Action Plan, Phase IV Remedy Implementation Plan, Sediments Adjacent to the Former Everett Staging Yard, 1 Horizon Way, Everett, Massachusetts, Release Tracking Number 3-13341. June 2017.



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



Approximate Parcel Boundary

TITLE:

Site Location Map

SCALE:
 1 inch = 2,000 feet

DATE:
 12/23/2016

PROJECT:
 3651160042.003

DRAWN BY:

M. Martin

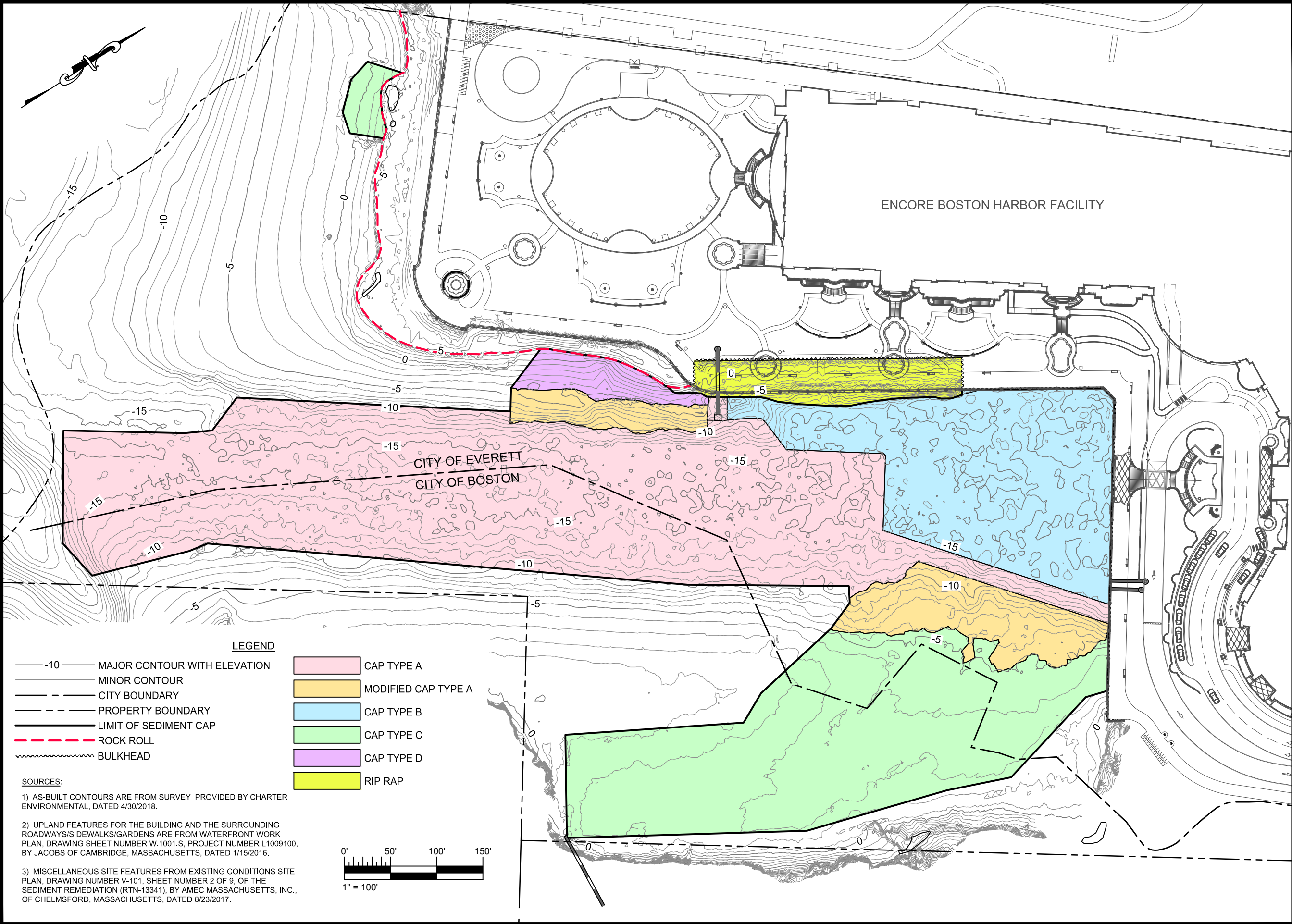
CHECKED BY:

C. Platt

LOCATION:

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

1-1



LEGEND

— -10 — MAJOR CONTOUR WITH ELEVATION
— MINOR CONTOUR
— CITY BOUNDARY
- - - PROPERTY BOUNDARY
— LIMIT OF SEDIMENT CAP
- - - - - ROCK ROLL
~~~~~ BULKHEAD

**SOURCES:**

1) AS-BUILT CONTOURS ARE FROM SURVEY PROVIDED BY CHARTER ENVIRONMENTAL, DATED 4/30/2018.

2) UPLAND FEATURES FOR THE BUILDING AND THE SURROUNDING ROADWAYS/SIDEWALKS/GARDENS ARE FROM WATERFRONT WORK PLAN, DRAWING SHEET NUMBER W.1001.S, PROJECT NUMBER L1009100, BY JACOBS OF CAMBRIDGE, MASSACHUSETTS, DATED 1/15/2016.

3) MISCELLANEOUS SITE FEATURES FROM EXISTING CONDITIONS SITE PLAN, DRAWING NUMBER V-101, SHEET NUMBER 2 OF 9, OF THE SEDIMENT REMEDIATION (RTN-13341), BY AMEC MASSACHUSETTS, INC., OF CHELMSFORD, MASSACHUSETTS, DATED 8/23/2017.

- CAP TYPE A
- MODIFIED CAP TYPE A
- CAP TYPE B
- CAP TYPE C
- CAP TYPE D
- RIP RAP



**amec  
foster  
wheeler**

AMEC MASSACHUSETTS, INC.  
271 MILL ROAD  
CHELMSFORD MASSACHUSETTS 01824  
TELEPHONE: (978) 692-9090  
FAX: (978) 692-6633  
WEB: WWW.AMECFW.COM

CLIENT:



**Wynn** BOSTON HARBOR

PROJECT:

**WYNN BOSTON HARBOR  
SEDIMENT REMEDIATION**

|                               |      |                        |
|-------------------------------|------|------------------------|
|                               |      |                        |
|                               |      |                        |
|                               |      |                        |
|                               |      |                        |
| REV                           | DATE | DESCRIPTION            |
| ISSUE / REVISION:             |      |                        |
| DESIGNED BY:<br>DAA           |      | DRAWN BY:<br>BEG       |
| CHECKED BY:<br>MJG            |      | DATE:<br>JUN 2018      |
| SCALE:<br>AS SHOWN            |      | ISSUE / REVISION:<br>0 |
| PROJECT NUMBER:<br>3651170065 |      |                        |

TITLE:

**AS-BUILT  
CAPPING PLAN**

SHEET NUMBER:

**1-2**

**Table 1**  
**Summary of Operation, Maintenance and Monitoring Activities**  
**Sediment Portion of Former Everett Staging Yard Disposal Site**  
**RTN 3-13341**



| Activity                            | Frequency                                                                                                                                                                                                                                                                                                                                  | Notes                                                                                                                                                                                                           |
|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Bathymetric and Topographic Surveys | Annually for the first five years following cap construction.                                                                                                                                                                                                                                                                              | Bathymetric and topographic surveys after Year 11 (if necessary) will be conducted at 5-year intervals.                                                                                                         |
|                                     | Three rounds of monitoring at 2-year intervals after the initial five years (i.e., Years 7, 9 and 11).                                                                                                                                                                                                                                     |                                                                                                                                                                                                                 |
|                                     | Following 10-year storms based on rainfall amount or wind speed and direction: <ul style="list-style-type: none"> <li>• Greater than 2 inches of rain over a 2-hour period or 5 inches over a 24-hour period.</li> <li>• Average wind speed greater than 69 mph over a 1-minute time duration from the south, southwest or west</li> </ul> | Frequency of weather-based surveys to be re-evaluated every five years depending on actual occurrence of storms and their impact on the cap.                                                                    |
| Sediment Cores                      | Cores may be collected if required to address data gaps or anomalies in bathymetric and topographic surveys.<br><br>Select locations will be cored if data gaps represent more than 10% of the area of either tidal flat (Type C) or subtidal sand (Type A or Modified Type A) caps.                                                       | Sediment cores may also be collected to assess whether changes in cap elevation are due to erosion, subsidence, or compaction.<br><br>Cores will be split and layers measured visually to verify cap thickness. |
| Repair Sediment Cap                 | As needed based on the results of visual inspections and/or bathymetric and topographic surveys                                                                                                                                                                                                                                            | Cap to be repaired with equivalent materials unless survey data indicate unacceptable loss of cap thickness over time.                                                                                          |

## APPENDIX C

### Analytical Data Usability Assessment

## MCP Presumptive Certainty Data Usability Assessment

Site Name: Wynn- Everett Sediments

Project Number: 3651170065.103. \*\*\*\*

Laboratory Name: Alpha Analytical-Woods Hole Lab

SDG Number: 0601068

Menzie-Cura & Associates Inc. Sample IDs: MCA-RIZ-1, MCA-RIZ-2, and MCA-RIZ-3

| Data Reviewed                                        | Analysis                                                                                                                                                                                                                                                      |                                           |                                           |
|------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|-------------------------------------------|
|                                                      | PAH – 8270                                                                                                                                                                                                                                                    | PCB – 8082A                               | Metals- 6020A/7471A                       |
| Chain of Custody                                     | The SDG on the COC is 0601067.                                                                                                                                                                                                                                | The SDG on the COC is 0601067.            | The SDG on the COC is 0601067.            |
| Sample Receipt (Preservation & Temperature)          | √                                                                                                                                                                                                                                                             | √                                         | √                                         |
| Holding Time                                         | √                                                                                                                                                                                                                                                             | √                                         | √                                         |
| Blanks (Trip or Equipment)                           | NA                                                                                                                                                                                                                                                            | NA                                        | NA                                        |
| Method Blanks                                        | √                                                                                                                                                                                                                                                             | √                                         | √                                         |
| MS/MSD                                               | A MS/MSD was not submitted with this SDG.                                                                                                                                                                                                                     | A MS/MSD was not submitted with this SDG. | A MS/MSD was not submitted with this SDG. |
| Lab Duplicate                                        | NA                                                                                                                                                                                                                                                            | NA                                        | NA                                        |
| LCS/LCSD                                             | √                                                                                                                                                                                                                                                             | √                                         | √                                         |
| Field Duplicates                                     | A field duplicate was not submitted with this SDG.                                                                                                                                                                                                            |                                           |                                           |
| Surrogate Recoveries/ Internal Standards             | √                                                                                                                                                                                                                                                             | √                                         | NA                                        |
| Calibration Issues (Deficiencies noted in Narrative) | The initial calibration associated with all samples did not meet the %RSD criteria for indeno[1,2,3-cd]pyrene (23.1%) and dibenz[a,h]anthracene (27.9%). J-qualify indeno[1,2,3-cd]pyrene and dibenz[a,h]anthracene in all samples due to the potential bias. | None                                      | None                                      |
| Other Issues                                         | None                                                                                                                                                                                                                                                          | None                                      | None                                      |

Notes:

NA = Not Applicable

ND = Non- Detect

RPD = Relative Percent Difference

√ = Data Reviewed is to be considered acceptable within method/lab criteria and without qualification

Qualifiers:

J = Estimated

U = Non-detect

UJ = Reporting limit is considered estimated

R = Data is rejected and not suitable for use

Data Reviewer: Elizabeth Penta

Senior Reviewer: Denise King

Date: 08/23/2018



## MCP Presumptive Certainty Data Usability Assessment

Site Name: Wynn- Everett Sediments

Project Number: 3651170065.103. \*\*\*\*

Laboratory Name: Alpha Analytical- Woods Hole Lab

SDG Number: 0603084

Menzie-Cura & Associates Inc. Sample IDs: CLM-1, CLM-2, CLM-3, CLM-4, CLM-5, CLM-1-SED, CLM-2-SED, CLM-3-SED, CLM-4-SED, and CLM-5-SED

| Data Reviewed                                        | Analysis                                                                                                                                                                           |
|------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                      | Metals- 6020A/ 7471A                                                                                                                                                               |
| Chain of Custody                                     | Samples CLM-1-SED, CLM-2-SED, CLM-3-SED, CLM-4-SED AND CLM-5-SED were submitted on hold.                                                                                           |
| Sample Receipt (Preservation & Temperature)          | √                                                                                                                                                                                  |
| Holding Time                                         | √                                                                                                                                                                                  |
| Blanks (Trip or Equipment)                           | NA                                                                                                                                                                                 |
| Method Blanks                                        | √                                                                                                                                                                                  |
| MS/MSD                                               | Sample CLM-1 was used as the source for the MS.<br>√                                                                                                                               |
| Lab Duplicate                                        | The laboratory selected sample CLM-1 for duplicate analysis. The RPD was elevated for arsenic and selenium. J-qualify arsenic and selenium in sample CLM-1 due to the imprecision. |
| LCS/LCSD                                             | √                                                                                                                                                                                  |
| Field Duplicates                                     | A field duplicate was not submitted with this SDG.                                                                                                                                 |
| Surrogate Recoveries/ Internal Standards             | NA                                                                                                                                                                                 |
| Calibration Issues (Deficiencies noted in Narrative) | None                                                                                                                                                                               |
| Other Issues                                         | As requested on the chain of custody only As, Ba, Be, Cd, Cr, Pb, Hg, Ni, Se and V were reported.                                                                                  |

Notes:

NA = Not Applicable

ND = Non- Detect

RPD = Relative Percent Difference

√ = Data Reviewed is to be considered acceptable within method/lab criteria and without qualification

Qualifiers:

J = Estimated

U = Non-detect

UJ = Reporting limit is considered estimated

R = Data is rejected and not suitable for use

Data Reviewer: Elizabeth Penta

Senior Reviewer: Denise King

Date: 08/22/2018

## MCP Presumptive Certainty Data Usability Assessment

Site Name: Wynn- Everett Sediments

Project Number: 3651170065.103. \*\*\*\*

Laboratory Name: Alpha Analytical-Woods Hole Lab

SDG Number: 0604034

Menzie-Cura & Associates Inc. Sample IDs: SED-10A, SED-11A, SED-2A, SED-3A and SED-8A

| Data Reviewed                                        | Analysis                                                                                                                                                                                                                                                                                                                        |
|------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                      | Metals- 6020A                                                                                                                                                                                                                                                                                                                   |
| Chain of Custody                                     | √                                                                                                                                                                                                                                                                                                                               |
| Sample Receipt (Preservation & Temperature)          | There is no sample receipt record included in the report.                                                                                                                                                                                                                                                                       |
| Holding Time                                         | √                                                                                                                                                                                                                                                                                                                               |
| Blanks (Trip or Equipment)                           | NA                                                                                                                                                                                                                                                                                                                              |
| Method Blanks                                        | √                                                                                                                                                                                                                                                                                                                               |
| MS/MSD                                               | Sample SED-10A was used as the source for the MS. Arsenic recovered above acceptance criteria at 289%R. The data was not assessed since the native sample concentration is $\geq 4X$ the spike concentration. No qualifications are necessary. Serial dilution on sample SED-10A was acceptable as well as the PDS for arsenic. |
| Lab Duplicate                                        | The laboratory selected sample SED-10A for duplicate analysis.<br>√                                                                                                                                                                                                                                                             |
| LCS/LCSD                                             | √                                                                                                                                                                                                                                                                                                                               |
| Field Duplicates                                     | A field duplicate was not submitted with this SDG.                                                                                                                                                                                                                                                                              |
| Surrogate Recoveries/ Internal Standards             | NA                                                                                                                                                                                                                                                                                                                              |
| Calibration Issues (Deficiencies noted in Narrative) | None                                                                                                                                                                                                                                                                                                                            |
| Other Issues                                         | The MS recovery exceedance was not noted in the case narrative.                                                                                                                                                                                                                                                                 |

Notes:

NA = Not Applicable

ND = Non- Detect

RPD = Relative Percent Difference

√ = Data Reviewed is to be considered acceptable within method/lab criteria and without qualification

Qualifiers:

J = Estimated

U = Non-detect

UJ = Reporting limit is considered estimated

R = Data is rejected and not suitable for use

Data Reviewer: Elizabeth Penta

Senior Reviewer: Denise King

Date: 08/22/2018

## MCP Presumptive Certainty Data Usability Assessment

Site Name: Wynn- Everett Sediments

Project Number: 3651170065.103. \*\*\*\*

Laboratory Name: Alpha Analytical- Woods Hole Lab

SDG Number: 0606039

Menzie-Cura & Associates Inc. Sample IDs: SED-3, SED-10 and SED-8

| Data Reviewed                                        | Analysis                                                                                                                                                                                                                               |                                           |                                                                                                                                                                                                                                                                         |
|------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                      | SVOC – 8270C                                                                                                                                                                                                                           | PCB – 8082A                               | Metals- 6020A                                                                                                                                                                                                                                                           |
| Chain of Custody                                     | Sample SED-8 submitted on hold.                                                                                                                                                                                                        | Sample SED-8 submitted on hold.           | Sample SED-8 submitted on hold.                                                                                                                                                                                                                                         |
| Sample Receipt (Preservation & Temperature)          | √                                                                                                                                                                                                                                      | √                                         | √                                                                                                                                                                                                                                                                       |
| Holding Time                                         | √                                                                                                                                                                                                                                      | √                                         | √                                                                                                                                                                                                                                                                       |
| Blanks (Trip or Equipment)                           | NA                                                                                                                                                                                                                                     | NA                                        | NA                                                                                                                                                                                                                                                                      |
| Method Blanks                                        | √                                                                                                                                                                                                                                      | √                                         | √                                                                                                                                                                                                                                                                       |
| MS/MSD                                               | A MS/MSD was not submitted with this SDG.                                                                                                                                                                                              | A MS/MSD was not submitted with this SDG. | Sample SED-3 was used as the source for the MS. Antimony recovered below acceptance criteria at 18%.<br>J-qualify antimony in sample SED-3 due to the potential low bias. Antimony was not detected above the RL in the serial dilution test performed on sample SED-3. |
| Lab Duplicate                                        | NA                                                                                                                                                                                                                                     | NA                                        | The laboratory selected sample SED-3 for duplicate analysis.<br>√                                                                                                                                                                                                       |
| LCS/LCSD                                             | √                                                                                                                                                                                                                                      | √                                         | √                                                                                                                                                                                                                                                                       |
| Field Duplicates                                     | A field duplicate was not submitted with this SDG.                                                                                                                                                                                     |                                           |                                                                                                                                                                                                                                                                         |
| Surrogate Recoveries/ Internal Standards             | √                                                                                                                                                                                                                                      | √                                         | NA                                                                                                                                                                                                                                                                      |
| Calibration Issues (Deficiencies noted in Narrative) | The initial calibration %RSD for 2,4-dinitrophenol (42.9%), indeno[1,2,3-cd]pyrene (16.2%) and dibenz[a,h]anthracene (19.9%) were above acceptance criteria associated with the dilution of samples SD-10 and SD-3. 2,4-Dinitrophenol, | None                                      | None                                                                                                                                                                                                                                                                    |

| Data Reviewed | Analysis                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |             |                                                                                    |
|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|------------------------------------------------------------------------------------|
|               | SVOC – 8270C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | PCB – 8082A | Metals- 6020A                                                                      |
|               | <p>indeno[1,2,3-cd]pyrene and dibenz[a,h]anthracene were reported from the initial analysis and not impacted by the potential bias. No qualifications are necessary.</p> <p>The initial calibration %RSD for 4-methylphenol (16.5%), 2,4-dimethylphenol (16.3%), 2,4-dinitrophenol (44.9%) and 4-nitrophenol (40.8%) were above acceptance criteria associated with the initial analysis of samples SD-10 and SD-3. UJ-qualify 4-methylphenol, 2,4-dimethylphenol, 2,4-dinitrophenol, and 4-nitrophenol in the associated samples.</p> <p>The continuing calibration standard associated with the initial analysis of samples SED-10 and SED-3 did not meet the %D method criteria for 2,4-dinitrophenol (31.9%) and pentachlorophenol (24.8%). 2,4-dinitrophenol and pentachlorophenol were ND in the associated samples and not impacted by the potential high bias. No qualifications are necessary.</p> |             |                                                                                    |
| Other Issues  | <p>Samples SED-3 and SED-10 were analyzed straight and on dilution due to bis(2-ethylhexyl)phthalate exceeding the upper calibration range in the initial analysis. Results should be reported from the initial analysis of samples SED-3 and SED-10 for all analytes except bis(2-ethylhexyl)phthalate which should be reported from the dilution.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | None        | As requested on the chain of custody only Sb, Be, Cu, Ni, Tl and Zn were reported. |

## Notes:

NA = Not Applicable

ND = Non- Detect

RPD = Relative Percent Difference

√ = Data Reviewed is to be considered acceptable within method/lab criteria and without qualification

## Qualifiers:

J = Estimated

U = Non-detect

UJ = Reporting limit is considered estimated

R = Data is rejected and not suitable for use

Data Reviewer: Elizabeth Penta

Senior Reviewer: Denise King

Date: 08/22/2018

## MCP Presumptive Certainty Data Usability Assessment

Site Name: Wynn Everett MCP

Project Number: 3651160042

Laboratory Name: ESS Laboratory

SDG Number: 1308098

Sample IDs GZ-101 0-0.5 ft, GZ-101 2-4 ft, GZ-101 4-6ft, GZ-101 8-9ft, GZ-102 2-4ft, GZ-102 4-6ft, GZ-102 6-8ft, GZ-108 8-10ft, GZ-103 2-4ft, GZ-103 4-6ft, GZ-103 6-7ft, GZ-104T 0-0.5ft, GZ-104 2-4ft, GZ-104 4-6ft, GZ-104 6-8ft, GZ-105 2-4ft, GZ-105 4-6ft, GZ-105 6-9ft, GZ-106 2-4ft, and GZ-106 4-6ft

| Data Reviewed                               | Analysis                                  |                                           |                                                                                                                                                                                                                         |                                           |
|---------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|
|                                             | 8270/8270 SIM                             | EPH                                       | Metals (6010B, 6020A, 7471A)                                                                                                                                                                                            | PCBs (8082A)                              |
| Chain of Custody                            | √                                         | √                                         | √                                                                                                                                                                                                                       | √                                         |
| Sample Receipt (Preservation & Temperature) | √                                         | √                                         | √                                                                                                                                                                                                                       | √                                         |
| Holding Time                                | √                                         | √                                         | √                                                                                                                                                                                                                       | √                                         |
| Method Blanks                               | √                                         | √                                         | √                                                                                                                                                                                                                       | √                                         |
| MS/MSD                                      | A MS/MSD was not submitted with this SDG. | A MS/MSD was not submitted with this SDG. | A MS/MSD was not submitted with this SDG.                                                                                                                                                                               | A MS/MSD was not submitted with this SDG. |
| Blanks                                      | Blanks were not submitted with this SDG.  | Blanks were not submitted with this SDG.  | Blanks were not submitted with this SDG.                                                                                                                                                                                | Blanks were not submitted with this SDG.  |
| LCS/LCSD                                    | √                                         | √                                         | The LCSD % recovery associated with all samples was below acceptance criteria for arsenic (77%), barium (79%), cadmium (77%), and zinc (76%). J/UJ-qualify these analytes in all samples due to the potential low bias. | √                                         |

| Data Reviewed                                                                         | Analysis                                                                                                                                                                                                                                                                                                                                                                                                       |                                                    |                                                    |                                                                                                                                                                                                             |
|---------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|----------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                       | 8270/8270 SIM                                                                                                                                                                                                                                                                                                                                                                                                  | EPH                                                | Metals (6010B, 6020A, 7471A)                       | PCBs (8082A)                                                                                                                                                                                                |
| Naphthalene and 2-Methylnaphthalene breakthrough in Aliphatic Fraction <5% (EPH Only) | NA                                                                                                                                                                                                                                                                                                                                                                                                             | √                                                  | NA                                                 | NA                                                                                                                                                                                                          |
| Field Duplicates                                                                      | A field duplicate was not submitted with this SDG.                                                                                                                                                                                                                                                                                                                                                             | A field duplicate was not submitted with this SDG. | A field duplicate was not submitted with this SDG. | A field duplicate was not submitted with this SDG.                                                                                                                                                          |
| Surrogate Recoveries                                                                  | √                                                                                                                                                                                                                                                                                                                                                                                                              | √                                                  | NA                                                 | √                                                                                                                                                                                                           |
| Calibration Issues (Deficiencies noted in Narrative)                                  | The initial calibration verification % recovery associated with all samples was outside of acceptance criteria for hexachlorocyclopentadiene. UJ-qualify this analyte in all samples due to a potential bias.                                                                                                                                                                                                  | None                                               | None                                               | None                                                                                                                                                                                                        |
| Other Issues                                                                          | The internal standard perylene-d12 (37%) recovered below the acceptance criteria in sample GZ-102 6-8ft. J/UJ-qualify the following analytes in this sample: di-n-octylphthalate, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene, benzo(g,h,i)perylene, and dibenz(a,h)anthracene.<br><br>8270-As requested on the chain only base neutral phthalate esters were reported. | None                                               | None                                               | The % difference between primary and secondary column results for Aroclor 1260 exceeded the method criteria of 40% in sample GZ-104T 0-0.5ft. J-Qualify Aroclor 1260 in this sample due to the imprecision. |



Notes:

NA = Not Applicable

ND = Non Detect

RPD = Relative Percent Difference

√ = Data Reviewed is to be considered acceptable within MCP criteria and without qualification

Qualifiers:

J = Estimated

R = Data is rejected and not suitable for use

UJ = Reporting limit is considered estimated

U = Non-detect

Data Reviewer: Lisa M. Leclair

Senior Reviewer: Denise King

Date: 12/16/2016

## MCP Presumptive Certainty Data Usability Assessment

Site Name: Wynn Everett MCP

Project Number: 3651160042

Laboratory Name: ESS Laboratory

SDG Number: 1308104

Sample IDs GZ-106 6-9ft, GZ-107 0-0.5ft, GZ-107 2-4ft, GZ-108T 0-0.5ft, GZ-108 2-4ft, GZ-108 4-6ft, GZ-108 8-10ft, GZ-109T 0-0.5ft, GZ-109 0.5-2.5ft, GZ-110B 0-0.5ft, GZ-110B 2-4ft, GZ-111 0-0.5ft, GZ-111 2-4ft, GZ-111 7-8ft, GZ-112T 0-0.5ft, GZ-112 2-4ft, GZ-112 6-8ft, GZ-113T 0-0.5ft, GZ-113 2-4ft, and GZ-113 4-6ft

| Data Reviewed                                                                         | Analysis                                           |                                                    |                                                    |                                                    |
|---------------------------------------------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
|                                                                                       | 8270/8270 SIM                                      | EPH                                                | Metals (6010B, 6020A, 7471B)                       | PCBs (8082A)                                       |
| Chain of Custody                                                                      | √                                                  | √                                                  | √                                                  | √                                                  |
| Sample Receipt<br>(Preservation &<br>Temperature)                                     | √                                                  | √                                                  | √                                                  | √                                                  |
| Holding Time                                                                          | √                                                  | √                                                  | √                                                  | √                                                  |
| Method Blanks                                                                         | √                                                  | √                                                  | √                                                  | √                                                  |
| MS/MSD                                                                                | A MS/MSD was not submitted with this SDG.          | A MS/MSD was not submitted with this SDG.          | A MS/MSD was not submitted with this SDG.          | A MS/MSD was not submitted with this SDG.          |
| Blanks                                                                                | Blanks were not submitted with this SDG.           | Blanks were not submitted with this SDG.           | Blanks were not submitted with this SDG.           | Blanks were not submitted with this SDG.           |
| LCS/LCSD                                                                              | √                                                  | √                                                  | √                                                  | √                                                  |
| Naphthalene and 2-Methylnaphthalene breakthrough in Aliphatic Fraction <5% (EPH Only) | NA                                                 | √                                                  | NA                                                 | NA                                                 |
| Field Duplicates                                                                      | A field duplicate was not submitted with this SDG. | A field duplicate was not submitted with this SDG. | A field duplicate was not submitted with this SDG. | A field duplicate was not submitted with this SDG. |

| Data Reviewed                                              | Analysis                                                                                                                                                                                                      |      |                              |              |
|------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|------------------------------|--------------|
|                                                            | 8270/8270 SIM                                                                                                                                                                                                 | EPH  | Metals (6010B, 6020A, 7471B) | PCBs (8082A) |
| Surrogate Recoveries                                       | √                                                                                                                                                                                                             | √    | NA                           | √            |
| Calibration Issues<br>(Deficiencies noted<br>in Narrative) | The initial calibration verification % recovery associated with all samples was outside of acceptance criteria for hexachlorocyclopentadiene. UJ-qualify this analyte in all samples due to a potential bias. | None | None                         | None         |
| Other Issues                                               | 8270-As requested on the chain only base neutral phthalate esters were reported.                                                                                                                              | None | None                         | None         |

Notes:

NA = Not Applicable

ND = Non Detect

RPD = Relative Percent Difference

√ = Data Reviewed is to be considered acceptable within MCP criteria and without qualification

Qualifiers:

J = Estimated

R = Data is rejected and not suitable for use

UJ = Reporting limit is considered estimated

U = Non-detect

Data Reviewer: Lisa M. Leclair/Denise King

Senior Reviewer: Denise King

Date: 12/16/2016

## MCP Presumptive Certainty Data Usability Assessment

Site Name: Wynn Everett MCP

Project Number: 3651160042

Laboratory Name: ESS Laboratory

SDG Number: 1308105

Sample IDs GZ-114T 0-0.5ft, GZ-114 2-5ft, GZ-114 5-7ft, GZ-115T 0-0.5ft, GZ-115 2-5ft, GZ-115 5-7ft, GZ-116T 0-0.5ft, GZ-116 0.5-2ft, GZ-116 2-4ft, GZ-116 4-6ft, GZ-116 6-8ft, GZ-116 8-9ft, GZ-117T 0-0.5ft, GZ-117 2-4ft, GZ-117 4-6ft, GZ-118A 0-0.5ft, GZ-118A 0.5-1ft, GZ-119T 0-0.5ft, GZ-119 2-4ft, and GZ-120T 0-0.5ft

| Data Reviewed                                                                         | Analysis                                  |                                           |                                           |                                           |
|---------------------------------------------------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|
|                                                                                       | 8270/8270 SIM                             | EPH                                       | Metals (6010C, 6020A, 7471B)              | PCBs (8082A)                              |
| Chain of Custody                                                                      | √                                         | √                                         | √                                         | √                                         |
| Sample Receipt<br>(Preservation &<br>Temperature)                                     | √                                         | √                                         | √                                         | √                                         |
| Holding Time                                                                          | √                                         | √                                         | √                                         | √                                         |
| Method Blanks                                                                         | √                                         | √                                         | √                                         | √                                         |
| MS/MSD                                                                                | A MS/MSD was not submitted with this SDG. | A MS/MSD was not submitted with this SDG. | A MS/MSD was not submitted with this SDG. | A MS/MSD was not submitted with this SDG. |
| Blanks                                                                                | Blanks were not submitted with this SDG.  | Blanks were not submitted with this SDG.  | Blanks were not submitted with this SDG.  | Blanks were not submitted with this SDG.  |
| LCS/LCSD                                                                              | √                                         | √                                         | √                                         | √                                         |
| Naphthalene and 2-Methylnaphthalene breakthrough in Aliphatic Fraction <5% (EPH Only) | NA                                        | √                                         | NA                                        | NA                                        |

| Data Reviewed        | Analysis                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                    |                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|----------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                      | 8270/8270 SIM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | EPH                                                | Metals (6010C, 6020A, 7471B)                       | PCBs (8082A)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Field Duplicates     | A field duplicate was not submitted with this SDG.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | A field duplicate was not submitted with this SDG. | A field duplicate was not submitted with this SDG. | A field duplicate was not submitted with this SDG.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Surrogate Recoveries | <p>8270 - 2,4,6-Tribromophenol (14%) recovered below acceptance criteria in sample GZ-114T 0-0.5ft. UJ-qualify all acid compounds due to the potential low bias.</p> <p>8270 - 2,4,6-Tribromophenol (28%) recovered below acceptance criteria in sample GZ-116T 0-0.5ft. UJ-qualify all acid compounds due to the potential low bias.</p> <p>8270 - 1,2-Dichlorobenzene-d4 (27%), 2,4,6-tribromophenol (25%), and 2-fluorophenol (27%) recovered below the acceptance criteria in sample GZ-116 0.5-2ft. J/UJ- qualify all analytes due to the potential low bias.</p> <p>SIM - 1,2-Dichlorobenzene-d4 (26%) and nitrobenzene-d5 (26%) recovered below the acceptance criteria in sample GZ-116 0.5-2ft. J/UJ-qualify all analytes in this sample due to the potential low bias.</p> <p>8270 - 2,4,6-Tribromophenol (0%) recovered below acceptance criteria in sample GZ-116 2-4ft. UJ-qualify all acid compounds due to the potential low bias. Data not rejected since other acid surrogates were within criteria.</p> <p>8270 - 2,4,6-Tribromophenol (7%) recovered below acceptance criteria in sample GZ-116 6-8ft. UJ-qualify all acid compounds due to the potential low bias. Data not rejected since other acid surrogates were within criteria.</p> | √                                                  | √                                                  | <p>Tetrachloro-m-xylene (24%) recovered below the acceptance criteria on the confirmation column for sample GZ-114T 0-0.5ft. No qualifications are necessary since surrogate recoveries for the primary column are within criteria.</p> <p>Decachlorobiphenyl and tetrachloro-m-xylene both recovered at 0% in sample GZ-114 2-5ft. The surrogates were diluted out due to the 50X dilution necessary to quantitate the sample. No qualifications are necessary.</p> <p>Tetrachloro-m-xylene (21%) recovered below the acceptance criteria on the confirmation column for sample GZ-119T 0-0.5ft. No qualifications are necessary since surrogate recoveries for the primary column are within criteria.</p> |

| Data Reviewed                                        | Analysis                                                                                                                                                                                                                                                                                                                                                        |      |                              |              |
|------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|------------------------------|--------------|
|                                                      | 8270/8270 SIM                                                                                                                                                                                                                                                                                                                                                   | EPH  | Metals (6010C, 6020A, 7471B) | PCBs (8082A) |
|                                                      | <p>8270 - 2,4,6-Tribromophenol (29%) recovered below acceptance criteria in sample GZ-119T 0-0.5ft. UJ-qualify all acid compounds due to the potential low bias.</p> <p>SIM - Nitrobenzene-d5 (26%) recovered below the acceptance criteria in sample GZ-119T 0-0.5ft. J/UJ-qualify all base neutral analytes in this sample due to the potential low bias.</p> |      |                              |              |
| Calibration Issues (Deficiencies noted in Narrative) | <p>8270 - The initial calibration verification % recovery associated with all samples was outside of acceptance criteria for hexachlorocyclopentadiene.</p> <p>UJ-qualify this analyte in all samples due to a potential bias.</p>                                                                                                                              | None | None                         | None         |
| Other Issues                                         | 8270-As requested on the chain only base neutral phthalate esters were reported.                                                                                                                                                                                                                                                                                | None | None                         | None         |

Notes:

NA = Not Applicable

ND = Non Detect

RPD = Relative Percent Difference

√ = Data Reviewed is to be considered acceptable within MCP criteria and without qualification

Qualifiers:

J = Estimated

R = Data is rejected and not suitable for use

UJ = Reporting limit is considered estimated

U = Non-detect

Data Reviewer: Lisa M. Leclair/Denise King

Senior Reviewer: Denise King

Date: 12/16/2016

## MCP Presumptive Certainty Data Usability Assessment

Site Name: Wynn Everett

Project Number: 3651160042

Laboratory Name: ESS Laboratory

SDG Number: 1308106

Sample IDs GZ-120 2-4ft, GZ-121T 0-0.5ft, GZ-121 2-4ft, GZ-121 4-6ft, GZ-122T 0-0.5ft, GZ-122 0.5-2ft, GZ-122 2-4ft, GZ-123 0-0.5ft, GZ-123 2-4ft, GZ-123 4-6ft, GZ-124 0-0.5ft, GZ-124 2-4ft, GZ-125A 0-0.5ft, GZ-125A 2-4ft, GZ-125A 4-6ft, GZ-125A 8-9ft, GZ-126T 0-0.5ft, GZ-126 0.5-2ft, GZ-126 2-4ft, and GZ-127 0-0.5ft

| Data Reviewed                                                                         | Analysis                                           |                                                    |                                                    |                                                    |
|---------------------------------------------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
|                                                                                       | 8270                                               | EPH                                                | Metals (6010C, 6020A, 7471B)                       | PCBs (8082A)                                       |
| Chain of Custody                                                                      | √                                                  | √                                                  | √                                                  | √                                                  |
| Sample Receipt<br>(Preservation &<br>Temperature)                                     | √                                                  | √                                                  | √                                                  | √                                                  |
| Holding Time                                                                          | √                                                  | √                                                  | √                                                  | √                                                  |
| Method Blanks                                                                         | √                                                  | √                                                  | √                                                  | √                                                  |
| MS/MSD                                                                                | A MS/MSD was not submitted with this SDG.          | A MS/MSD was not submitted with this SDG.          | A MS/MSD was not submitted with this SDG.          | A MS/MSD was not submitted with this SDG.          |
| Blanks                                                                                | Blanks were not submitted with this SDG.           | Blanks were not submitted with this SDG.           | Blanks were not submitted with this SDG.           | Blanks were not submitted with this SDG.           |
| LCS/LCSD                                                                              | √                                                  | √                                                  | √                                                  | √                                                  |
| Naphthalene and 2-Methylnaphthalene breakthrough in Aliphatic Fraction <5% (EPH Only) | NA                                                 | √                                                  | NA                                                 | NA                                                 |
| Field Duplicates                                                                      | A field duplicate was not submitted with this SDG. | A field duplicate was not submitted with this SDG. | A field duplicate was not submitted with this SDG. | A field duplicate was not submitted with this SDG. |

| Data Reviewed                                              | Analysis                                                                                                                                                                                                      |      |                              |              |
|------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|------------------------------|--------------|
|                                                            | 8270                                                                                                                                                                                                          | EPH  | Metals (6010C, 6020A, 7471B) | PCBs (8082A) |
| Surrogate Recoveries                                       | √                                                                                                                                                                                                             | √    | NA                           | √            |
| Calibration Issues<br>(Deficiencies noted<br>in Narrative) | The initial calibration verification % recovery associated with all samples was outside of acceptance criteria for hexachlorocyclopentadiene. UJ-qualify this analyte in all samples due to a potential bias. | None | None                         | None         |
| Other Issues                                               | None                                                                                                                                                                                                          | None | None                         | None         |

Notes:

NA = Not Applicable

ND = Non Detect

RPD = Relative Percent Difference

√ = Data Reviewed is to be considered acceptable within MCP criteria and without qualification

Qualifiers:

J = Estimated

R = Data is rejected and not suitable for use

UJ = Reporting limit is considered estimated

U = Non-detect

Data Reviewer: Lisa M. Leclair/Denise King

Senior Reviewer: Denise King

Date: 12/16/2016



## MCP Presumptive Certainty Data Usability Assessment

Site Name: Wynn Everett

Project Number: 3651160042

Laboratory Name: ESS Laboratory

SDG Number: 1308107

Sample IDs GZ-127 0.5-2ft, GZ-127 2-4ft, GZ-127 4-5ft, GZ-128T 0-0.5ft, GZ-128 2-4ft, GZ-128 4-6ft, GZ-129T 0-0.5ft, GZ-129 2-4ft, GZ-130 0-0.5ft, GZ-130 2-4ft, GZ-130 4-6ft, GZ-131 0-0.5ft, GZ-131 0.5-2ft, GZ-131 2-4ft, GZ-131 4-5ft, GZ-132 0-0.5ft, GZ-132 0.5-2ft, GZ-133 0-0.5ft, GZ-133 0.5-2ft, and GZ-133 2-4.4ft

| Data Reviewed                                        | Analysis                                           |
|------------------------------------------------------|----------------------------------------------------|
|                                                      | Metals (6010C, 6020A, 7471B)                       |
| Chain of Custody                                     | √                                                  |
| Sample Receipt (Preservation & Temperature)          | √                                                  |
| Holding Time                                         | √                                                  |
| Method Blanks                                        | √                                                  |
| MS/MSD                                               | A MS/MSD was not submitted with this SDG.          |
| Blanks                                               | Blanks were not submitted with this SDG.           |
| LCS/LCSD                                             | √                                                  |
| Field Duplicates                                     | A field duplicate was not submitted with this SDG. |
| Calibration Issues (Deficiencies noted in Narrative) | None                                               |
| Other Issues                                         | None                                               |

**Notes:**

NA = Not Applicable

ND = Non Detect

RPD = Relative Percent Difference

√ = Data Reviewed is to be considered acceptable within MCP criteria and without qualification

**Qualifiers:**

J = Estimated

R = Data is rejected and not suitable for use

UJ = Reporting limit is considered estimated

U = Non-detect

Data Reviewer: Lisa M. Leclair

Senior Reviewer: Denise King

Date: 12/16/2016

## MCP Presumptive Certainty Data Usability Assessment

Site Name: Wynn Everett

Project Number: 3651160042

Laboratory Name: ESS Laboratory

SDG Number: 1308108

Sample IDs GZ-134T 0-0.5ft, GZ-134 2-3ft, GZ-134 4-6ft, GZ-134 6-8ft , GZ-135T 0-0.5ft, GZ-135 2-4ft, GZ-135 4-6ft, GZ-136 0-0.5ft, GZ-136 0.5-2ft, GZ-136 2-4ft, GZ-136 4-6ft, GZ-136 8-10ft, GZ-137T 0-0.5T, GZ-137 2-4ft, GZ-137 4-5.5ft, GZ-138 0-0.5ft, GZ-138 0.5-2ft, GZ-138 2-4ft, GZ-138 4-6ft, and GZ-138 6-8ft

| Data Reviewed                                                                         | Analysis                                  |                                           |                                           |                                           |
|---------------------------------------------------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|
|                                                                                       | 8270/ 8270 SIM                            | EPH                                       | Metals (6010C, 6020A, 7471B)              | PCBs (8082A)                              |
| Chain of Custody                                                                      | √                                         | √                                         | √                                         | √                                         |
| Sample Receipt (Preservation & Temperature)                                           | √                                         | √                                         | √                                         | √                                         |
| Holding Time                                                                          | √                                         | √                                         | √                                         | √                                         |
| Method Blanks                                                                         | √                                         | √                                         | √                                         | √                                         |
| MS/MSD                                                                                | A MS/MSD was not submitted with this SDG. | A MS/MSD was not submitted with this SDG. | A MS/MSD was not submitted with this SDG. | A MS/MSD was not submitted with this SDG. |
| Blanks                                                                                | Blanks were not submitted with this SDG.  | Blanks were not submitted with this SDG.  | Blanks were not submitted with this SDG.  | Blanks were not submitted with this SDG.  |
| LCS/LCSD                                                                              | √                                         | √                                         | √                                         | √                                         |
| Naphthalene and 2-Methylnaphthalene breakthrough in Aliphatic Fraction <5% (EPH Only) | NA                                        | √                                         | NA                                        | NA                                        |

| Data Reviewed                                        | Analysis                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                   |                                                    |                                                                                                                                                                                                                                                                                                                                                                                                    |
|------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                      | 8270/ 8270 SIM                                                                                                                                                                                                                                                                                                                                                                                                                 | EPH                                                                                                                                                                                                                               | Metals (6010C, 6020A, 7471B)                       | PCBs (8082A)                                                                                                                                                                                                                                                                                                                                                                                       |
| Field Duplicates                                     | A field duplicate was not submitted with this SDG.                                                                                                                                                                                                                                                                                                                                                                             | A field duplicate was not submitted with this SDG.                                                                                                                                                                                | A field duplicate was not submitted with this SDG. | A field duplicate was not submitted with this SDG.                                                                                                                                                                                                                                                                                                                                                 |
| Surrogate Recoveries                                 | √                                                                                                                                                                                                                                                                                                                                                                                                                              | The surrogate % recovery for 2-bromonaphthalene (141%) was above acceptance criteria in sample GZ-134 6-8ft; however the sample was not re-analyzed due to coelution with obvious interferences. No qualifications are necessary. | NA                                                 | <p>The surrogate % recovery for tetrachloro-m-xylene (20% &amp; 15%) on both columns was below acceptance criteria in sample GZ-137T 0-0.5ft. UJ/J-qualify all Aroclors due to the potential low bias.</p> <p>Both surrogates were diluted out of sample GZ-134 2-3ft due to the dilutions required to quantitate the sample. Re-extraction was not required. No qualifications are necessary.</p> |
| Calibration Issues (Deficiencies noted in Narrative) | <p>The initial calibration verification % recovery associated with all samples was outside of acceptance criteria for hexachlorocyclopentadiene. UJ-qualify this analyte in all samples due to a potential bias.</p> <p>8270 - The continuing calibration standard % recovery associated with all samples was below acceptance criteria for acenaphthene (77%). J/UJ this analyte in all samples for a potential low bias.</p> | None                                                                                                                                                                                                                              | None                                               | None                                                                                                                                                                                                                                                                                                                                                                                               |

| Data Reviewed | Analysis                                                                                                                                                                                                                                                                                    |      |                              |              |
|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|------------------------------|--------------|
|               | 8270/ 8270 SIM                                                                                                                                                                                                                                                                              | EPH  | Metals (6010C, 6020A, 7471B) | PCBs (8082A) |
| Other Issues  | SIM-The internal standard perylene-d12 in sample GZ-134 2-3ft. was below acceptance criteria at 30%. J-qualify benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(g,h,i) perylene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene, and dibenz(a,h)anthracene in this sample due to a potential bias. | None | None                         | None         |

Notes:

NA = Not Applicable

ND = Non Detect

RPD = Relative Percent Difference

✓ = Data Reviewed is to be considered acceptable within MCP criteria and without qualification

Qualifiers:

J = Estimated

R = Data is rejected and not suitable for use

UJ = Reporting limit is considered estimated

U = Non-detect

Data Reviewer: Lisa M. Leclair/Denise King

Senior Reviewer: Denise King

Date: 12/16/2016

## MCP Presumptive Certainty Data Usability Assessment

Site Name: Wynn Everett

Project Number: 3651160042

Laboratory Name: ESS Laboratory

SDG Number: 1308109

Sample IDs GZ-139 0-0.5ft, GZ-139 2-4ft, GZ-139 6-8ft, GZ-140A 0-0.5ft, GZ-140A 0.5-2ft, GZ-140A 2-3ft, GZ-LC1 T 0-0.5ft, GZ-LC1 2-4ft, GZ-LC2 T 0-0.5ft, GZ-LC2 2-4ft, GZ-LC3 T 0-0.5ft, GZ-LC-3 0.5-2ft, GZ-LC-3 4-6ft, GZ-LC4 T 0-0.5ft, GZ-LC4 0.5-2ft, GZ-LC4 2-4ft, GZ-LC4 4-6ft, GZ-LC5 0-0.5ft, GZ-LC5 2-4ft, and GZ-LC6 0-0.5ft

| Data Reviewed                                     | Analysis                                                                                                                                                     |                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                           |
|---------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|
|                                                   | 8270/ 8270 SIM                                                                                                                                               | EPH                                       | Metals (6010C, 6020A, 7471B)                                                                                                                                                                                                                                                                                                                                                                                                                    | PCBs (8082A)                              |
| Chain of Custody                                  | √                                                                                                                                                            | √                                         | √                                                                                                                                                                                                                                                                                                                                                                                                                                               | √                                         |
| Sample Receipt<br>(Preservation &<br>Temperature) | √                                                                                                                                                            | √                                         | √                                                                                                                                                                                                                                                                                                                                                                                                                                               | √                                         |
| Holding Time                                      | √                                                                                                                                                            | √                                         | √                                                                                                                                                                                                                                                                                                                                                                                                                                               | √                                         |
| Method Blanks                                     | √                                                                                                                                                            | √                                         | √                                                                                                                                                                                                                                                                                                                                                                                                                                               | √                                         |
| MS/MSD                                            | A MS/MSD was not submitted with this SDG.                                                                                                                    | A MS/MSD was not submitted with this SDG. | A MS/MSD was not submitted with this SDG.                                                                                                                                                                                                                                                                                                                                                                                                       | A MS/MSD was not submitted with this SDG. |
| Blanks                                            | Blanks were not submitted with this SDG.                                                                                                                     | Blanks were not submitted with this SDG.  | Blanks were not submitted with this SDG.                                                                                                                                                                                                                                                                                                                                                                                                        | Blanks were not submitted with this SDG.  |
| LCS/LCSD                                          | √<br><br>SIM – The LCS is missing for batch CH31001. The LCSD is reported and within criteria so in Amec's professional opinion data quality is not impacted | √                                         | The LCSD % recovery associated with all samples is above the acceptance criteria for antimony (178%), selenium (157%), and thallium (177%). The LCS/LCSD RPD associated with all samples is above acceptance criteria for antimony (56%), selenium (39%), and thallium (50%). J-qualify the detected selenium and antimony in samples GZ-LC1 T 0-0.5FT, GZ-LC3 T 0-0.5FT, GZ-LC-3 0.5-2FT, and GZ-LC4 0.5-2FT; the detected selenium in samples | √                                         |

| Data Reviewed                                                                         | Analysis                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|---------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                       | 8270/ 8270 SIM                                                                                                                                                                                                                                                                                                                                                                                                     | EPH                                                                                                                                                                                                                                                                                                                                                                                                       | Metals (6010C, 6020A, 7471B)                                                                                                                                                                                  | PCBs (8082A)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                           | GZ-140A 0-0.5FT, GZ-LC-3 4-6FT, and GZ-LC4 T 0-0.5FT; and the detected antimony in sample GZ-LC4 2-4FT due to the potential high and non-directional bias. Thallium was ND and not impacted by the high bias. |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Naphthalene and 2-Methylnaphthalene breakthrough in Aliphatic Fraction <5% (EPH Only) | NA                                                                                                                                                                                                                                                                                                                                                                                                                 | √                                                                                                                                                                                                                                                                                                                                                                                                         | NA                                                                                                                                                                                                            | NA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Field Duplicates                                                                      | A field duplicate was not submitted with this SDG.                                                                                                                                                                                                                                                                                                                                                                 | A field duplicate was not submitted with this SDG.                                                                                                                                                                                                                                                                                                                                                        | A field duplicate was not submitted with this SDG.                                                                                                                                                            | A field duplicate was not submitted with this SDG.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Surrogate Recoveries                                                                  | <p>8270-All surrogates were diluted out of sample GZ-LC 3 4-6ft due to the dilutions required to quantitate the sample. Re-extraction was not required. No qualifications are necessary.</p> <p>SIM- The surrogate % recoveries in sample GZ-LC2 2-4ft. are above the acceptance criteria for nitrobenzene-d5 (370%) and p-terphenyl-d14 (148%). The sample is ND and not impacted by the potential high bias.</p> | <p>The surrogate % recovery for o-terphenyl was above acceptance criteria in samples; GZ-LC2 T 0-0.5ft (401%), GZ-LC2 2-4ft (227%), GZ-LC-3 4-6ft (243%), GZ-LC4 0.5-2ft (162%), GZ-LC4 2-4ft (246%), and GZ-LC4 4-6ft (173%).</p> <p>Chromatograms not included with the report. J-qualify any detects for C11-C22 unadjusted aromatics and C11-C22 adjusted aromatics due to a potential high bias.</p> | NA                                                                                                                                                                                                            | <p>In samples GZ-LC2 T 0-0.5ft, GZ-LC2 2-4ft, GZ-LC-3 4-6ft, GZ-LC4 2-4ft, and GZ-LC4 4-6ft, the surrogate % recoveries for decachlorobiphenyl and tetrachloro-m-xylene were 0% on both columns as a result of dilution. Data qualification is not warranted.</p> <p>In sample GZ-LC4 0.5-2ft, the surrogate % recovery was above acceptance criteria for decachlorobiphenyl (152%) on the primary column but within acceptance criteria on the confirmatory column. J-qualify Aroclor 1248 and 1254 due to the potential high bias.</p> |

| Data Reviewed                                           | Analysis                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |      |                              |                                                                                                                                                                                                                     |
|---------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                         | 8270/ 8270 SIM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | EPH  | Metals (6010C, 6020A, 7471B) | PCBs (8082A)                                                                                                                                                                                                        |
| Calibration Issues<br>(Deficiencies noted in Narrative) | <p>The initial calibration verification % recovery associated with all samples is outside of the acceptance criteria for hexachlorocyclopentadiene.</p> <p>UJ-qualify this analyte in all samples due to a potential bias.</p> <p>The continuing calibration standard % recovery associated with all samples is below the acceptance criteria for acenaphthene (77%) and hexachlorocyclopentadiene (59%).</p> <p>UJ-qualify these analytes in all samples due to a potential low bias.</p>                                                                                                                                                                                           | None | None                         | None                                                                                                                                                                                                                |
| Other Issues                                            | <p>8270- The internal standard perylene-d12 recovered below the acceptance criteria in samples GZ-LC4 4-6ft (24%) and GZ-LC4 2-4ft at (22%).</p> <p>J/UJ-qualify results for benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(g,h,i) perylene, benzo(a)pyrene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene, and di-n-octyl phthalate due to the potential bias.</p> <p>SIM- The internal standard perylene-d12 recovered below the acceptance criteria in sample GZ-LC4 4-6ft (41%). J/UJ-qualify results for benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(g,h,i) perylene, benzo(a)pyrene, dibenz(a,h)anthracene, and indeno(1,2,3-cd)pyrene due to the potential bias.</p> | None | None                         | <p>In samples GZ-LC1 T 0-0.5ft and GZ-LC-3 0.5-2ft, the % difference between the primary and confirmatory results was &gt; 40% for Aroclor 1260. J-qualify Aroclor 1260 in both samples due to the imprecision.</p> |

Notes:

NA = Not Applicable

ND = Non Detect

RPD = Relative Percent Difference

√ = Data Reviewed is to be considered acceptable within MCP criteria and without qualification

Qualifiers:

J = Estimated

R = Data is rejected and not suitable for use

UJ = Reporting limit is considered estimated

U = Non-detect

Data Reviewer: Lisa M. Leclair/Denise King

Senior Reviewer: Denise King

Date: 12/20/2016



## MCP Presumptive Certainty Data Usability Assessment

Site Name: Wynn Everett

Project Number: 3651160042

Laboratory Name: ESS Laboratory

SDG Number: 1308110

Sample IDs GZ-LC6 2-4ft, GZ-LC7 0-0.5ft, GZ-LC7 2-4ft, GZ-LC7 4-5ft4in, GZ-LC8 0-0.5ft, GZ-LC8 2-4ft, GZ-LC8 4-6ft, GZ-LC8 6-7ft3in, GZ-LC9 0-0.5ft, GZ-LC9 2-4ft, GZ-LC9 4-5ft2in, GZ-LC10 0-0.5ft, and GZ-LC10 2-4ft

| Data Reviewed                                                                         | Analysis                                                                                                                                                                                                                                                                                                                                                           |                                           |                                           |                                           |
|---------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|
|                                                                                       | 8270/ 8270 SIM                                                                                                                                                                                                                                                                                                                                                     | EPH                                       | Metals (6010C, 6020A, 7471B)              | PCBs (8082A)                              |
| Chain of Custody                                                                      | √                                                                                                                                                                                                                                                                                                                                                                  | √                                         | √                                         | √                                         |
| Sample Receipt (Preservation & Temperature)                                           | √                                                                                                                                                                                                                                                                                                                                                                  | √                                         | √                                         | √                                         |
| Holding Time                                                                          | √                                                                                                                                                                                                                                                                                                                                                                  | √                                         | √                                         | √                                         |
| Method Blanks                                                                         | √                                                                                                                                                                                                                                                                                                                                                                  | √                                         | √                                         | √                                         |
| MS/MSD                                                                                | A MS/MSD was not submitted with this SDG.                                                                                                                                                                                                                                                                                                                          | A MS/MSD was not submitted with this SDG. | A MS/MSD was not submitted with this SDG. | A MS/MSD was not submitted with this SDG. |
| Blanks                                                                                | Blanks were not submitted with this SDG.                                                                                                                                                                                                                                                                                                                           | Blanks were not submitted with this SDG.  | Blanks were not submitted with this SDG.  | Blanks were not submitted with this SDG.  |
| LCS/LCSD                                                                              | The LCS/LCSD associated with samples GZ-LC7 4-5ft4in, GZ-LC8 0-0.5ft, GZ-LC8 2-4ft, GZ-LC8 4-6ft, GZ-LC8 6-7ft3in, GZ-LC9 0-0.5ft, GZ-LC9 2-4ft, GZ-LC9 4-5ft2in, and GZ-LC10 0-0.5ft, and GZ-LC10 2-4ft was below the acceptance criteria for hexachlorocyclopentadiene (36%/36%). UJ-qualify this analyte in above listed samples due to the potential low bias. | √                                         | √                                         | √                                         |
| Naphthalene and 2-Methylnaphthalene breakthrough in Aliphatic Fraction <5% (EPH Only) | NA                                                                                                                                                                                                                                                                                                                                                                 | √                                         | NA                                        | NA                                        |

| Data Reviewed                                           | Analysis                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                    |                                                    |                                                    |
|---------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
|                                                         | 8270/ 8270 SIM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | EPH                                                | Metals (6010C, 6020A, 7471B)                       | PCBs (8082A)                                       |
| Field Duplicates                                        | A field duplicate was not submitted with this SDG.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | A field duplicate was not submitted with this SDG. | A field duplicate was not submitted with this SDG. | A field duplicate was not submitted with this SDG. |
| Surrogate Recoveries                                    | √                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | √                                                  | NA                                                 | √                                                  |
| Calibration Issues<br>(Deficiencies noted in Narrative) | <p>8270-The initial calibration verification % recovery associated with all samples was outside of the acceptance criteria for hexachlorocyclopentadiene. UJ-qualify this analyte in all samples due to the potential bias.</p> <p>8270-The continuing calibration standard % recovery associated with all samples was below the acceptance criteria for acenaphthene (77%). UJ-qualify this analyte in all samples due to a potential low bias.</p> <p>8270- The continuing calibration standards % recoveries associated with all samples was below acceptance criteria for hexachlorocyclopentadiene at 59% and 53%. UJ-qualify this analyte in all samples due to a potential low bias.</p> | None                                               | None                                               | None                                               |
| Other Issues                                            | None                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | None                                               | None                                               | None                                               |

Notes:

NA = Not Applicable  
ND = Non Detect

RPD = Relative Percent Difference

√ = Data Reviewed is to be considered acceptable within MCP criteria and without qualification

Qualifiers:

J = Estimated  
U = Non-detect

R = Data is rejected and not suitable for use  
UJ = Reporting limit is considered estimated

Data Reviewer: Lisa M. Leclair/Denise King  
Senior Reviewer: Denise King  
Date: 12/20/2016

## MCP Presumptive Certainty Data Usability Assessment

Site Name: Wynn Everett

Project Number: 3651160042

Laboratory Name: ESS Laboratory

SDG Number: 1308485

Sample IDs GZ-104T 0-0.5ft, GZ-114T 0-0.5ft, GZ-116T 0-0.5ft, GZ-126T 0-0.5ft, GZ-135T 0-0.5ft, GZ-137T 0-0.5ft, GZ-LC1 T 0-0.5ft, GZ-LC2 T 0-0.5ft, and GZ-LC3 T 0-0.5ft

| Data Reviewed                                     | Analysis                                                                                          |                                                                                                      |                                                                                                   |                                                                                                   |
|---------------------------------------------------|---------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|
|                                                   | 8270 / 8270 SIM                                                                                   | EPH                                                                                                  | Pesticides (8081B)                                                                                | PCBs (8082A)                                                                                      |
| Chain of Custody                                  | √                                                                                                 | √                                                                                                    | √                                                                                                 | √                                                                                                 |
| Sample Receipt<br>(Preservation &<br>Temperature) | √                                                                                                 | √                                                                                                    | √                                                                                                 | √                                                                                                 |
| Holding Time                                      | Sample GZ-135T 0-0.5ft exceeded the method holding time. UJ/J-qualify all analytes in the sample. | Sample GZ-135T 0-0.5ft exceeded the method holding time. UJ-qualify all carbon ranges in the sample. | All samples submitted exceeded the method holding time. UJ/J-qualify all analytes in all samples. | Sample GZ-135T 0-0.5ft exceeded the method holding time. UJ/J-qualify all Aroclors in the sample. |
| Method Blanks                                     | √                                                                                                 | √                                                                                                    | √                                                                                                 | √                                                                                                 |
| MS/MSD                                            | A MS/MSD was not submitted with this SDG.                                                         | A MS/MSD was not submitted with this SDG.                                                            | A MS/MSD was not submitted with this SDG.                                                         | A MS/MSD was not submitted with this SDG.                                                         |
| Blanks                                            | Blanks were not submitted with this SDG.                                                          | Blanks were not submitted with this SDG.                                                             | Blanks were not submitted with this SDG.                                                          | Blanks were not submitted with this SDG.                                                          |

| Data Reviewed                                                                         | Analysis                                                                                                                                                                                                             |                                                    |                                                                                                                                                                                                                                                                                                                                        |                                                    |
|---------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|
|                                                                                       | 8270 / 8270 SIM                                                                                                                                                                                                      | EPH                                                | Pesticides (8081B)                                                                                                                                                                                                                                                                                                                     | PCBs (8082A)                                       |
| LCS/LCSD                                                                              | SIM-The LCS/LCSD RPD was above acceptance criteria for benzo(b)fluoranthene (32%), benzo(g,h,i)perylene (32%), and fluoranthene (31%). J-qualify these analytes in sample GZ-135T 0-0.5ft for a potential high bias. | √                                                  | √                                                                                                                                                                                                                                                                                                                                      | √                                                  |
| Naphthalene and 2-Methylnaphthalene breakthrough in Aliphatic Fraction <5% (EPH Only) | NA                                                                                                                                                                                                                   | √                                                  | NA                                                                                                                                                                                                                                                                                                                                     | NA                                                 |
| Field Duplicates                                                                      | A field duplicate was not submitted with this SDG.                                                                                                                                                                   | A field duplicate was not submitted with this SDG. | A field duplicate was not submitted with this SDG.                                                                                                                                                                                                                                                                                     | A field duplicate was not submitted with this SDG. |
| Surrogate Recoveries                                                                  | √                                                                                                                                                                                                                    | √                                                  | Decachlorobiphenyl (1 <sup>st</sup> and 2 <sup>nd</sup> column) % recoveries were above acceptance criteria in the following samples: GZ-LC1 T 0-0.5ft (206% & 236%), GZ-LC2 T 0-0.5ft (1950% & 4310%), and GZ-LC3 T 0-0.5ft (177% & 203%). J-qualify detected analytes in these samples due to a potential high bias.                 | √                                                  |
| Calibration Issues (Deficiencies noted in Narrative)                                  | None                                                                                                                                                                                                                 | None                                               | The continuing calibration standard associated with GZ-LC1 T 0-0.5ft, GZ-LC2 T 0-0.5ft, and GZ-LC3 T 0-0.5ft was above acceptance criteria for 4,4'-DDT (130% 2 <sup>nd</sup> column), and Methoxychlor (127% & 128% both columns). Methoxychlor is ND and 4,4'-DDT reported from the primary column. No qualifications are necessary. | None                                               |
| Other Issues                                                                          | None                                                                                                                                                                                                                 | None                                               | In samples GZ-104T 0-0.5ft, GZ-114T 0-0.5ft, GZ-116T 0-0.5ft, GZ-137T 0-0.5ft, and GZ-LC1 T 0-0.5ft the % difference between the primary and confirmatory results was above the 40%D for 4,4'-DDE, 4,4'-DDT, and endrin ketone. The lower value was reported. J-qualify these analytes due to the imprecision.                         | None                                               |

| Data Reviewed | Analysis        |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |              |
|---------------|-----------------|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|
|               | 8270 / 8270 SIM | EPH | Pesticides (8081B)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | PCBs (8082A) |
|               |                 |     | <p>In sample GZ-LC2 T 0-0.5ft the % difference between the primary and confirmatory results was above the 40%D for 4,4'-DDD, 4,4'-DDT, endosulfan II, Endosulfan sulfate, and heptachlor. The lower value was reported. J-qualify these analytes due to the imprecision.</p> <p>In sample GZ-LC3 T 0-0.5ft the % difference between the primary and confirmatory results was above the 40%D for 4,4'-DDE, 4,4'-DDT, endosulfan II, Endosulfan sulfate, and endrin ketone. The lower value was reported. UJ/J-qualify these analytes due to the imprecision.</p> |              |

Notes:

NA = Not Applicable

ND = Non Detect

RPD = Relative Percent Difference

√ = Data Reviewed is to be considered acceptable within MCP criteria and without qualification

Qualifiers:

J = Estimated

R = Data is rejected and not suitable for use

UJ = Reporting limit is considered estimated

U = Non-detect

Data Reviewer: Lisa M. Leclair/Denise King

Senior Reviewer: Denise King

Date: 12/20/2016

## MCP Presumptive Certainty Data Usability Assessment

Site Name: Wynn Everett

Project Number: 3651160042

Laboratory Name: ESS Laboratory

SDG Number: 1503415

Sample IDs GZ-202 0ft-0.5ft, GZ-202 2ft-4ft, GZ-203 0ft-0.5ft, GZ-203 4ft-6ft, GZ-203 0ft-3ft, GZ-204 0ft-0.5ft, GZ-204 2ft-4ft, GZ-204 6ft-8ft, GZ-212 0ft-0.5ft, GZ-212 0.5ft-2ft, GZ-216 0ft-0.5ft, GZ-216 4ft-6ft, GZ-216 2ft-4ft, GZ-217 0ft-0.5ft, GZ-217 0ft-3ft, and GZ-217 6ft-8ft

| Data Reviewed                               | Analysis                                                                                                                                                                                                                                          |                                           |                                           |                                           |                                                                                                                                            |                                                                                                                                                                                      |
|---------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                             | 8270/ 8270 SIM                                                                                                                                                                                                                                    | EPH                                       | 8260                                      | PCBs (8082A)                              | pH, ORP, Hex. Cr (7196), Reactivity                                                                                                        | Metals (6010C, 7010, 7471B)                                                                                                                                                          |
| Chain of Custody                            | √                                                                                                                                                                                                                                                 | √                                         | √                                         | √                                         | √                                                                                                                                          | √                                                                                                                                                                                    |
| Sample Receipt (Preservation & Temperature) | √                                                                                                                                                                                                                                                 | √                                         | √                                         | √                                         | √                                                                                                                                          | √                                                                                                                                                                                    |
| Holding Time                                | √                                                                                                                                                                                                                                                 | √                                         | √                                         | √                                         | pH and ORP were analyzed past the 24 hour holding time in samples GZ-203 0FT-3FT and GZ-217 0FT-3FT. J-qualify pH and ORP in both samples. | √                                                                                                                                                                                    |
| Method Blanks                               | √                                                                                                                                                                                                                                                 | √                                         | √                                         | √                                         | √                                                                                                                                          | √                                                                                                                                                                                    |
| MS/MSD                                      | The lab selected GZ-212 0FT-0.5FT as the source for the SIM MS/MSD. The MS and/or MSD was below the acceptance criteria for 2-methylnaphthalene (38%/39%), naphthalene (31%/36%), and phenanthrene (34% MS). J/UJ- due to the potential low bias. | A MS/MSD was not submitted with this SDG. | A MS/MSD was not submitted with this SDG. | A MS/MSD was not submitted with this SDG. | The lab selected sample GZ-203 0ft-3ft as the source for the MS. √                                                                         | The lab selected sample GZ-202 0ft-0.5ft as the source for the MS. Antimony (24%), lead (64%), nickel (69%), selenium (72%), thallium (40%), zinc (59%), and mercury (11%) recovered |

| Data Reviewed | Analysis                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                          |                                          |                                          |                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|------------------------------------------|------------------------------------------|------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|               | 8270/ 8270 SIM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | EPH                                      | 8260                                     | PCBs (8082A)                             | pH, ORP, Hex. Cr (7196), Reactivity      | Metals (6010C, 7010, 7471B)                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|               | <p>The MSD was above the acceptance criteria for benzo(a)anthracene (154%), benzo(a)pyrene (143%), benzo(b)fluoranthene (153%), chrysene (156%), fluoranthene (249%), phenanthrene (179%) and pyrene (227%). J-qualify due to the potential high bias.</p> <p>The MS/MSD RPDs are above the acceptance criteria for acenaphthene (32%), anthracene (70%), benzo(a)anthracene (93%), benzo(a)pyrene (83%), benzo(b)fluoranthene (83%), benzo(g,h,i)perylene (70%), benzo(k)fluoranthene (56%), chrysene (96%), fluoranthene (136%), fluorene (35%), indeno(1,2,3-cd) (67%), phenanthrene (135%), and pyrene (130%). J-qualify due to the non-directional bias.</p> |                                          |                                          |                                          |                                          | <p>below the acceptance criteria. J-qualify nickel, zinc, mercury and UJ-qualify selenium and thallium due to the low bias. R-qualify antimony due to the extremely low recovery. The native lead concentration was &gt;4X the spike concentration and data could not be evaluated.</p> <p>The lab selected sample GZ-217 6ft-8ft as the source for the MS. Antimony (15%) recovered below the acceptance criteria. R-qualify due to the extremely low bias.</p> |
| Blanks        | Blanks were not submitted with this SDG.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Blanks were not submitted with this SDG. | Blanks were not submitted with this SDG. | Blanks were not submitted with this SDG. | Blanks were not submitted with this SDG. | Blanks were not submitted with this SDG.                                                                                                                                                                                                                                                                                                                                                                                                                         |

| Data Reviewed                                                                         | Analysis                                                                                                                                                                                                                                                                                                                              |                                                    |                                                                                                                                                                              |                                                                                                |                                                                    |                                                                                      |
|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|--------------------------------------------------------------------------------------|
|                                                                                       | 8270/ 8270 SIM                                                                                                                                                                                                                                                                                                                        | EPH                                                | 8260                                                                                                                                                                         | PCBs (8082A)                                                                                   | pH, ORP, Hex. Cr (7196), Reactivity                                | Metals (6010C, 7010, 7471B)                                                          |
| LCS/LCSD                                                                              | The LCS/LCSD was below the acceptance criteria for n-nitrosodimethylamine (37%/37%). UJ-qualify this analyte in samples GZ-203 0FT-3FT, GZ-216 2FT-4FT, GZ-217 0FT-0.5FT, GZ-202 0FT-0.5FT, GZ-203 0FT-0.5FT, GZ-204 0FT-0.5FT, GZ-204 2FT-4FT, GZ-212 0FT-0.5FT, GZ-216 0FT-0.5FT, and GZ-217 0FT-3FT due to the potential low bias. |                                                    | Bromomethane recovered above the acceptance criteria in the LCS/LCSD at 185%/152%. This analyte is ND in the associated samples and not impacted by the potential high bias. | √                                                                                              | √                                                                  | √                                                                                    |
| Naphthalene and 2-Methylnaphthalene breakthrough in Aliphatic Fraction <5% (EPH Only) | NA                                                                                                                                                                                                                                                                                                                                    | √                                                  | NA                                                                                                                                                                           | NA                                                                                             | NA                                                                 | √                                                                                    |
| Lab Duplicate                                                                         | NA                                                                                                                                                                                                                                                                                                                                    | NA                                                 | NA                                                                                                                                                                           | NA                                                                                             | The lab selected samples GZ-203 0ft-3ft as the lab duplicate.<br>√ | The lab selected samples GZ-202 0ft-0.5ft and GZ-217 6ft-8ft as lab duplicates.<br>√ |
| Field Duplicates                                                                      | A field duplicate was not submitted with this SDG.                                                                                                                                                                                                                                                                                    | A field duplicate was not submitted with this SDG. | A field duplicate was not submitted with this SDG.                                                                                                                           | A field duplicate was not submitted with this SDG.                                             | A field duplicate was not submitted with this SDG.                 | A field duplicate was not submitted with this SDG.                                   |
| Surrogate Recoveries                                                                  | 8270-2,4,6-Tribromophenol recovered below the acceptance criteria in samples GZ-216 2ft-4ft, GZ-217 0ft-0.5ft, and GZ-217 0ft-3ft at 21%, 17%, and 5%, respectively. UJ-qualify all                                                                                                                                                   | √                                                  | √                                                                                                                                                                            | In samples GZ-203 0ft-3ft and GZ-204 2ft-4ft the surrogate % recoveries for decachlorobiphenyl | NA                                                                 | NA                                                                                   |



| Data Reviewed                                        | Analysis                                                                                                                                                                                                                                                               |      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                |                                     |                                                                                                                              |
|------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|-------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
|                                                      | 8270/ 8270 SIM                                                                                                                                                                                                                                                         | EPH  | 8260                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | PCBs (8082A)                                                                                                   | pH, ORP, Hex. Cr (7196), Reactivity | Metals (6010C, 7010, 7471B)                                                                                                  |
|                                                      | <p>of the acid compounds due to the potential low bias.</p> <p>SIM-1,2-Dichlorobenzene-d4 recovered below the acceptance criteria in sample GZ-217 0FT-0.5FT at 29%. UJ/J-qualify all of compounds due to the potential low bias.</p>                                  |      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | and tetrachloro-m-xylene were 0% on both columns as a result of dilution. Data qualification is not warranted. |                                     |                                                                                                                              |
| Calibration Issues (Deficiencies noted in Narrative) | <p>The continuing calibration standards were below the acceptance criteria for n-nitrosodimethylamine (75%), 2,4-dinitrophenol (75%), 4-nitrophenol (79%), and n-nitrosodimethylamine (73%). UJ-qualify these analytes in all samples due to a potential low bias.</p> | None | <p>The continuing calibration standard was above acceptance criteria for bromomethane at 171%. All samples are ND and not impacted by the potential high bias.</p>                                                                                                                                                                                                                                                                                                                                                     | None                                                                                                           | None                                | None                                                                                                                         |
| Other Issues                                         | None                                                                                                                                                                                                                                                                   | None | <p>The internal standard 1,4-dichlorobenzene-d4 was below acceptance criteria (35%) in sample GZ-203 0ft-3ft. Re-analysis yielded similar results. Results reported from the initial analysis. J/UJ-qualify the following analytes due to the potential bias; 1,1,2,2-tetrachloroethane, 1,2,3-trichloropropane, isopropylbenzene, bromobenzene, n-propylbenzene, 2-chlorotoluene, 4-chlorotoluene, 1,3,5-trimethylbenzene, tert-butylbenzene, 1,2,4-trimethylbenzene, sec-butylbenzene, 1,3-dichlorobenzene, 1,4-</p> | None                                                                                                           | None                                | <p>Totals solids for all metals samples is 100%. No indication in the narrative or on the chain if drying was performed.</p> |

| Data Reviewed | Analysis       |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |              |                                     |                             |
|---------------|----------------|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|-------------------------------------|-----------------------------|
|               | 8270/ 8270 SIM | EPH | 8260                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | PCBs (8082A) | pH, ORP, Hex. Cr (7196), Reactivity | Metals (6010C, 7010, 7471B) |
|               |                |     | <p>dichlorobenzene, 4-isopropyltoluene, 1,2-dichlorobenzene, n-butylbenzene, 1,2-dibromo-3-chloropropane, 1,2,4-trichlorobenzene, naphthalene, hexachlorobutadiene, and 1,2,3-trichlorobenzene.</p> <p>High level analysis also analyzed. Only naphthalene and 2-chlorotoluene were reported from the high level analysis since they exceeded the range of calibration in the low level analysis. 4-Chlorotoluene exceeded the range of calibration in the low level analysis but was ND in the high level analysis. 4-Chlorotoluene was reported from the low level analysis and J-qualified since it exceeded the range of calibration.</p> <p>The internal standard 1,4-dichlorobenzene-d4 was below acceptance criteria (43%) in sample GZ-217 0ft-3ft. Results reported from the initial analysis. UJ-qualify the following analytes due to the potential bias; 1,1,2,2-tetrachloroethane, 1,2,3-trichloropropane, isopropylbenzene, bromobenzene, n-propylbenzene, 2-chlorotoluene, 4-chlorotoluene, 1,3,5-trimethylbenzene, tert-butylbenzene, 1,2,4-trimethylbenzene, sec-butylbenzene,</p> |              |                                     |                             |

| Data Reviewed | Analysis       |     |                                                                                                                                                                                                                       |              |                                     |                             |
|---------------|----------------|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|-------------------------------------|-----------------------------|
|               | 8270/ 8270 SIM | EPH | 8260                                                                                                                                                                                                                  | PCBs (8082A) | pH, ORP, Hex. Cr (7196), Reactivity | Metals (6010C, 7010, 7471B) |
|               |                |     | 1,3-dichlorobenzene, 1,4-dichlorobenzene, 4-isopropyltoluene, 1,2-dichlorobenzene, n-butylbenzene, 1,2-dibromo-3-chloropropane, 1,2,4-trichlorobenzene, naphthalene, hexachlorobutadiene, and 1,2,3-trichlorobenzene. |              |                                     |                             |

Notes:

NA = Not Applicable

ND = Non Detect

RPD = Relative Percent Difference

√ = Data Reviewed is to be considered acceptable within MCP criteria and without qualification

Qualifiers:

J = Estimated

R = Data is rejected and not suitable for use

UJ = Reporting limit is considered estimated

U = Non-detect

Data Reviewer: Lisa M. Leclair/Denise King

Senior Reviewer: Denise King

Date: 12/20/2016

## MCP Presumptive Certainty Data Usability Assessment

Site Name: Wynn Everett

Project Number: 3651160042

Laboratory Name: ESS Laboratory

SDG Number: 1503447

Sample IDs GZ-209 0ft-0.5ft, GZ-209 2ft-4ft, GZ-209 6ft-8ft, GZ-208 0ft-0.5ft, GZ-208 4ft-6ft, GZ-207 0ft-0.5ft, GZ-207 4ft-6ft, GZ-207 6ft-7.5ft, GZ-207 0ft-3ft, GZ-206 0ft-0.5ft, and GZ-206 4ft-6ft

| Data Reviewed                               | Analysis                                                                                                                                                                                   |                                                 |                                                                                                              |                                                 |                                                                                                        |                                           |
|---------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|--------------------------------------------------------------------------------------------------------------|-------------------------------------------------|--------------------------------------------------------------------------------------------------------|-------------------------------------------|
|                                             | 8270/8270 SIM                                                                                                                                                                              | EPH                                             | 8260                                                                                                         | PCBs (8082A)                                    | pH, ORP, Hex Cr 7196A, Reactivity                                                                      | Metals (7010, 6010C, 7471B)               |
| Chain of Custody                            | √                                                                                                                                                                                          | √                                               | √                                                                                                            | √                                               | √                                                                                                      | √                                         |
| Sample Receipt (Preservation & Temperature) | √                                                                                                                                                                                          | √                                               | √                                                                                                            | √                                               | √                                                                                                      | √                                         |
| Holding Time                                | √                                                                                                                                                                                          | √                                               | √                                                                                                            | √                                               | pH and ORP were analyzed past the 24 hour holding time in sample GZ-207 0FT-3FT. J-qualify pH and ORP. | √                                         |
| Method Blanks                               | √                                                                                                                                                                                          | √                                               | √                                                                                                            | √                                               | √                                                                                                      | √                                         |
| MS/MSD                                      | A MS/MSD was not submitted as part of this SDG.                                                                                                                                            | A MS/MSD was not submitted as part of this SDG. | A MS/MSD was not submitted as part of this SDG.                                                              | A MS/MSD was not submitted as part of this SDG. | A MS/MSD was not submitted with this SDG.                                                              | A MS/MSD was not submitted with this SDG. |
| Blanks                                      | Blanks were not submitted with this SDG.                                                                                                                                                   | Blanks were not submitted with this SDG.        | Blanks were not submitted with this SDG.                                                                     | Blanks were not submitted with this SDG.        | Blanks were not submitted with this SDG.                                                               | Blanks were not submitted with this SDG.  |
| LCS/LCSD                                    | The LCS and/or LCSD was below the acceptance criteria for aniline (32%/32%) and bis(2-chloroisopropyl) ether (LCS 36%). UJ-qualify these analytes in samples GZ-207 0FT-0.5FT, GZ-206 0FT- | √                                               | Bromomethane recovered above the acceptance criteria in the LCS/LCSD at 185%/152%. This analyte is ND in the | √                                               | √                                                                                                      | √                                         |

| Data Reviewed                                                                         | Analysis                                                                                                                                                                                                                                                                                          |                                                    |                                                                                       |                                                                                                                                                                                                         |                                                    |                                                    |
|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
|                                                                                       | 8270/8270 SIM                                                                                                                                                                                                                                                                                     | EPH                                                | 8260                                                                                  | PCBs (8082A)                                                                                                                                                                                            | pH, ORP, Hex Cr 7196A, Reactivity                  | Metals (7010, 6010C, 7471B)                        |
|                                                                                       | 0.5FT, GZ-206 4FT-6FT, GZ-207 0FT-3FT, GZ-208 0FT-0.5FT, GZ-209 0FT-0.5FT, and GZ-209 2FT-4FT due to a potential low bias.<br><br>SIM- The LCS/LCSD RPD is elevated for hexachlorobenzene at 39%. Hexachlorobenzene is ND in all associated samples and not impacted by the non-directional bias. |                                                    | associated sample and not impacted by the potential high bias.                        |                                                                                                                                                                                                         |                                                    |                                                    |
| Naphthalene and 2-Methylnaphthalene breakthrough in Aliphatic Fraction <5% (EPH Only) | NA                                                                                                                                                                                                                                                                                                | √                                                  | NA                                                                                    | NA                                                                                                                                                                                                      | NA                                                 | NA                                                 |
| Field Duplicates                                                                      | A field duplicate was not submitted with this SDG.                                                                                                                                                                                                                                                | A field duplicate was not submitted with this SDG. | A field duplicate was not submitted with this SDG.                                    | A field duplicate was not submitted with this SDG.                                                                                                                                                      | A field duplicate was not submitted with this SDG. | A field duplicate was not submitted with this SDG. |
| Surrogate Recoveries                                                                  | 1,2-Dichlorobenzene-d4 recovered below the acceptance criteria in sample GZ-206 0FT-0.5FT at 27%. UJ/J qualify all analytes in this sample due to the potential low bias.                                                                                                                         | √                                                  | √                                                                                     | In samples GZ-209 2ft-4ft and GZ-207 0ft-3ft the surrogate % recoveries for decachlorobiphenyl and tetrachloro-m-xylene were 0% on both columns as a result of dilution. No qualification is necessary. | NA                                                 | NA                                                 |
| Calibration Issues (Deficiencies noted in Narrative)                                  | 8270-The continuing calibrations standards were above acceptance criteria for 2,4,6-tribromophenol (135% and 129%) and 4-nitrophenol (131% and 122%). These analytes                                                                                                                              | None                                               | The continuing calibration standard was above acceptance criteria for bromomethane at | None                                                                                                                                                                                                    | None                                               | None                                               |

| Data Reviewed | Analysis                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |      |                                                                     |                                                                                                                                                                                               |                                   |                                                                                                                       |
|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|---------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|-----------------------------------------------------------------------------------------------------------------------|
|               | 8270/8270 SIM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | EPH  | 8260                                                                | PCBs (8082A)                                                                                                                                                                                  | pH, ORP, Hex Cr 7196A, Reactivity | Metals (7010, 6010C, 7471B)                                                                                           |
|               | <p>are both ND in the associated samples and not impacted by the high bias.</p> <p>8270-The continuing calibration standard was below the acceptance criteria for 2,4-dinitrophenol (68%) and bis(2-chloroisopropyl)ether (74% and 78%). UJ-qualify both analytes in samples GZ-207 0FT-0.5FT, GZ-206 0FT-0.5FT, GZ-206 4FT-6FT, GZ-207 0FT-3FT, GZ-208 0FT-0.5FT, GZ-209 0FT-0.5FT, and GZ-209 2FT-4FT due to the potential low bias.</p> <p>SIM-The continuing calibrations standards were above acceptance criteria for hexachlorobenzene (178% and 158%). This analyte is ND in the associated samples and not impacted by the high bias.</p> |      | 171%. The sample is ND and not impacted by the potential high bias. |                                                                                                                                                                                               |                                   |                                                                                                                       |
| Other Issues  | <p>8270- The internal standard perylene-d12 recovered above the acceptance criteria in samples GZ-209 0ft-0.5ft (213%), GZ-208 0ft-0.5ft at (214%), GZ-207 0ft-0.5ft at (213%), and GZ-206 0ft-0.5ft at (230%). UJ-qualify di-n-octyl phthalate due to the potential bias.</p> <p>8270- The internal standard chrysene-d12 recovered above the acceptance criteria in samples GZ-207 0ft-0.5ft (213%), GZ-207 0ft-</p>                                                                                                                                                                                                                            | None | None                                                                | In samples GZ-209 0ft-0.5ft, GZ-208 0ft-0.5ft, GZ-207 0ft-0.5ft, and GZ-206 0ft-0.5ft the percent difference between the primary and confirmatory results was above the 40% for Aroclor 1248. | None                              | Totals solids for all metals samples is 100%. No indication in the narrative or on the chain if drying was performed. |

| Data Reviewed | Analysis                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |      |              |                                         |                                |
|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|--------------|-----------------------------------------|--------------------------------|
|               | 8270/8270 SIM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | EPH | 8260 | PCBs (8082A) | pH, ORP,<br>Hex Cr 7196A,<br>Reactivity | Metals (7010,<br>6010C, 7471B) |
|               | <p>0.5ft at (219%), and GZ-209 2ft-4ft (217%). J/UJ-qualify bis(2-ethylhexyl)phthalate, butyl benzyl phthalate, and 3,3-dichlorobenzidine due to the potential bias.</p> <p>SIM- The internal standard perylene-d12 recovered below the acceptance criteria in samples GZ-208 4ft-6ft (31%) and GZ-207 4ft-6ft (31%). J/UJ-qualify results for benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(g,h,i) perylene, benzo(a)pyrene, dibenz(a,h)anthracene, and indeno(1,2,3-cd)pyrene due to the potential bias.</p> |     |      |              |                                         |                                |

Notes:

NA = Not Applicable

ND = Non Detect

RPD = Relative Percent Difference

√ = Data Reviewed is to be considered acceptable within MCP criteria and without qualification

Qualifiers:

J = Estimated

R = Data is rejected and not suitable for use

UJ = Reporting limit is considered estimated

U = Non-detect

Data Reviewer: Lisa M. Leclair/Denise King

Senior Reviewer: Denise King

Date: 12/20/2016/04/24/2017

## MCP Presumptive Certainty Data Usability Assessment

Site Name: Wynn Everett

Project Number: 3651160042

Laboratory Name: ESS Laboratory

SDG Number: 1503448

Sample IDs GZ-205 0FT-0.5FT, GZ-205 0FT-3FT, GZ-205 4FT-6FT, GZ-205 6FT-8FT, GZ-206 0FT-3FT, GZ-213 0FT-0.5FT, GZ-213 0FT-3FT, GZ-213 4FT-6FT, GZ-218 0.5FT-2FT, GZ-218 0FT-0.5FT, GZ-218 4FT-6FT, GZ-219 0FT-0.5FT, GZ-219 0FT-3FT, and GZ-219 4FT-6FT

| Data Reviewed                               | Analysis                                  |                                           |                                                                                                                 |                                           |                                                                                                                                                                              |                                           |
|---------------------------------------------|-------------------------------------------|-------------------------------------------|-----------------------------------------------------------------------------------------------------------------|-------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|
|                                             | 8270/ 8270 SIM                            | EPH                                       | 8260                                                                                                            | PCBs (8082A)                              | pH, ORP, Hex. Cr (7196), Reactivity                                                                                                                                          | Metals (6010C, 6020A, 7010, 7471B)        |
| Chain of Custody                            | √                                         | √                                         | √                                                                                                               | √                                         | √                                                                                                                                                                            | √                                         |
| Sample Receipt (Preservation & Temperature) | √                                         | √                                         | √                                                                                                               | √                                         | √                                                                                                                                                                            | √                                         |
| Holding Time                                | √                                         | √                                         | √                                                                                                               | √                                         | pH and ORP were analyzed past the 24 hour holding time in samples GZ-206 0FT-3FT, GZ-205 0FT-3FT, GZ-213 0FT-3FT, and GZ-219 0FT-3FT. J-qualify pH and ORP in these samples. | √                                         |
| Method Blanks                               | √                                         | √                                         | Acetone was detected in the high level method blank but no data was reported from this batch so no data impact. | √                                         | √                                                                                                                                                                            | √                                         |
| MS/MSD                                      | A MS/MSD was not submitted with this SDG. | A MS/MSD was not submitted with this SDG. | A MS/MSD was not submitted with this SDG.                                                                       | A MS/MSD was not submitted with this SDG. | A MS/MSD was not submitted with this SDG.                                                                                                                                    | A MS/MSD was not submitted with this SDG. |



| Data Reviewed | Analysis                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                          |                                          |                                                                                                                                                                                                                                                         |
|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|               | 8270/ 8270 SIM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | EPH                                      | 8260                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | PCBs (8082A)                             | pH, ORP, Hex. Cr (7196), Reactivity      | Metals (6010C, 6020A, 7010, 7471B)                                                                                                                                                                                                                      |
| Blanks        | Blanks were not submitted with this SDG.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Blanks were not submitted with this SDG. | Blanks were not submitted with this SDG.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Blanks were not submitted with this SDG. | Blanks were not submitted with this SDG. | Blanks were not submitted with this SDG.                                                                                                                                                                                                                |
| LCS/LCSD      | <p>8270- The LCS and/or LCSD was below the acceptance criteria for aniline (32%/32%) and bis(2-chloroisopropyl)ether (36% LCS). UJ-qualify aniline and bis(2-chloroisopropyl)ether in samples GZ-206 0ft-3ft, GZ-205 0ft-0.5ft, GZ-205 0ft-3ft, GZ-213 0ft-0.5ft, GZ-213 0ft-3ft, GZ-218 0ft-0.5ft, GZ-218 0.5ft-2ft, GZ-219 0ft-0.5ft and GZ-219 0ft-3ft due to the potential low bias.</p> <p>SIM- The LCS/LCSD RPD associated with all samples was elevated for hexachlorobenzene (39%). Hexachlorobenzene was ND in all samples and not impacted by the imprecision. No qualifications are necessary.</p> | √                                        | <p>Acetone recovered high in the LCS/LCSD associated with the low level analysis of sample GZ-206 0ft-3ft at 141% and 140%. J-qualify acetone in sample GZ-206 0ft-3ft due to the potential high bias.</p> <p>Bromomethane recovered above the acceptance criteria in the LCS/LCSD at 185%/152%, associated with samples GZ-206 0FT-3FT, GZ-213 0FT-3FT and GZ-219 0FT-3FT. This analyte is ND in the associated samples and not impacted by the potential high bias.</p> <p>Bromomethane (155%/150%) and acetone (160% LCS) recovered above the acceptance criteria in the LCS and/or LCSD associated with sample GZ-205 0ft-3ft. Bromomethane is ND in the associated sample and not impacted by the potential high bias. J-qualify acetone in sample GZ-205 0ft-3ft due to the potential high bias. The LCS/LCSD RPD associated with sample GZ-205 0ft-3ft was elevated for acetone</p> | √                                        | √                                        | <p>Antimony recovered high in the LCS at 134%. The LCS/LCSD RPD for zinc is above the acceptance criteria at 32%. J-qualify antimony in sample GZ-219 0FT-3FT due to the potential high bias. J-qualify zinc in all samples due to the imprecision.</p> |

| Data Reviewed                                                                         | Analysis                                                                                                                                                                        |                                                    |                                                                           |                                                                                                                                                                                                               |                                                    |                                                    |
|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|---------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
|                                                                                       | 8270/ 8270 SIM                                                                                                                                                                  | EPH                                                | 8260                                                                      | PCBs (8082A)                                                                                                                                                                                                  | pH, ORP, Hex. Cr (7196), Reactivity                | Metals (6010C, 6020A, 7010, 7471B)                 |
|                                                                                       |                                                                                                                                                                                 |                                                    | (55%). J-qualify acetone in sample GZ-205 0ft-3ft due to the imprecision. |                                                                                                                                                                                                               |                                                    |                                                    |
| Naphthalene and 2-Methylnaphthalene breakthrough in Aliphatic Fraction <5% (EPH Only) | NA                                                                                                                                                                              | √                                                  | NA                                                                        | NA                                                                                                                                                                                                            | NA                                                 | NA                                                 |
| Lab Duplicate                                                                         | NA                                                                                                                                                                              | NA                                                 | NA                                                                        | NA                                                                                                                                                                                                            | NA                                                 | NA                                                 |
| Field Duplicates                                                                      | A field duplicate was not submitted with this SDG.                                                                                                                              | A field duplicate was not submitted with this SDG. | A field duplicate was not submitted with this SDG.                        | A field duplicate was not submitted with this SDG.                                                                                                                                                            | A field duplicate was not submitted with this SDG. | A field duplicate was not submitted with this SDG. |
| Surrogate Recoveries                                                                  | 8270- 2,4,6-Tribromophenol (27%) recovered below the acceptance criteria in sample GZ-218 0.5ft-2ft at 27%. UJ-qualify all of the acid compounds due to the potential low bias. | √                                                  | √                                                                         | In samples GZ-206 0ft-3ft and GZ-205 0ft-3ft the surrogate % recoveries for decachlorobiphenyl and tetrachloro-m-xylene were 0% on both columns as a result of dilution. Data qualification is not warranted. | NA                                                 | NA                                                 |

| Data Reviewed                                        | Analysis                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |      |                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                    |                                     |                                                                                                                              |
|------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
|                                                      | 8270/ 8270 SIM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | EPH  | 8260                                                                                                                                                                                                                                                                                                                            | PCBs (8082A)                                                                                                                                                                       | pH, ORP, Hex. Cr (7196), Reactivity | Metals (6010C, 6020A, 7010, 7471B)                                                                                           |
| Calibration Issues (Deficiencies noted in Narrative) | <p>8270-The continuing calibration standards were below the acceptance criteria for 2,4-dinitrophenol (68%), bis(2-chloroisopropyl)ether (74%) and bis(2-chloroisopropyl)ether (78%) and above acceptance criteria for 4-nitrophenol (131% and 122%). UJ-qualify 2,4-dinitrophenol and bis(2-chloroisopropyl)ether in all samples due to a potential low bias. 4-Nitrophenol is ND in all samples and not impacted by the potential high bias. No qualifications are necessary.</p> <p>SIM- The continuing calibration standards were above acceptance criteria for hexachlorobenzene (178% and 1158%). Hexachlorobenzene is ND in all samples and not impacted by the potential high bias. No qualifications are necessary.</p> | None | <p>The continuing calibration standards were above acceptance criteria for bromomethane at 171% and 150%. All samples are ND and not impacted by the potential high bias.</p>                                                                                                                                                   | None                                                                                                                                                                               | None                                | None                                                                                                                         |
| Other Issues                                         | <p>8270- The internal standards chrysene-d12 (217%) and perylene-d12 (205%) recovered above the acceptance criteria in sample GZ-205 0ft-0.5ft. J/UJ-qualify the following analytes in this sample due to the potential low bias: di-n-octylphthalate, butylbenzylphthalate,</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                 | None | <p>High level analysis also analyzed for sample GZ-206 0FT-3FT. Only naphthalene, 2-chlorotoluene, and 4-chlorotoluene were reported from the high level analysis since they exceeded the range of calibration in the low level analysis. Ethylbenzene was detected in both the high and low level analysis. The result for</p> | <p>The % difference between primary and secondary column results for Aroclors 1248 and 1260 exceeded the method criteria of 40% in sample GZ-205 0ft-0.5ft. J-Qualify Aroclors</p> | None                                | <p>Totals solids for all metals samples is 100%. No indication in the narrative or on the chain if drying was performed.</p> |

| Data Reviewed | Analysis                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |     |                                                                            |                                                                                                                                                                                                                                                                                                                           |                                     |                                    |
|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|----------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|------------------------------------|
|               | 8270/ 8270 SIM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | EPH | 8260                                                                       | PCBs (8082A)                                                                                                                                                                                                                                                                                                              | pH, ORP, Hex. Cr (7196), Reactivity | Metals (6010C, 6020A, 7010, 7471B) |
|               | <p>3,3'-dichlorobenzidine, and bis(2-ethylhexyl)phthalate.</p> <p>8270- The internal standard chrysene-d12 recovered above the acceptance criteria in sample GZ-213 0ft-0.5ft (205%). J/UJ-qualify the following analytes in this sample due to the potential low bias: butylbenzylphthalate, 3,3'-dichlorobenzidine, and bis(2-ethylhexyl)phthalate.</p> <p>8270- The internal standard perylene-d12 recovered above the acceptance criteria in sample GZ-218 0.5ft-2ft (204%). UJ-qualify di-n-octylphthalate due to the potential low bias.</p> <p>8270-As requested on the chain only base neutral phthalate esters were reported.</p> <p>SIM- Samples GZ-205 4FT-6FT and GZ-218 0.5FT-2FT have elevated reporting limits due to difficult sample matrix.</p> <p>The pentachlorophenol tailing factor exceeded method limit of 2.</p> |     | ethylbenzene was reported from the high level analysis to be conservative. | <p>1248 and 1260 in this sample due to the imprecision.</p> <p>The % difference between primary and secondary column results for Aroclor 1248 exceeded the method criteria of 40% in samples GZ-213 0FT-0.5FT, GZ-218 0FT-0.5FT and GZ-219 0FT-0.5FT. J-Qualify Aroclor 1248 in these samples due to the imprecision.</p> |                                     |                                    |

Notes:

NA = Not Applicable

ND = Non Detect

RPD = Relative Percent Difference

√ = Data Reviewed is to be considered acceptable within MCP criteria and without qualification

Qualifiers:

J = Estimated

R = Data is rejected and not suitable for use

UJ = Reporting limit is considered estimated

U = Non-detect

Data Reviewer: Elizabeth Penta

Senior Reviewer: Denise King

Date: 06/14/2018

## MCP Presumptive Certainty Data Usability Assessment

Site Name: Wynn Everett

Project Number: 3651160042

Laboratory Name: ESS Laboratory

SDG Number: 1503482

Sample IDs LC-101 0FT-0.5FT, LC-101 2FT-4FT, LC-101 6FT-8FT, LC-102 0.5FT-2FT, LC-102 0.5FT-2FT, LC-103 0FT-0.5FT, LC-103 2FT-4FT, LC-103 4FT-6FT, LC-104 0.5FT-2FT, LC-104 0FT-0.5FT, LC-105 0FT-0.5FT, LC-105 2FT-4FT, LC-105 4FT-6FT, LC-107 0FT-0.5FT, LC-107 2FT-4FT, LC-108 0.5FT-2FT, LC-108 0FT-0.5FT, LC-108 4FT-6FT, LC-109 0FT-0.5FT and LC-109 4FT-6FT

| Data Reviewed                               | Analysis                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |     |              |                                    |
|---------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|--------------|------------------------------------|
|                                             | 8270/ 8270 SIM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | EPH | PCBs (8082A) | Metals (6010C, 6020A, 7010, 7471B) |
| Chain of Custody                            | √                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | √   | √            | √                                  |
| Sample Receipt (Preservation & Temperature) | √                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | √   | √            | √                                  |
| Holding Time                                | √                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | √   | √            | √                                  |
| Method Blanks                               | √                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | √   | √            | √                                  |
| MS/MSD                                      | A MS/MSD was not submitted with this SDG.                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |     |              |                                    |
| Blanks                                      | Blanks were not submitted with this SDG.                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |     |              |                                    |
| LCS/LCSD                                    | 8270-The LCS was below the acceptance criteria for aniline (30%). UJ-qualify this analyte in samples LC-101 0FT-0.5FT, LC-105 0FT-0.5FT, LC-109 0FT-0.5FT, LC-102 0.5FT-2FT, LC-102 0FT-0.5FT, LC-103 0FT-0.5FT, LC-104 0FT-0.5FT, LC-105 4FT-6FT, LC-107 0FT-0.5FT, LC-107 2FT-4FT, LC-108 0FT-0.5FT, and LC-108 4FT-6FT due to the potential low bias. The LCS/LCSD RPD was elevated for aniline at 37%. Aniline was ND in all samples and not impacted by the imprecision. No qualifications are necessary. | √   | √            | √                                  |

| Data Reviewed                                                                         | Analysis                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |     |              |                                    |
|---------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|--------------|------------------------------------|
|                                                                                       | 8270/ 8270 SIM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | EPH | PCBs (8082A) | Metals (6010C, 6020A, 7010, 7471B) |
|                                                                                       | SIM-The LCS/LCSD RPD was elevated for acenaphthylene (40%) and benzo(a)pyrene (33%). Acenaphthylene and benzo(a)pyrene were ND in samples LC-101 6FT-8FT, LC-103 2FT-4FT and LC-103 4FT-6FT and not impacted by the imprecision. J-qualify acenaphthylene and benzo(a)pyrene in samples LC-101 0FT-0.5FT, LC-101 2FT-4FT, LC-104 0FT-0.5FT, LC-105 0FT-0.5FT, LC-105 2FT-4FT, LC-109 0FT-0.5FT, LC-109 4FT-6FT, LC-102 0.5FT-2FT, LC-102 0FT-0.5FT, LC-103 0FT-0.5FT, LC-104 0.5FT-2FT, LC-105 4FT-6FT, LC-107 0FT-0.5FT, LC-107 2FT-4FT, LC-108 0.5FT-2FT, LC-108 0FT-0.5FT and LC-108 4FT-6FT due to the imprecision. |     |              |                                    |
| Naphthalene and 2-Methylnaphthalene breakthrough in Aliphatic Fraction <5% (EPH Only) | NA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | √   | NA           | NA                                 |
| Lab Duplicate                                                                         | NA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | NA  | NA           | NA                                 |
| Field Duplicates                                                                      | A field duplicate was not submitted with this SDG.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |     |              |                                    |

| Data Reviewed                                        | Analysis                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                    |
|------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|
|                                                      | 8270/ 8270 SIM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | EPH  | PCBs (8082A)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Metals (6010C, 6020A, 7010, 7471B) |
| Surrogate Recoveries                                 | √                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | √    | <p>In samples LC-102 0.5FT-2FT and LC-107 2FT-4FT the surrogate % recoveries for decachlorobiphenyl and tetrachloro-m-xylene were 0% on both columns as a result of dilution. Data qualification is not warranted.</p> <p>In the initial analysis of sample LC-107 0FT-0.5FT the surrogate % recovery for decachlorobiphenyl was 29% on the secondary column. In the reanalysis the surrogate % recoveries for decachlorobiphenyl (25% secondary column) and tetrachloro-m-xylene (18%/17%) were below acceptance criteria. Report results from analysis performed on 04/07/15. UJ/J-qualify all analytes due to the low surrogate recovery. It is unclear which column analytes were reported from.</p> | NA                                 |
| Calibration Issues (Deficiencies noted in Narrative) | <p>The case narrative indicates CCV %R exceedances for 4-nitrophenol (139%), bis(2-chloroisopropyl)ether (79%), 4-nitrophenol (128%), p-terphenyl-d14 (122%), bis(2-chloroisopropyl)ether (77%), and azobenzene (124%). It is assumed that all samples are affected. UJ-qualify bis(2-chloroisopropyl)ether analytes in all samples due to a potential low bias. 4-Nitrophenol and azobenzene are ND in all samples and not impacted by the potential high bias. No qualifications are necessary. The recovery of p-terphenyl-d14 is acceptable in all samples so no qualifications are necessary.</p> <p>SIM-The case narrative indicates CCV %R exceedance for 2-methylnaphthalene (144%). It is assumed that all samples are affected. J-qualify 2-methylnaphthalene in all samples due to the potential high bias.</p> | None | None                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | None                               |



| Data Reviewed | Analysis                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                       |
|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|
|               | 8270/ 8270 SIM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | EPH  | PCBs (8082A)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Metals (6010C, 6020A, 7010, 7471B)                                                                                    |
| Other Issues  | <p>The internal standard chrysene-d12 (212%) was above acceptance criteria in sample LC-108 4FT-6FT. UJ/J-qualify the following analytes due to the potential low bias butylbenzylphthalate, 3,3'-dichlorobenzidine, and bis(2-ethylhexyl)phthalate.</p> <p>The pentachlorophenol tailing factor exceeded method limit of 2.</p> <p>8270-As requested on the chain only base neutral phthalate esters were reported.</p> <p>SIM- Sample LC-109 4FT-6FT has an elevated RL for hexachlorobenzene due to sample matrix.</p> | None | <p>The % difference between primary and secondary column results for Aroclors 1248 and 1254 exceeded the method criteria of 40% in sample LC-101 0FT-0.5FT. J-qualify Aroclors 1248 and 1254 in this sample due to the imprecision.</p> <p>The % difference between primary and secondary column results for Aroclors 1248 exceeded the method criteria of 40% in samples LC-109 0FT-0.5FT, LC-102 0.5FT-2FT, LC-102 0FT-0.5FT, LC-103 0FT-0.5FT and LC-108 4FT-6FT. J-qualify Aroclor 1248 in these samples due to the imprecision.</p> <p>The % difference between primary and secondary column results for Aroclors 1248 and 1260 exceeded the method criteria of 40% in sample LC-104 0FT-0.5FT. J-qualify Aroclor 1248 and 1260 in this sample due to the imprecision.</p> | Totals solids for all metals samples is 100%. No indication in the narrative or on the chain if drying was performed. |

Notes:

NA = Not Applicable

ND = Non Detect

RPD = Relative Percent Difference

√ = Data Reviewed is to be considered acceptable within MCP criteria and without qualification

Qualifiers:

J = Estimated

U = Non-detect

R = Data is rejected and not suitable for use

UJ = Reporting limit is considered estimated

Data Reviewer: Elizabeth Penta

Senior Reviewer: Denise King

Date: 06/14/2018

## MCP Presumptive Certainty Data Usability Assessment

Site Name: Wynn Everett

Project Number: 3651160042

Laboratory Name: ESS Laboratory

SDG Number: 1503512

Sample IDs: GZ-225 0ft-0.5ft, GZ-225 4ft-6ft, GZ-225 6ft-7ft 2in, GZ-225 0ft-3ft, GZ-201 0ft-0.5ft, GZ-201 4ft-5ft, GZ-201 0ft-3ft, LC-106 0ft-0.5ft, LC-106 0.5ft-2ft, LC-106 4ft-6ft, LC-110 0.5ft-2ft, LC-110 2ft-4ft, LC-111 0ft-0.5ft, LC-111 0.5ft-2ft, LC-111 4ft-6ft, LC-112 0ft-0.5ft and LC-112 4ft-6ft

| Data Reviewed                               | Analysis                                  |     |                                                                                                                                                                                                              |              |                                                                                                                                           |                             |
|---------------------------------------------|-------------------------------------------|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|
|                                             | 8270/ 8270 SIM                            | EPH | 8260                                                                                                                                                                                                         | PCBs (8082A) | pH, ORP, Hex. Cr (7196), Reactivity                                                                                                       | Metals (6010C, 7010, 7471B) |
| Chain of Custody                            | √                                         | √   | √                                                                                                                                                                                                            | √            | √                                                                                                                                         | √                           |
| Sample Receipt (Preservation & Temperature) | √                                         | √   | √                                                                                                                                                                                                            | √            | √                                                                                                                                         | √                           |
| Holding Time                                | √                                         | √   | √                                                                                                                                                                                                            | √            | pH and ORP were analyzed past the 24 hour holding time in samples GZ-225 0FT-3FT and GZ-201 0FT-3FT. J-qualify pH and ORP in all samples. | √                           |
| Method Blanks                               | √                                         | √   | 1,1,1-Trichloroethane was detected above the RL in the blank associated with sample GZ-225 0FT-3FT. 1,1,1-Trichloroethane was ND in sample GZ-225 0FT-3FT and not impacted. No qualifications are necessary. | √            | √                                                                                                                                         | √                           |
| MS/MSD                                      | A MS/MSD was not submitted with this SDG. |     |                                                                                                                                                                                                              |              |                                                                                                                                           |                             |
| Blanks                                      | Blanks were not submitted with this SDG.  |     |                                                                                                                                                                                                              |              |                                                                                                                                           |                             |

| Data Reviewed | Analysis                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |              |                                     |                             |
|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|-------------------------------------|-----------------------------|
|               | 8270/ 8270 SIM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | EPH | 8260                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | PCBs (8082A) | pH, ORP, Hex. Cr (7196), Reactivity | Metals (6010C, 7010, 7471B) |
| LCS/LCSD      | <p>8270-The LCS and/or LCSD was below the acceptance criteria for 3,3-dichlorobenzidine (24% LCS), 4-chloroaniline (38%/38%), and aniline (39%/37%). UJ-qualify 3,3'-dichlorobenzidine, 4-chloroaniline, and aniline in samples GZ-225 0FT-3FT, LC-112 0FT-0.5FT, LC-112 4FT-6FT, GZ-201 0FT-0.5FT, GZ-201 0FT-3FT, LC-106 0.5FT-2FT, LC-106 0FT-0.5FT, LC-110 0.5FT-2FT, and LC-111 0FT-0.5FT due to the potential low bias.</p> <p>The LCS/LCSD RPD was elevated for 3,3'-dichlorobenzidine at 48%. 3,3'-Dichlorobenzidine was ND in all samples and not impacted by the imprecision.</p> | √   | <p>The LCS and/or LCSD associated with sample GZ-225 0ft-3ft was above acceptance criteria for bromomethane (182%/154%,) and 1,2-dibromo-3-chloropropane (LCSD 245%). Bromomethane and 1,2-dibromo-3-chloropropane were ND and not impacted by the potential high bias. The LCS/LCSD RPD was elevated for 1,2-dibromo-3-chloropropane (75%). 1,2-Dibromo-3-chloropropane was ND and not impacted by the imprecision.</p> <p>The LCS and/or LCSD associated with the low level analysis of sample GZ-201 0ft-3ft was above acceptance criteria for bromomethane (167%/161%,) and 1,2-dibromo-3-chloropropane (LCSD 197%). Bromomethane and 1,2-dibromo-3-chloropropane were ND and not impacted by the potential high bias. The LCS/LCSD RPD was elevated for 1,2-dibromo-3-chloropropane (64%). 1,2-Dibromo-3-chloropropane was ND and not impacted by the imprecision.</p> <p>The LCS/LCSD associated with sample GZ-201 0ft-3ft was above acceptance criteria for 2-butanone (166%/185%), 2-hexanone</p> | √            | √                                   | √                           |

| Data Reviewed                                                                         | Analysis                                           |     |                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                            |                                     |                             |
|---------------------------------------------------------------------------------------|----------------------------------------------------|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|-----------------------------|
|                                                                                       | 8270/ 8270 SIM                                     | EPH | 8260                                                                                                                                                                                   | PCBs (8082A)                                                                                                                                                                                                                                                                                                                                                               | pH, ORP, Hex. Cr (7196), Reactivity | Metals (6010C, 7010, 7471B) |
|                                                                                       |                                                    |     | (134%/152%), and acetone (228%/264%). 2-Butanone, 2-hexanone and acetone are ND in the associated sample and not impacted by the potential high bias. No qualifications are necessary. |                                                                                                                                                                                                                                                                                                                                                                            |                                     |                             |
| Naphthalene and 2-Methylnaphthalene breakthrough in Aliphatic Fraction <5% (EPH Only) | NA                                                 | √   | NA                                                                                                                                                                                     | NA                                                                                                                                                                                                                                                                                                                                                                         | NA                                  | NA                          |
| Lab Duplicate                                                                         | NA                                                 | NA  | NA                                                                                                                                                                                     | NA                                                                                                                                                                                                                                                                                                                                                                         | NA                                  | NA                          |
| Field Duplicates                                                                      | A field duplicate was not submitted with this SDG. |     |                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                            |                                     |                             |
| Surrogate Recoveries                                                                  | √                                                  | √   | √                                                                                                                                                                                      | <p>In sample GZ-201 0FT-3FT the surrogate % recovery tetrachloro-m-xylene was below acceptance criteria on the confirmatory column at 24%. Result was reanalyzed and confirmed. Report results from the initial extraction. J/UJ-qualify all Aroclors due to the low recovery.</p> <p>In sample LC-106 0.5FT-2FT the surrogate % recoveries for decachlorobiphenyl and</p> | NA                                  | NA                          |

| Data Reviewed                                        | Analysis                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |      |                                                                                                                                                                        |                                                                                                            |                                     |                             |
|------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|-------------------------------------|-----------------------------|
|                                                      | 8270/ 8270 SIM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | EPH  | 8260                                                                                                                                                                   | PCBs (8082A)                                                                                               | pH, ORP, Hex. Cr (7196), Reactivity | Metals (6010C, 7010, 7471B) |
|                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |      |                                                                                                                                                                        | tetrachloro-m-xylene were 0% on both columns as a result of dilution. Data qualification is not warranted. |                                     |                             |
| Calibration Issues (Deficiencies noted in Narrative) | <p>8270-The continuing calibration standards were below the acceptance criteria for 3+4-methylphenol (55%) and above acceptance criteria for azobenzene (124%) and di-n-octylphthalate (123%). UJ-qualify 3+4-methylphenol in all samples due to a potential low bias. J-qualify di-n-octylphthalate in sample GZ-201 0FT-3FT due to the potential high bias. Azobenzene and di-n-octylphthalate were ND in all other samples and not impacted by the potential high bias.</p> <p>8270-SIM- The continuing calibration standard was above the acceptance criteria for 2-methylnaphthalene (144%). J-qualify 2-methylnaphthalene in samples LC-112 0FT-0.5FT, GZ-201 4FT-5FT, LC-106 0.5FT-2FT, LC-106 0FT-0.5FT, LC-106 4FT-6FT, LC-110 0.5FT-2FT, LC-110 2FT-4FT, LC-111 0.5FT-2FT, and LC-111 0FT-0.5FT due to the potential high bias.</p> | None | The continuing calibration standards were above acceptance criteria for bromomethane at 145% and 173%. All samples are ND and not impacted by the potential high bias. | None                                                                                                       | None                                | None                        |

| Data Reviewed | Analysis                                                                         |      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                     |                                                                                                                       |
|---------------|----------------------------------------------------------------------------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|-----------------------------------------------------------------------------------------------------------------------|
|               | 8270/ 8270 SIM                                                                   | EPH  | 8260                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | PCBs (8082A)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | pH, ORP, Hex. Cr (7196), Reactivity | Metals (6010C, 7010, 7471B)                                                                                           |
| Other Issues  | 8270-As requested on the chain only base neutral phthalate esters were reported. | None | The internal standards 1,4-dichlorobenzene-d4 (37%), chlorobenzene-d5 (47%) and pentafluorobenzene (42%) were below acceptance criteria in sample GZ-201 0ft-3ft. J-qualify 2-chlorotoluene and naphthalene in sample GZ-201 0ft-3ft due to the potential high bias. All other associated analytes were ND and not impacted by the potential high bias. High level analysis was also analyzed for sample GZ-201 0FT-3FT due to the low internal standard recoveries. All results were reported from the low level analysis. | <p>The % difference between primary and secondary column results for Aroclors 1248 and 1254 exceeded the method criteria of 40% in samples GZ-225 0FT-0.5FT and LC-110 0.5FT-2FT. J-Qualify Aroclors 1248 and 1254 in these samples due to the imprecision.</p> <p>The % difference between primary and secondary column results for Aroclor 1248 exceeded the method criteria of 40% in samples GZ-201 0FT-0.5FT, GZ-225 0FT-3FT, and LC-106 0.5FT-2FT. J-Qualify Aroclor 1248 in these samples due to the imprecision.</p> | None                                | Totals solids for all metals samples is 100%. No indication in the narrative or on the chain if drying was performed. |

Notes:

NA = Not Applicable

ND = Non- Detect

RPD = Relative Percent Difference

√ = Data Reviewed is to be considered acceptable within MCP criteria and without qualification

Qualifiers:

J = Estimated

U = Non-detect

R = Data is rejected and not suitable for use

UJ = Reporting limit is considered estimated

Data Reviewer: Elizabeth Penta

Senior Reviewer: Denise King

Date: 06/19/2018

## MCP Presumptive Certainty Data Usability Assessment

Site Name: Wynn Everett

Project Number: 3651160042

Laboratory Name: ESS Laboratory

SDG Number: 1503558

Sample IDs: GZ-226 0ft-0.5ft, GZ-226 0.5ft-2ft, GZ-226 2ft-4ft, GZ-220 0ft-0.5ft, GZ-220 0.5ft-2ft, GZ-220 2ft-4ft, GZ-221 0ft-0.5ft, GZ-221 4ft-6ft, GZ-221 0ft-3ft, GZ-222 0ft-0.5ft, GZ-222 0.5ft-2ft, GZ-222 2ft-4ft, GZ-223 0ft-0.5ft, GZ-223 2ft-4ft, and GZ-223 0ft-3ft

| Data Reviewed                               | Analysis                                                                                  |                                   |                                                                                  |              |                                                                                                                                           |                                    |
|---------------------------------------------|-------------------------------------------------------------------------------------------|-----------------------------------|----------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|
|                                             | 8270/8270 SIM                                                                             | EPH                               | 8260                                                                             | PCBs (8082A) | pH, ORP, Hex. Cr (7196), Reactivity                                                                                                       | Metals (6010C, 6020A, 7010, 7471B) |
| Chain of Custody                            | √                                                                                         | √                                 | √                                                                                | √            | √                                                                                                                                         | √                                  |
| Sample Receipt (Preservation & Temperature) | √                                                                                         | √                                 | The date the low level VOA vials were frozen was not provided by the lab.        | √            | √                                                                                                                                         | √                                  |
| Holding Time                                | √                                                                                         | √                                 | √                                                                                | √            | pH and ORP were analyzed past the 24 hour holding time in samples GZ-221 0FT-3FT and GZ-223 0FT-3FT. J-qualify pH and ORP in all samples. | √                                  |
| Method Blanks                               | √                                                                                         | √                                 | √                                                                                | √            | √                                                                                                                                         | √                                  |
| MS/MSD                                      | A MS/MSD was not submitted with this SDG.                                                 |                                   |                                                                                  |              |                                                                                                                                           |                                    |
| Blanks                                      | Blanks were not submitted with this SDG.                                                  |                                   |                                                                                  |              |                                                                                                                                           |                                    |
| LCS/LCSD                                    | 8270-The LCS and LCSD was below the acceptance criteria for aniline (39%/38%). UJ-qualify | The LCS/LCSD RPD was elevated for | The LCSD associated with sample GZ-223 0ft-3ft was above acceptance criteria for | √            | √                                                                                                                                         | √                                  |

| Data Reviewed                                                                         | Analysis                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                |              |                                     |                                    |
|---------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|-------------------------------------|------------------------------------|
|                                                                                       | 8270/8270 SIM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | EPH                                                                                                                                                                                                                                                                                                                                                     | 8260                                                                                                                                                                                                                                                                                                                                                                                                                                                           | PCBs (8082A) | pH, ORP, Hex. Cr (7196), Reactivity | Metals (6010C, 6020A, 7010, 7471B) |
|                                                                                       | <p>aniline in samples GZ-226 0ft-0.5ft, GZ-220 0ft-0.5ft, GZ-220 0.5ft-2ft, GZ-221 0ft-0.5ft, GZ-221 0ft-3ft, GZ-222 0ft-0.5ft, GZ-223 0ft-0.5ft, and GZ-223 0ft-3ft due to the potential low bias.</p> <p>8270 SIM-The LCS recovery of acenaphthylene was below acceptance criteria at 10%. UJ/J-qualify acenaphthylene in all samples due to the potential low bias.</p> <p>The LCS/LCSD RPD was elevated for acenaphthylene (151%), anthracene (44%), and benzo(a)pyrene (49%). J-qualify acenaphthylene, anthracene and benzo(a)pyrene in samples GZ-222 0.5FT-2FT, GZ-222 0FT-0.5FT, GZ-220 0.5FT-2FT, GZ-220 0FT-0.5FT, GZ-221 0FT-0.5FT, GZ-222 2FT-4FT, GZ-223 0FT-0.5FT, GZ-223 2FT-4FT, GZ-226 0.5FT-2FT, and GZ-226 0FT-0.5FT and benzo(a)pyrene in sample GZ-220 2FT-4FT due to the imprecision.</p> | <p>C11-C22 unadjusted aromatics (49%). J-qualify C11-C22 aromatics in samples GZ-221 0FT-3FT, GZ-222 0FT-0.5FT, GZ-220 0.5FT-2FT, GZ-220 0FT-0.5FT, GZ-221 0FT-0.5FT, GZ-223 0FT-0.5FT, GZ-223 0FT-3FT and GZ-226 0FT-0.5FT due to the imprecision. The target PAH analytes also exceeded the criteria but they were not reported from this method.</p> | <p>acetone (180%) and bromomethane (134%). The LCS/LCSD RPD was elevated for acetone (61%). Bromomethane was ND and not impacted by the potential high bias. J-qualify acetone due to the potential high bias and imprecision.</p> <p>The LCS and LCSD associated with sample GZ-221 0ft-3ft was above acceptance criteria for bromomethane (175%/157%). Bromomethane was ND and not impacted by the potential high bias. No qualifications are necessary.</p> |              |                                     |                                    |
| Naphthalene and 2-Methylnaphthalene breakthrough in Aliphatic Fraction <5% (EPH Only) | NA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | √                                                                                                                                                                                                                                                                                                                                                       | NA                                                                                                                                                                                                                                                                                                                                                                                                                                                             | NA           | NA                                  | NA                                 |



| Data Reviewed                                        | Analysis                                                                                                                                                                                                                                                                                                                                                                                                                     |      |                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                             |                                     |                                    |
|------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|------------------------------------|
|                                                      | 8270/8270 SIM                                                                                                                                                                                                                                                                                                                                                                                                                | EPH  | 8260                                                                                                                                                                                                                                                                                                                                                                               | PCBs (8082A)                                                                                                                                                                                                                                                                | pH, ORP, Hex. Cr (7196), Reactivity | Metals (6010C, 6020A, 7010, 7471B) |
| Lab Duplicate                                        | NA                                                                                                                                                                                                                                                                                                                                                                                                                           | NA   | NA                                                                                                                                                                                                                                                                                                                                                                                 | NA                                                                                                                                                                                                                                                                          | NA                                  | NA                                 |
| Field Duplicates                                     | A field duplicate was not submitted with this SDG.                                                                                                                                                                                                                                                                                                                                                                           |      |                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                             |                                     |                                    |
| Surrogate Recoveries                                 | √                                                                                                                                                                                                                                                                                                                                                                                                                            | √    | √                                                                                                                                                                                                                                                                                                                                                                                  | In sample GZ-223 0FT-3FT the surrogate % recovery tetrachloro-m-xylene was below acceptance criteria on the confirmatory column at 21%. The results were reported from the primary column and were not impacted by the potential low bias. No qualifications are necessary. | NA                                  | NA                                 |
| Calibration Issues (Deficiencies noted in Narrative) | 8270-The case narrative indicates continuing calibration standards were above the acceptance criteria for di-n-octylphthalate (123%) and p-terphenyl-d14 (122%). It is assumed that all samples are affected. The recovery of p-terphenyl-d14 was within acceptance criteria in all samples and di-n-octylphthalate was ND in all samples and were not impacted by the potential high bias. No qualifications are necessary. | None | The case narrative indicates the continuing calibration standards were above acceptance criteria for 1,2-dibromo-3-chloropropane (253%), bromomethane (152%), bromomethane (168%) and below acceptance criteria for 1,2-dichloropropane (79%). It is assumed that all samples are affected. UJ-qualify 1,2-dichloropropane in samples GZ-221 0FT-3FT and GZ-223 0FT-3FT due to the | None                                                                                                                                                                                                                                                                        | None                                | None                               |

| Data Reviewed | Analysis                                                                                                                                                                                                                                                                                                                                                                                                                                                  |      |                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                               |                                     |                                                                                                                       |
|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|-----------------------------------------------------------------------------------------------------------------------|
|               | 8270/8270 SIM                                                                                                                                                                                                                                                                                                                                                                                                                                             | EPH  | 8260                                                                                                                                                                         | PCBs (8082A)                                                                                                                                                                                                                                                                                                  | pH, ORP, Hex. Cr (7196), Reactivity | Metals (6010C, 6020A, 7010, 7471B)                                                                                    |
|               | 8270-SIM- The case narrative indicates the continuing calibration standard was above the acceptance criteria for indeno(1,2,3-cd)pyrene (132%). It is assumed that all samples are affected. J-qualify indeno(1,2,3-cd)pyrene in samples GZ-222 0.5FT-2FT, GZ-222 0FT-0.5FT, GZ-220 0.5FT-2FT, GZ-220 0FT-0.5FT GZ-221 0FT-0.5FT, GZ-222 2FT-4FT, GZ-223 0FT-0.5FT GZ-223 2FT-4FT, GZ-226 0.5FT-2FT, and GZ-226 0FT-0.5FT due to the potential high bias. |      | potential low bias. 1,2-Dibromo-3-chloropropane and chloropropane are ND in associated samples and not impacted by the potential high bias. No qualifications are necessary. |                                                                                                                                                                                                                                                                                                               |                                     |                                                                                                                       |
| Other Issues  | 8270-As requested on the chain only base neutral phthalate esters were reported.                                                                                                                                                                                                                                                                                                                                                                          | None | None                                                                                                                                                                         | The % difference between primary and secondary column results for Aroclor 1248 exceeded the method criteria of 40% in samples GZ-222 0FT-0.5FT, GZ-220 0FT-0.5FT and GZ-221 0FT-3FT. J-qualify Aroclor 1248 in these samples due to the imprecision.<br><br>Due to matrix interferences with Aroclor 1248 for | None                                | Totals solids for all metals samples is 100%. No indication in the narrative or on the chain if drying was performed. |

| Data Reviewed | Analysis      |     |      |                                                                         |                                     |                                    |
|---------------|---------------|-----|------|-------------------------------------------------------------------------|-------------------------------------|------------------------------------|
|               | 8270/8270 SIM | EPH | 8260 | PCBs (8082A)                                                            | pH, ORP, Hex. Cr (7196), Reactivity | Metals (6010C, 6020A, 7010, 7471B) |
|               |               |     |      | sample GZ-221 0FT-3FT, the laboratory reported the lower concentration. |                                     |                                    |

Notes:

NA = Not Applicable

ND = Non- Detect

RPD = Relative Percent Difference

√ = Data Reviewed is to be considered acceptable within MCP criteria and without qualification

Qualifiers:

J = Estimated

U = Non-detect

R = Data is rejected and not suitable for use

UJ = Reporting limit is considered estimated

Data Reviewer: Elizabeth Penta

Senior Reviewer: Denise King

Date: 06/20/2018

## MCP Presumptive Certainty Data Usability Assessment

Site Name: Wynn Everett

Project Number: 3651160042

Laboratory Name: ESS Laboratory

SDG Number: 1503559

Sample IDs: GZ-224 0FT-0.5FT, GZ-224 0.5FT-2FT, GZ-214 0FT-0.5FT, GZ-214 2FT-4FT, GZ-214 4FT-6FT, GZ-214 6FT-8FT, GZ-215 0FT-0.5FT, GZ-215 0FT-3FT, and GZ-215 4FT-6FT

| Data Reviewed                               | Analysis                                                                                                |     |                             |              |                                                                                                                       |                                    |
|---------------------------------------------|---------------------------------------------------------------------------------------------------------|-----|-----------------------------|--------------|-----------------------------------------------------------------------------------------------------------------------|------------------------------------|
|                                             | 8270/ 8270 SIM                                                                                          | EPH | 8260                        | PCBs (8082A) | pH, ORP, Hex. Cr (7196), Reactivity                                                                                   | Metals (6010C, 6020A, 7010, 7471B) |
| Chain of Custody                            | √                                                                                                       | √   | √                           | √            | √                                                                                                                     | √                                  |
| Sample Receipt (Preservation & Temperature) | √                                                                                                       | √   | √                           | √            | √                                                                                                                     | √                                  |
| Holding Time                                | √                                                                                                       | √   | √                           | √            | pH and ORP were analyzed past the 24 hour holding time in sample GZ-215 0FT-3FT. J-qualify pH and ORP in all samples. | √                                  |
| Method Blanks                               | √                                                                                                       | √   | √                           | √            | √                                                                                                                     | √                                  |
| MS/MSD                                      | A MS/MSD was not submitted with this SDG.                                                               |     |                             |              |                                                                                                                       |                                    |
| Blanks                                      | Blanks were not submitted with this SDG.                                                                |     |                             |              |                                                                                                                       |                                    |
| LCS/LCSD                                    | 8270-The LCS and LCSD associated with samples GZ-224 0ft-0.5ft, GZ-224 0.5ft-2ft, GZ-214 0ft-0.5ft, and | √   | The LCS and LCSD associated | √            | √                                                                                                                     | √                                  |

| Data Reviewed                                                                         | Analysis                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |     |                                                                                                                                                                                                 |              |                                     |                                    |
|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|-------------------------------------|------------------------------------|
|                                                                                       | 8270/ 8270 SIM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | EPH | 8260                                                                                                                                                                                            | PCBs (8082A) | pH, ORP, Hex. Cr (7196), Reactivity | Metals (6010C, 6020A, 7010, 7471B) |
|                                                                                       | <p>GZ-214 2ft-4ft was below the acceptance criteria for aniline (39%/38%). UJ-qualify aniline in the associated samples due to the potential low bias.</p> <p>8270-The LCS associated with samples GZ-214 4ft-6ft, GZ-215 0ft-0.5ft, and GZ-215 0ft-3ft, was below the acceptance criteria for aniline (36%). UJ-qualify aniline in the associated samples due to the potential low bias.</p> <p>8270 SIM-The LCS associated with samples GZ-224 0.5FT-2FT, GZ-214 2FT-4FT, GZ-214 0FT-0.5FT, GZ-224 0FT-0.5FT, GZ-214 4FT-6FT, GZ-214 6FT-8FT, GZ-215 0FT-0.5FT, and GZ-215 4FT-6FT recovered below acceptance criteria for acenaphthylene (10%). UJ/J-qualify acenaphthylene in all samples due to the potential low bias.</p> <p>8270 SIM-The LCS/LCSD RPD was elevated for acenaphthylene (151%), anthracene (44%), and benzo(a)pyrene (49%). J-qualify acenaphthylene and anthracene in samples GZ-224 0.5FT-2FT, GZ-214 0FT-0.5FT, GZ-224 0FT-0.5FT and GZ-215 0FT-0.5FT and benzo(a)pyrene in samples GZ-214 0FT-0.5FT, GZ-224 0FT-0.5FT, and GZ-215 0FT-0.5FT due to the imprecision.</p> |     | <p>with sample GZ-215 0FT-3FT was above acceptance criteria for bromomethane (175%/157%). Bromomethane was ND and not impacted by the potential high bias. No qualifications are necessary.</p> |              |                                     |                                    |
| Naphthalene and 2-Methylnaphthalene breakthrough in Aliphatic Fraction <5% (EPH Only) | NA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | √   | NA                                                                                                                                                                                              | NA           | NA                                  | NA                                 |

| Data Reviewed                                        | Analysis                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |      |                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                               |                                     |                                    |
|------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|------------------------------------|
|                                                      | 8270/ 8270 SIM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | EPH  | 8260                                                                                                                                                                                                            | PCBs (8082A)                                                                                                                                                                                                                                                                  | pH, ORP, Hex. Cr (7196), Reactivity | Metals (6010C, 6020A, 7010, 7471B) |
| Lab Duplicate                                        | NA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | NA   | NA                                                                                                                                                                                                              | NA                                                                                                                                                                                                                                                                            | NA                                  | NA                                 |
| Field Duplicates                                     | A field duplicate was not submitted with this SDG.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |      |                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                               |                                     |                                    |
| Surrogate Recoveries                                 | 8270 SIM-1,2-Dichlorobenzene-d4 recovered below the laboratory acceptance criteria in samples GZ-214 0FT-0.5FT and GZ-224 0.5FT-2FT at 29% and 29%, respectively. UJ/J-qualify 2-methylnaphthalene, acenaphthene, acenaphthylene, anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, fluoranthene, fluorene, hexachlorobenzene, indeno(1,2,3-cd)pyrene, naphthalene, phenanthrene and pyrene in samples GZ-214 0FT-0.5FT and GZ-224 0.5FT-2FT due to the potential low bias.                                                                                                                        | √    | √                                                                                                                                                                                                               | In sample GZ-224 0.5FT-2FT the surrogate % recovery tetrachloro-m-xylene was below acceptance criteria on the confirmatory column at 26%. The results were reported from the primary column and were not impacted by the potential low bias. No qualifications are necessary. | NA                                  | NA                                 |
| Calibration Issues (Deficiencies noted in Narrative) | 8270-The case narrative indicates continuing calibration standards were above the acceptance criteria for di-n-octylphthalate (123%) and p-terphenyl-d14 (122%). It is assumed that all samples are affected. The recovery of p-terphenyl-d14 was within acceptance criteria in all samples and di-n-octylphthalate was ND in all samples and were not impacted by the potential high bias. No qualifications are necessary.<br><br>8270-SIM-The case narrative indicates the continuing calibration standard was above the acceptance criteria for indeno(1,2,3-cd)pyrene (132%). It is assumed that all samples are affected. J-qualify indeno(1,2,3-cd)pyrene in samples GZ-224 0.5FT-2FT, GZ-224 | None | The case narrative indicates the continuing calibration standard was above acceptance criteria for bromomethane (168%). Bromomethane is ND in associated sample and not impacted by the potential high bias. No | None                                                                                                                                                                                                                                                                          | None                                | None                               |

| Data Reviewed | Analysis                                                                         |      |                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                     |                                                                                                                       |
|---------------|----------------------------------------------------------------------------------|------|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|-----------------------------------------------------------------------------------------------------------------------|
|               | 8270/ 8270 SIM                                                                   | EPH  | 8260                          | PCBs (8082A)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | pH, ORP, Hex. Cr (7196), Reactivity | Metals (6010C, 6020A, 7010, 7471B)                                                                                    |
|               | 0FT-0.5FT, GZ-215 0FT-0.5FT and GZ-214 0FT-0.5FT due to the potential high bias. |      | qualifications are necessary. |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                     |                                                                                                                       |
| Other Issues  | 8270-As requested on the chain only base neutral phthalate esters were reported. | None | None                          | <p>The % difference between primary and secondary column results for Aroclor 1254 exceeded the method criteria of 40% in samples GZ-224 0FT-0.5FT and GZ-224 0.5FT-2FT. J-qualify Aroclor 1254 in these samples due to the imprecision.</p> <p>The % difference between primary and secondary column results for Aroclor 1248 exceeded the method criteria of 40% in samples GZ-214 0FT-0.5FT and GZ-215 0FT-0.5FT. J-qualify Aroclor 1248 in these samples due to the imprecision.</p> <p>Due to matrix interferences with Aroclor 1248 for sample GZ-215 0FT-0.5FT, the laboratory reported the lower concentration.</p> | None                                | Totals solids for all metals samples is 100%. No indication in the narrative or on the chain if drying was performed. |

Notes:

NA = Not Applicable

ND = Non- Detect

RPD = Relative Percent Difference

√ = Data Reviewed is to be considered acceptable within MCP criteria and without qualification

Qualifiers:

J = Estimated

U = Non-detect

R = Data is rejected and not suitable for use

UJ = Reporting limit is considered estimated

Data Reviewer: Elizabeth Penta

Senior Reviewer: Denise King

Date: 06/20/2018



## MCP Presumptive Certainty Data Usability Assessment

Site Name: Wynn Everett MCP

Project Number: 3651160042

Laboratory Name: ESS Laboratory

SDG Number: 1505527

Sample IDs SWS-3-05-21-15, SW-3-05-21-15, SWS-6-05-21-15, and SW-6-05-21-15

| Data Reviewed                                  | Analysis                                  |                                           |                                                                                                                                                                                                                                                                                                      |
|------------------------------------------------|-------------------------------------------|-------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                | 8270/8270 SIM                             | EPH                                       | Metals (7010, 6010C, 7470A, 7196A)                                                                                                                                                                                                                                                                   |
| Chain of Custody                               | √                                         | √                                         | √                                                                                                                                                                                                                                                                                                    |
| Sample Receipt<br>(Preservation & Temperature) | √                                         | √                                         | √                                                                                                                                                                                                                                                                                                    |
| Holding Time                                   | √                                         | √                                         | √                                                                                                                                                                                                                                                                                                    |
| Method Blanks                                  | √                                         | √                                         | √                                                                                                                                                                                                                                                                                                    |
| MS/MSD                                         | A MS/MSD was not submitted with this SDG. | A MS/MSD was not submitted with this SDG. | A MS/MSD was not submitted with this SDG.                                                                                                                                                                                                                                                            |
| Blanks                                         | Blanks were not submitted with this SDG.  | Blanks were not submitted with this SDG.  | Blanks were not submitted with this SDG.                                                                                                                                                                                                                                                             |
| LCS/LCSD                                       | √                                         | √                                         | The LCSD % recovery associated with all samples was below acceptance criteria for arsenic (74%), barium (75%), beryllium (78%), cadmium (77%), chromium (76%), lead (74%), nickel (79%), silver (77%), and vanadium (76%). J/UJ-qualify these analytes in all samples due to the potential low bias. |

| Data Reviewed                                                                         | Analysis                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                    |                                                    |
|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
|                                                                                       | 8270/8270 SIM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | EPH                                                | Metals (7010, 6010C, 7470A, 7196A)                 |
| Naphthalene and 2-Methylnaphthalene breakthrough in Aliphatic Fraction <5% (EPH Only) | NA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | √                                                  | NA                                                 |
| Field Duplicates                                                                      | A field duplicate was not submitted with this SDG.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | A field duplicate was not submitted with this SDG. | A field duplicate was not submitted with this SDG. |
| Surrogate Recoveries                                                                  | 2,4,6-Tribromophenol recovered above the laboratory acceptance criteria in samples SWS-3-05-21-15 and SW-3-05-21-15 at 112% and 121%, respectively. All acid compounds were ND and not impacted by the high bias.                                                                                                                                                                                                                                                                                                                                 | √                                                  | NA                                                 |
| Calibration Issues (Deficiencies noted in Narrative)                                  | The continuing calibration standard associated with all samples were above acceptance criteria for n-nitrosodimethylamine (131%) and (139%). All samples were non-detect for this analyte and not impacted by the potential high bias. The continuing calibration standard associated with samples SW-3-05-21-15, SWS-6-05-21-15, and SW-6-05-21-15 was above acceptance criteria for 2-chloronaphthalene (155%) and bis(2-chloroethyl) ether (133%). All samples were non-detect for these analytes and not impacted by the potential high bias. | None                                               | None                                               |
| Other Issues                                                                          | The internal standards chrysene-d12 (47%) and perylene-d12 (46%) recovered below the acceptance criteria in sample SW-3-05-21-15. UJ- qualify the following analytes in this sample: bis(2-ethylhexyl)phthalate, butyl benzyl phthalate, and 3,3'-dichlorobenzidine.                                                                                                                                                                                                                                                                              | None                                               | None                                               |

Notes:

NA = Not Applicable

ND = Non Detect

RPD = Relative Percent Difference

√ = Data Reviewed is to be considered acceptable within MCP criteria and without qualification

Qualifiers:

J = Estimated

U = Non-detect

R = Data is rejected and not suitable for use

UJ = Reporting limit is considered estimated

Data Reviewer: Lisa M. Leclair/Denise King

Senior Reviewer: Denise King

Date: 12/16/2016

## MCP Presumptive Certainty Data Usability Assessment

Site Name: Wynn Everett MCP  
 Project Number: 3651160042  
 Laboratory Name: ESS Laboratory  
 SDG Number: 1505568  
 Sample IDs SW-10-05-22-15 and SW-11-05-22-15

| Data Reviewed                                                                         | Analysis                                           |                                                    |                                                    |
|---------------------------------------------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
|                                                                                       | 8270/8270 SIM                                      | EPH                                                | Metals (7010, 6010C, 7470A, 7196A)                 |
| Chain of Custody                                                                      | √                                                  | √                                                  | √                                                  |
| Sample Receipt (Preservation & Temperature)                                           | √                                                  | √                                                  | √                                                  |
| Holding Time                                                                          | √                                                  | √                                                  | √                                                  |
| Method Blanks                                                                         | √                                                  | √                                                  | √                                                  |
| MS/MSD                                                                                | A MS/MSD was not submitted with this SDG.          | A MS/MSD was not submitted with this SDG.          | A MS/MSD was not submitted with this SDG.          |
| Blanks                                                                                | Blanks were not submitted with this SDG.           | Blanks were not submitted with this SDG.           | Blanks were not submitted with this SDG.           |
| LCS/LCSD                                                                              | √                                                  | √                                                  | √                                                  |
| Naphthalene and 2-Methylnaphthalene breakthrough in Aliphatic Fraction <5% (EPH Only) | NA                                                 | √                                                  | NA                                                 |
| Field Duplicates                                                                      | A field duplicate was not submitted with this SDG. | A field duplicate was not submitted with this SDG. | A field duplicate was not submitted with this SDG. |
| Surrogate Recoveries                                                                  | √                                                  | √                                                  | √                                                  |

| Data Reviewed                                           | Analysis                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |      |                                    |
|---------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|------------------------------------|
|                                                         | 8270/8270 SIM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | EPH  | Metals (7010, 6010C, 7470A, 7196A) |
| Calibration Issues<br>(Deficiencies noted in Narrative) | The continuing calibration standards associated with all samples were above acceptance criteria for n-nitrosodimethylamine (131%) and (139%). All samples were non-detect for this analyte and not impacted by the potential high bias.<br>The continuing calibration standard associated with samples SW-10-05-22-15 and SW-11-05-22-15 was above acceptance criteria for 2-chloronaphthalene (155%) and bis(2-chloroethyl) ether (133%). All samples were non-detect for these analytes and not impacted by the potential high bias. | None | None                               |
| Other Issues                                            | The internal standards chrysene-d12 (49%) and perylene-d12 (47%) recovered below the acceptance criteria in sample SW-10-05-22-15. UJ-qualify the following analytes in this sample: bis(2-ethylhexyl)phthalate, butyl benzyl phthalate, and 3,3'-dichlorobenzidine.                                                                                                                                                                                                                                                                   | None | None                               |

Notes:

NA = Not Applicable

ND = Non Detect

RPD = Relative Percent Difference

√ = Data Reviewed is to be considered acceptable within MCP criteria and without qualification

Qualifiers:

J = Estimated

R = Data is rejected and not suitable for use

UJ = Reporting limit is considered estimated

U = Non-detect

Data Reviewer: Lisa M. Leclair/Denise King

Senior Reviewer: Denise King

Date: 12/16/2016

## MCP Presumptive Certainty Data Usability Assessment

Site Name: Wynn Boston Harbor Backfill

Project Number: 3651170065.103. \*\*\*\*

Laboratory Name: ESS Laboratory

SDG Number: 1711199

Sample IDs: Type A Capping Sand, Type C Capping Sand and Trip Blank

| Data Reviewed                               | Analysis                                                                                                |                                                                                                                                                                 |                                                                                                                                             |                          |                    |                            |            |
|---------------------------------------------|---------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|--------------------|----------------------------|------------|
|                                             | VOCS – 8260B                                                                                            | SVOC – 8270D                                                                                                                                                    | Herbicides – 8151A                                                                                                                          | Pest/ PCB – 8081B/ 8082A | Dioxin – 8290 Mod. | Metals- 6010C/6020A /7471B | TOC - 9060 |
| Chain of Custody                            | Original COC is missing from report. The data was reviewed according to what was reported from the lab. |                                                                                                                                                                 |                                                                                                                                             |                          |                    |                            |            |
| Sample Receipt (Preservation & Temperature) | √                                                                                                       | √                                                                                                                                                               | √                                                                                                                                           | √                        | √                  | √                          | √          |
| Holding Time                                | √                                                                                                       | √                                                                                                                                                               | √                                                                                                                                           | √                        | √                  | √                          | √          |
| Blanks (Trip or Equipment)                  | √                                                                                                       | NA                                                                                                                                                              | NA                                                                                                                                          | NA                       | NA                 | NA                         | NA         |
| Method Blanks                               | √                                                                                                       | √                                                                                                                                                               | √                                                                                                                                           | √                        | √                  | √                          | √          |
| MS/MSD                                      | A MS/MSD was not submitted with this SDG.                                                               |                                                                                                                                                                 |                                                                                                                                             |                          |                    |                            |            |
| Lab Duplicate                               | NA                                                                                                      | NA                                                                                                                                                              | NA                                                                                                                                          | NA                       | NA                 | NA                         | NA         |
| LCS/LCSD                                    | √                                                                                                       | The LCS/LCSD RPD is elevated for 2-methylphenol (48%). 2-Methylphenol is ND in both samples and not impacted by the imprecision. No qualification is necessary. | The LCS/LCSD RPD is elevated for dinoseb. Dinoseb is ND in both samples and not impacted by the imprecision. No qualification is necessary. | √                        | √                  | √                          | √          |
| Field Duplicates                            | A field duplicate was not submitted with this SDG.                                                      |                                                                                                                                                                 |                                                                                                                                             |                          |                    |                            |            |

| Data Reviewed                                        | Analysis                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                         |                                                                                                                                                                                                                             |                                                                                                                                                                                                        |                            |            |
|------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|------------|
|                                                      | VOCS – 8260B                                                                                                                                                                                                                                                                               | SVOC – 8270D                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Herbicides – 8151A                                                                                                                                                                                                                      | Pest/ PCB – 8081B/ 8082A                                                                                                                                                                                                    | Dioxin – 8290 Mod.                                                                                                                                                                                     | Metals- 6010C/6020A /7471B | TOC - 9060 |
| Surrogate Recoveries/ Internal Standards             | √                                                                                                                                                                                                                                                                                          | √                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | √                                                                                                                                                                                                                                       | √                                                                                                                                                                                                                           | The recoveries of internal standards 1,2,3,7,8,9-HxCDF-13C (39%) and OCDD-13C (34%) are below acceptance limits in the laboratory blank associated with both samples. No qualifications are necessary. | NA                         | NA         |
| Calibration Issues (Deficiencies noted in Narrative) | The case narrative indicates an elevated CCV %D for 1,2-dichloroethane (21%) and bromomethane (28%). It is assumed that all samples are affected. All samples are ND for 1,2-dichloroethane and bromomethane and not impacted by the potential high bias. No qualifications are necessary. | The case narrative indicates an elevated CCV %D for 2-fluorophenol (21% and 22%), p-terphenyl-d14 (-25%), di-n-octylphthalate (30%), and 2,4-dinitrophenol (-21%). It is assumed that all samples are affected. UJ-qualify 2,4-dinitrophenol in all samples due to the potential low bias. The recovery of p-terphenyl-d14 and 2-fluorophenol was acceptable in all samples and not impacted by the potential bias. Di-n-octylphthalate was ND in associated samples and not impacted by the potential high bias. | The continuing calibration verification was outside of acceptance criteria on the secondary column for several analytes. All the results were reported from the primary column and were not impacted. No qualifications were necessary. | The case narrative indicates an elevated CCV %D for 4,4'-DDT (-22%). It is assumed that all samples are affected. UJ-qualify 4,4'-DDT in samples Type A Capping Sand and Type C Capping Sand due to the potential low bias. | None                                                                                                                                                                                                   | None                       | None       |

| Data Reviewed | Analysis     |              |                                                                                                                                                                                                                              |                          |                    |                            |            |
|---------------|--------------|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|--------------------|----------------------------|------------|
|               | VOCS – 8260B | SVOC – 8270D | Herbicides – 8151A                                                                                                                                                                                                           | Pest/ PCB – 8081B/ 8082A | Dioxin – 8290 Mod. | Metals- 6010C/6020A /7471B | TOC - 9060 |
| Other Issues  | None         | None         | A modified result is reported for MCP P in sample Type C Capping Sand due to interferences in the retention time window for MCP P. UJ-qualify MCP P in sample Type C Capping Sand due to the potential bias and imprecision. | None                     | None               | None                       | None       |

Notes:

NA = Not Applicable

ND = Non- Detect

RPD = Relative Percent Difference

√ = Data Reviewed is to be considered acceptable within method/lab criteria and without qualification

Qualifiers:

J = Estimated

R = Data is rejected and not suitable for use

UJ = Reporting limit is considered estimated

U = Non-detect

Data Reviewer: Elizabeth Penta

Senior Reviewer: Denise King

Date: 06/07/2018

## MCP Presumptive Certainty Data Usability Assessment

Site Name: Wynn Boston Harbor Backfill

Project Number: 3651170065.103. \*\*\*\*

Laboratory Name: ESS Laboratory

SDG Number: 1711726

AMEC Massachusetts, Inc. Sample IDs: Type A-Capping Sand-002, Type A-Capping Sand-003, Type A-Capping Sand-004, Type A-Capping Sand-005, Type A-Capping Sand-006, Type A-Capping Sand-007, Type A-Capping Sand-008, Type A-Capping Sand-009, Type C-Capping Sand-002, Type C-Capping Sand-003 and Trip Blank

| Data Reviewed                               | Analysis                                                |              |                                                  |                          |                    |                            |                                                                                                                             |
|---------------------------------------------|---------------------------------------------------------|--------------|--------------------------------------------------|--------------------------|--------------------|----------------------------|-----------------------------------------------------------------------------------------------------------------------------|
|                                             | VOCS – 8260B                                            | SVOC – 8270D | Herbicides – 8151A                               | Pest/ PCB – 8081B/ 8082A | Dioxin – 8290 Mod. | Metals- 6010C/ 6020A/7471B | TOC - 9060                                                                                                                  |
| Chain of Custody                            | √                                                       | √            | √                                                | √                        | √                  | √                          | √                                                                                                                           |
| Sample Receipt (Preservation & Temperature) | √                                                       | √            | √                                                | √                        | √                  | √                          | √                                                                                                                           |
| Holding Time                                | √                                                       | √            | √                                                | √                        | √                  | √                          | √                                                                                                                           |
| Blanks (Trip or Equipment)                  | √                                                       | NA           | NA                                               | NA                       | NA                 | NA                         | NA                                                                                                                          |
| Method Blanks                               | √                                                       | √            | √                                                | √                        | √                  | √                          | √                                                                                                                           |
| MS/MSD                                      | A MS/MSD was not submitted with this SDG.               |              |                                                  |                          |                    |                            |                                                                                                                             |
| Lab Duplicate                               | NA                                                      | NA           | NA                                               | NA                       | NA                 | NA                         | The RSD of the replicate analyses of sample Type A-Capping Sand-006 was > 25%. J-qualify the TOC result due to imprecision. |
| LCS/LCSD                                    | The LCS/LCSD RPD is elevated for 1,2,3-trichloropropane | √            | The LCS/LCSD RPD is elevated for 2,4-DB (34%) on | √                        | √                  | √                          | √                                                                                                                           |



| Data Reviewed                                        | Analysis                                                                                                                                                                                                                                                                                    |                                                        |                                                                                                               |                          |                                                                                                                                                                                                   |                            |            |
|------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|------------|
|                                                      | VOCS – 8260B                                                                                                                                                                                                                                                                                | SVOC – 8270D                                           | Herbicides – 8151A                                                                                            | Pest/ PCB – 8081B/ 8082A | Dioxin – 8290 Mod.                                                                                                                                                                                | Metals- 6010C/ 6020A/7471B | TOC - 9060 |
|                                                      | (22%), 1,4-dioxane (23%), 2-butanone (24%), 2-hexanone (22%), 4-methyl-2-pentanone (28%), acetone (26%), methyl tert-Butyl ether (21%), and tetrahydrofuran (25%). The listed analytes are ND in the associated samples and not impacted by the imprecision. No qualification is necessary. |                                                        | the secondary column. All 2,4-DB results are reported from the primary column. No qualification is necessary. |                          |                                                                                                                                                                                                   |                            |            |
| Field Duplicates                                     | A field duplicate was not submitted with this SDG.                                                                                                                                                                                                                                          |                                                        |                                                                                                               |                          |                                                                                                                                                                                                   |                            |            |
| Surrogate Recoveries/ Internal Standards (IS)        | √                                                                                                                                                                                                                                                                                           | √                                                      | √                                                                                                             | √                        | The recovery of IS OCDD-13C is below acceptance limits (35%) in sample Type A-Capping Sand-008. All analytes are ND and not impacted by the potential high bias. No qualifications are necessary. | NA                         | NA         |
| Calibration Issues (Deficiencies noted in Narrative) | The case narrative indicated an elevated CCV %D for sec-                                                                                                                                                                                                                                    | The case narrative indicates an elevated CCV %D for 4- | The case narrative indicates an elevated CCV %D for 2,4,5-                                                    | None                     | The CCV associated with samples                                                                                                                                                                   | None                       | None       |

| Data Reviewed | Analysis                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                 |                          |                                                                                                                                                                                                                                                                        |                            |            |
|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|------------|
|               | VOCS – 8260B                                                                                                                                      | SVOC – 8270D                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Herbicides – 8151A                                                                                                                                                                                                                                                                                                                                                              | Pest/ PCB – 8081B/ 8082A | Dioxin – 8290 Mod.                                                                                                                                                                                                                                                     | Metals- 6010C/ 6020A/7471B | TOC - 9060 |
|               | <p>butylbenzene (-23%). It is assumed that all samples are affected. UJ-qualify sec-butylbenzne in all samples due to the potential low bias.</p> | <p>chloroaniline (21%), bis(2-chloroethyl)ether (22%), 2-methylphenol (-31%), 4-nitrophenol (-29%), fluorene (-25%), N-nitrosodimethylamine (-27%), and pentachlorophenol (-26%). It is assumed that all samples are affected. 4-Chloroaniline and bis(2-chloroethyl) ether are ND in all samples and not impacted by the potential high bias. UJ-qualify 2-methylphenol, 4-nitrophenol, fluorene, N-nitrosodimethylamine, and pentachlorophenol in all samples due to the potential low bias.</p> | <p>T (18%) and 2,4,5-TP (Silvex) (20%). It is assumed that all samples are affected. 2,4,5-T and 2,4,5-TP (Silvex) are ND in all samples and not impacted by the potential high bias.</p> <p>The case narrative indicates an elevated CCV %D but does not specify the analytes. The associated samples are ND for all analytes and not impacted by the potential high bias.</p> |                          | <p>Type C-Capping Sand-002 and Type C-Capping Sand-003 was outside of acceptance criteria for OCDD-13C. The results reported for OCDD-13C in the associated samples were reported from the average of the daily response factors. No qualifications are necessary.</p> |                            |            |
| Other Issues  | None                                                                                                                                              | None                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <p>A modified result is reported for MCP P in samples Type C-Capping Sand-002 and Type C-Capping Sand-003 due to interferences in the retention time window for MCP P. UJ-qualify MCP P in samples Type C-Capping Sand-002 and Type C-Capping Sand-003</p>                                                                                                                      | None                     | None                                                                                                                                                                                                                                                                   | None                       | None       |

| Data Reviewed | Analysis     |              |                                            |                          |                    |                            |            |
|---------------|--------------|--------------|--------------------------------------------|--------------------------|--------------------|----------------------------|------------|
|               | VOCS – 8260B | SVOC – 8270D | Herbicides – 8151A                         | Pest/ PCB – 8081B/ 8082A | Dioxin – 8290 Mod. | Metals- 6010C/ 6020A/7471B | TOC - 9060 |
|               |              |              | due to the potential bias and imprecision. |                          |                    |                            |            |

Notes:

NA = Not Applicable

ND = Non- Detect

RPD = Relative Percent Difference

√ = Data Reviewed is to be considered acceptable within method/lab criteria and without qualification

Qualifiers:

J = Estimated

R = Data is rejected and not suitable for use

UJ = Reporting limit is considered estimated

U = Non-detect

Data Reviewer: Elizabeth Penta

Senior Reviewer: Denise King

Date: 06/07/2018

## MCP Presumptive Certainty Data Usability Assessment

Site Name: Wynn Boston Harbor Backfill

Project Number: 3651170065.103. \*\*\*\*

Laboratory Name: ESS Laboratory

SDG Number: 1711796

AMEC Massachusetts, Inc. Sample IDs: Type A - Capping Sand -010, Type A - Capping Sand -011, Type A - Capping Sand -012, Type A - Capping Sand -013, Type A - Capping Sand -014, Type C - Capping Sand -004, Type C - Capping Sand -005, Type C - Capping Sand -006, Type C - Capping Sand -007, and Type C - Capping Sand -008

| Data Reviewed                               | Analysis                                                                                                                                                                                                                                                                                                |                                           |                                           |                                           |                                                                             |                                           |                                                                           |
|---------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-----------------------------------------------------------------------------|-------------------------------------------|---------------------------------------------------------------------------|
|                                             | VOCS – 8260B                                                                                                                                                                                                                                                                                            | SVOC – 8270D                              | Herbicides – 8151A                        | Pest/ PCB – 8081B/ 8082A                  | Dioxin – 8290 Mod.                                                          | Metals- 6010C/ 6020A/ 7471B               | TOC - 9060                                                                |
| Chain of Custody                            | Samples Type A - Capping Sand -015, Type A - Capping Sand -016, and Type A - Capping Sand -017 were listed on the COC but not received. Samples Type C - Capping Sand -006, Type C - Capping Sand -007, and Type C - Capping Sand -008 were received but not on the COC. A revised COC was sent to ESS. |                                           |                                           |                                           |                                                                             |                                           |                                                                           |
| Sample Receipt (Preservation & Temperature) | √                                                                                                                                                                                                                                                                                                       | √                                         | √                                         | √                                         | √                                                                           | √                                         | √                                                                         |
| Holding Time                                | √                                                                                                                                                                                                                                                                                                       | √                                         | √                                         | √                                         | √                                                                           | √                                         | √                                                                         |
| Blanks (Trip or Equipment)                  | None submitted.                                                                                                                                                                                                                                                                                         | NA                                        | NA                                        | NA                                        | NA                                                                          | NA                                        | NA                                                                        |
| Method Blanks                               | √                                                                                                                                                                                                                                                                                                       | √                                         | √                                         | √                                         | √                                                                           | √                                         | √                                                                         |
| MS/MSD                                      | A MS/MSD was not submitted with this SDG.                                                                                                                                                                                                                                                               | A MS/MSD was not submitted with this SDG. | A MS/MSD was not submitted with this SDG. | A MS/MSD was not submitted with this SDG. | Sample Type A - Capping Sand - 010 was used as the source for the MS/MSD. √ | A MS/MSD was not submitted with this SDG. | A MS/MSD was not submitted with this SDG.                                 |
| Lab Duplicate                               | NA                                                                                                                                                                                                                                                                                                      | NA                                        | NA                                        | NA                                        | NA                                                                          | NA                                        | The RSD between replicate analyses of samples Type A - Capping Sand -010, |

| Data Reviewed | Analysis                                                                                                                                                                                            |                                                                                                                                                                      |                                                                                                                                                                                                                                             |                          |                    |                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                            |
|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|               | VOCS – 8260B                                                                                                                                                                                        | SVOC – 8270D                                                                                                                                                         | Herbicides – 8151A                                                                                                                                                                                                                          | Pest/ PCB – 8081B/ 8082A | Dioxin – 8290 Mod. | Metals- 6010C/ 6020A/ 7471B                                                                                                                                                                                                                         | TOC - 9060                                                                                                                                                                                                                 |
|               |                                                                                                                                                                                                     |                                                                                                                                                                      |                                                                                                                                                                                                                                             |                          |                    |                                                                                                                                                                                                                                                     | Type A - Capping Sand - 013 and Type A - Capping Sand -014 were > 25%. J-qualify the TOC result for samples Type A - Capping Sand -010, Type A - Capping Sand - 013 and Type A - Capping Sand -014 due to the imprecision. |
| LCS/LCSD      | Dichlorodifluoromethane recovered below acceptance criteria in the LCS/LCSD (67%/64%) associated with all samples. UJ-qualify dichlorodifluoromethane in all samples due to the potential low bias. | The LCS/LCSD RPD is elevated for hexachloroethane (33%). Hexachloroethane is ND in all samples and not impacted by the imprecision. No qualifications are necessary. | The LCS/LCSD RPD is elevated for dinoseb (38% primary column and 41% secondary column) and dalapon (41% secondary column). Dinoseb and dalaphon are ND in all samples and not impacted by the imprecision. No qualifications are necessary. | √                        | √                  | The LCS/LCSD RPD is elevated for barium (23%). J-qualify barium in samples Type A - Capping Sand - 013, Type A - Capping Sand - 014, Type C - Capping Sand - 004, Type C - Capping Sand - 005, Type C - Capping Sand - 006, Type C - Capping Sand - | √                                                                                                                                                                                                                          |

| Data Reviewed                                        | Analysis                                                                                                                                                                                                  |                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                               |                          |                                                                                                                                                                                                                                             |                                                             |            |
|------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|------------|
|                                                      | VOCS – 8260B                                                                                                                                                                                              | SVOC – 8270D                                                                                                                                                                                                              | Herbicides – 8151A                                                                                                                                                                                                                                            | Pest/ PCB – 8081B/ 8082A | Dioxin – 8290 Mod.                                                                                                                                                                                                                          | Metals- 6010C/ 6020A/ 7471B                                 | TOC - 9060 |
|                                                      |                                                                                                                                                                                                           |                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                               |                          |                                                                                                                                                                                                                                             | 007 and Type C - Capping Sand - 008 due to the imprecision. |            |
| Field Duplicates                                     | A field duplicate was not submitted with this SDG.                                                                                                                                                        |                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                               |                          |                                                                                                                                                                                                                                             |                                                             |            |
| Surrogate Recoveries/ Internal Standards             | √                                                                                                                                                                                                         | The recovery of 2,4,6-tribromophenol (122%) is above the acceptance criteria in one of the CCVs. No qualifications are necessary.                                                                                         | The recovery of DCAA is below acceptance criteria on the confirmatory column for sample Type C - Capping Sand -007 (27%). The results were reported from the primary column and were not impacted by the potential low bias. No qualifications are necessary. | √                        | The recovery of IS OCDD-13C is below acceptance limits in samples Type A - Capping Sand -010 (39%) and Type C - Capping Sand - 007 (35%). All analytes are ND and not impacted by the potential high bias. No qualifications are necessary. | NA                                                          | NA         |
| Calibration Issues (Deficiencies noted in Narrative) | The case narrative indicates elevated CCV %D for sec-butylbenzene (-23% and -25%). It is assumed that all samples are affected. UJ-qualify sec-butylbenzene in all samples due to the potential low bias. | The case narrative indicates an elevated CCV %D for 2,4-dinitrophenol (-31%), 2-methylphenol (-32%), 4-nitrophenol (-31%), benzo(k)fluoranthene (-22%), fluorene (-25%), pentachlorophenol (-26%), N-nitrosodimethylamine | The case narrative indicates an elevated CCV %D for 2,4,5-T (-20%), 2,4,5-TP (Silvex) (-18%), 2,4-D (-17%), 2,4-DB (-19%), Dichlorprop (-16%), Dinoseb (-21%), and MCPP (-16%). It is assumed that all samples are affected. UJ -qualify                      | None                     | None                                                                                                                                                                                                                                        | None                                                        | None       |

| Data Reviewed | Analysis     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                 |                          |                    |                             |            |
|---------------|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|--------------------------|--------------------|-----------------------------|------------|
|               | VOCS – 8260B | SVOC – 8270D                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Herbicides – 8151A                                                                                              | Pest/ PCB – 8081B/ 8082A | Dioxin – 8290 Mod. | Metals- 6010C/ 6020A/ 7471B | TOC - 9060 |
|               |              | <p>(-24%), 2,4-dinitrophenol (-31%), N-nitrosodimethylamine (-26%) and hexachloroethane (33%). It is assumed that all samples are affected. UJ-qualify 2,4-dinitrophenol, 2-methylphenol, 4-nitrophenol, benzo(k)fluoranthene, fluorene, pentachlorophenol and N-nitrosodimethylamine in all samples due to the potential low bias. Hexachloroethane is ND in all samples and not impacted by the potential high bias. No qualifications are necessary.</p> <p>The continuing calibration standard associated with samples Type A - Capping Sand -010, Type A - Capping Sand -011, Type A - Capping Sand -012, Type A - Capping Sand -013, and Type</p> | <p>2,4,5-T, 2,4,5-TP (Silvex), 2,4-D, 2,4-DB, Dichlorprop, dinoseb, and MCPP due to the potential low bias.</p> |                          |                    |                             |            |

| Data Reviewed | Analysis     |                                                                                                                                                                                                                  |                                                                                                                                                                                                                                         |                          |                    |                             |            |
|---------------|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|--------------------|-----------------------------|------------|
|               | VOCS – 8260B | SVOC – 8270D                                                                                                                                                                                                     | Herbicides – 8151A                                                                                                                                                                                                                      | Pest/ PCB – 8081B/ 8082A | Dioxin – 8290 Mod. | Metals- 6010C/ 6020A/ 7471B | TOC - 9060 |
|               |              | A - Capping Sand - 014 did not meet the minimum RRF for 2,4-dichlorophenol and 2,4-dinitrotoluene. UJ-qualify 2,4-dichlorophenol and 2,4-dinitrotoluene in the associated samples due to the potential low bias. |                                                                                                                                                                                                                                         |                          |                    |                             |            |
| Other Issues  | None         | None                                                                                                                                                                                                             | A modified result is reported for MCPP in sample Type C - Capping Sand -005 due to interferences in the retention time window for MCPP. UJ-qualify MCPP in sample Type C - Capping Sand -005 due to the potential bias and imprecision. | None                     | None               | None                        | None       |

Notes:

NA = Not Applicable

ND = Non- Detect

RPD = Relative Percent Difference

√ = Data Reviewed is to be considered acceptable within method/lab criteria and without qualification

Qualifiers:

J = Estimated

U = Non-detect

UJ = Reporting limit is considered estimated

R = Data is rejected and not suitable for use

Data Reviewer: Elizabeth Penta

Senior Reviewer: Denise King

Date: 06/11/2018



## MCP Presumptive Certainty Data Usability Assessment

Site Name: Wynn Boston Harbor Backfill

Project Number: 3651170065.103. \*\*\*\*

Laboratory Name: ESS Laboratory

SDG Number: 1712171

AMEC Massachusetts, Inc. Sample IDs: Type A - Capping Sand – 015, Type A - Capping Sand – 016, Type A - Capping Sand – 017, Type A - Capping Sand – 018, Type A - Capping Sand – 019, Type C - Capping Sand – 009, Type C - Capping Sand – 010, Type C - Capping Sand – 011, Type C - Capping Sand – 012, Type C - Capping Sand – 013 and Trip Blank

| Data Reviewed                               | Analysis                                  |                                           |                                           |                                                                                                       |                                                                             |                                                                                                                                           |                                           |
|---------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|
|                                             | VOCS – 8260B                              | SVOC – 8270D                              | Herbicides – 8151A                        | Pest/ PCB – 8081B/ 8082A                                                                              | Dioxin – 8290 Mod.                                                          | Metals- 6010C/6020A/7471B                                                                                                                 | TOC - 9060                                |
| Chain of Custody                            | √                                         | √                                         | √                                         | √                                                                                                     | √                                                                           | √                                                                                                                                         | √                                         |
| Sample Receipt (Preservation & Temperature) | √                                         | √                                         | √                                         | √                                                                                                     | √                                                                           | √                                                                                                                                         | √                                         |
| Holding Time                                | √                                         | √                                         | √                                         | √                                                                                                     | √                                                                           | √                                                                                                                                         | √                                         |
| Blanks (Trip or Equipment)                  | √                                         | NA                                        | NA                                        | NA                                                                                                    | NA                                                                          | NA                                                                                                                                        | NA                                        |
| Method Blanks                               | √                                         | √                                         | √                                         | √                                                                                                     | √                                                                           | √                                                                                                                                         | √                                         |
| MS/MSD                                      | A MS/MSD was not submitted with this SDG. | A MS/MSD was not submitted with this SDG. | A MS/MSD was not submitted with this SDG. | A MS/MSD was not submitted with this SDG.                                                             | Sample Type C - Capping Sand – 013 was used as the source for the MS/MSD. √ | A MS/MSD was not submitted with this SDG.                                                                                                 | A MS/MSD was not submitted with this SDG. |
| Lab Duplicate                               | NA                                        | NA                                        | NA                                        | NA                                                                                                    | NA                                                                          | NA                                                                                                                                        | NA                                        |
| LCS/LCSD                                    | √                                         | √                                         | √                                         | The LCS/LCSD RPD is elevated for aldrin (38% primary and 38% secondary) and methoxychlor (43% primary | √                                                                           | The LCS/LCSD RPD is elevated for barium (22%). Barium is ND in sample Type A - Capping Sand – 017 and not impacted by the imprecision. J- | √                                         |

| Data Reviewed                               | Analysis                                           |                                                                                                                             |                    |                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                       |            |
|---------------------------------------------|----------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
|                                             | VOCS – 8260B                                       | SVOC – 8270D                                                                                                                | Herbicides – 8151A | Pest/ PCB – 8081B/ 8082A                                                                                                                                                                                                                                                 | Dioxin – 8290 Mod.                                                                                                                                                                                     | Metals- 6010C/6020A/7471B                                                                                                                                                                                                                                                                                             | TOC - 9060 |
|                                             |                                                    |                                                                                                                             |                    | and 46% secondary column) in the LCS/LCSD associated with samples Type A - Capping Sand – 015, Type A - Capping Sand – 016, Type A - Capping Sand – 017, Type A - Capping Sand – 018. Aldrin and methoxychlor are ND in all samples and not impacted by the imprecision. |                                                                                                                                                                                                        | qualify barium in samples Type A - Capping Sand – 015, Type A - Capping Sand – 016, Type A - Capping Sand – 018, Type A - Capping Sand – 019, Type C - Capping Sand – 009, Type C - Capping Sand – 010, Type C - Capping Sand – 011, Type C - Capping Sand – 012, Type C - Capping Sand - 013 due to the imprecision. |            |
| Field Duplicates                            | A field duplicate was not submitted with this SDG. |                                                                                                                             |                    |                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                       |            |
| Surrogate Recoveries/<br>Internal Standards | √                                                  | The recovery of 2-fluorophenol (124%) is above the acceptance criteria in one of the CCVs. No qualifications are necessary. | √                  | √                                                                                                                                                                                                                                                                        | The recovery of IS OCDD-13C is below acceptance limits in samples Type A - Capping Sand – 015 (38%), Type A - Capping Sand – 016 (38%), Type A - Capping Sand – 018 (37%), Type A - Capping Sand – 019 | NA                                                                                                                                                                                                                                                                                                                    | NA         |

| Data Reviewed                                        | Analysis                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                        |                    |                          |                                                                                                                                                                                                                                                          |                           |            |
|------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|------------|
|                                                      | VOCS – 8260B                                                                                                                                                                                                                                                                                                   | SVOC – 8270D                                                                                                                                                                                                                                                                                                                                                                                                           | Herbicides – 8151A | Pest/ PCB – 8081B/ 8082A | Dioxin – 8290 Mod.                                                                                                                                                                                                                                       | Metals- 6010C/6020A/7471B | TOC - 9060 |
|                                                      |                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                        |                    |                          | (35%), Type C - Capping Sand – 009 (37%), Type C - Capping Sand – 010 (36%), Type C - Capping Sand – 011 (38%), and Type C - Capping Sand – 012 (35%). All analytes are ND and not impacted by the potential high bias. No qualifications are necessary. |                           |            |
| Calibration Issues (Deficiencies noted in Narrative) | The case narrative indicates an elevated CCV %D for 1,4-dioxane (-23%), 2-hexanone (-26%), 4-methyl-2-pentanone (-24%), dichlorodifluoromethane (-25%), naphthalene (-28%), sec-butylbenzene (-28%), and tetrahydrofuran (-33%). It is assumed that all samples are affected. UJ-qualify these analytes in all | The case narrative indicates an elevated CCV %D for 2,4-dinitrophenol (29%), N-nitrosodimethylamine (-27%), azobenzene (-21%), N-nitrosodimethylamine (-30%), pyridine (-22%), aniline (24%), N-nitrosodimethylamine (-36%), pentachlorophenol (-24%), pyridine (-36%), azobenzene (-21%), N-nitrosodimethylamine (-22%), pyridine (-22%), 4-nitrophenol (-22%), N-nitrosodimethylamine (-31%). It is assumed that all | None               | None                     | None                                                                                                                                                                                                                                                     | None                      | None       |

| Data Reviewed | Analysis                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                               |                          |                    |                           |            |
|---------------|----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|--------------------|---------------------------|------------|
|               | VOCS – 8260B                           | SVOC – 8270D                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Herbicides – 8151A                                                                                                                                                                                                                                            | Pest/ PCB – 8081B/ 8082A | Dioxin – 8290 Mod. | Metals- 6010C/6020A/7471B | TOC - 9060 |
|               | samples due to the potential low bias. | <p>samples are affected. 2,4-Dinitrophenol and aniline were ND in associated samples and not impacted by the potential high bias. UJ-qualify N-nitrosodimethylamine, azobenzene, pyridine, pentachlorophenol, and 4-nitrophenol in all samples due to the potential low bias.</p> <p>The continuing calibration standard associated with all samples did not meet the minimum RRF for 2,4-dinitrotoluene and 2,6-dinitrotoluene. UJ-qualify 2,4-dinitrotoluene and 2,6-dinitrotoluene due to the potential low bias.</p> |                                                                                                                                                                                                                                                               |                          |                    |                           |            |
| Other Issues  | None                                   | None                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <p>A modified result is reported for MCPP in samples Type C - Capping Sand – 009, Type C - Capping Sand – 010, Type C - Capping Sand – 011 due to interferences in the retention time window for MCPP. UJ-qualify MCPP in samples Type C - Capping Sand –</p> | None                     | None               | None                      | None       |

| Data Reviewed | Analysis     |              |                                                                                                          |                          |                    |                           |            |
|---------------|--------------|--------------|----------------------------------------------------------------------------------------------------------|--------------------------|--------------------|---------------------------|------------|
|               | VOCS – 8260B | SVOC – 8270D | Herbicides – 8151A                                                                                       | Pest/ PCB – 8081B/ 8082A | Dioxin – 8290 Mod. | Metals- 6010C/6020A/7471B | TOC - 9060 |
|               |              |              | 009, Type C - Capping Sand – 010, Type C - Capping Sand – 011 due to the potential bias and imprecision. |                          |                    |                           |            |

Notes:

NA = Not Applicable

ND = Non- Detect

RPD = Relative Percent Difference

√ = Data Reviewed is to be considered acceptable within method/lab criteria and without qualification

Qualifiers:

J = Estimated

U = Non-detect

UJ = Reporting limit is considered estimated

R = Data is rejected and not suitable for use

Data Reviewer: Elizabeth Penta

Senior Reviewer: Denise King

Date: 06/12/2018

## MCP Presumptive Certainty Data Usability Assessment

Site Name: Wynn Boston Harbor Backfill

Project Number: 3651170065.103. \*\*\*\*

Laboratory Name: ESS Laboratory

SDG Number: 1712199

AMEC Massachusetts, Inc. Sample IDs: Type A - Capping Sand – 020, Type A - Capping Sand – 021, Type A - Capping Sand – 022, Type A - Capping Sand – 023, Type A - Capping Sand – 024, Type C - Capping Sand – 014, Type C - Capping Sand – 015, Type C - Capping Sand – 016, Type C - Capping Sand – 017, Type C - Capping Sand – 018 and Trip Blank

| Data Reviewed                               | Analysis                                  |                                           |                                                                                                   |                                           |                                                                                |                                           |                                           |
|---------------------------------------------|-------------------------------------------|-------------------------------------------|---------------------------------------------------------------------------------------------------|-------------------------------------------|--------------------------------------------------------------------------------|-------------------------------------------|-------------------------------------------|
|                                             | VOCS – 8260B                              | SVOC – 8270D                              | Herbicides – 8151A                                                                                | Pest/ PCB – 8081B/ 8082A                  | Dioxin – 8290 Mod.                                                             | Metals- 6010C/6020A /7471B                | TOC - 9060                                |
| Chain of Custody                            | √                                         | √                                         | √                                                                                                 | √                                         | √                                                                              | √                                         | √                                         |
| Sample Receipt (Preservation & Temperature) | √                                         | √                                         | √                                                                                                 | √                                         | √                                                                              | √                                         | √                                         |
| Holding Time                                | √                                         | √                                         | √                                                                                                 | √                                         | √                                                                              | √                                         | √                                         |
| Blanks (Trip or Equipment)                  | √                                         | NA                                        | NA                                                                                                | NA                                        | NA                                                                             | NA                                        | NA                                        |
| Method Blanks                               | √                                         | √                                         | √                                                                                                 | √                                         | √                                                                              | √                                         | √                                         |
| MS/MSD                                      | A MS/MSD was not submitted with this SDG. | A MS/MSD was not submitted with this SDG. | A MS/MSD was not submitted with this SDG.                                                         | A MS/MSD was not submitted with this SDG. | Sample Type A - Capping Sand – 020 was used as the source for the MS/MSD.<br>√ | A MS/MSD was not submitted with this SDG. | A MS/MSD was not submitted with this SDG. |
| Lab Duplicate                               | NA                                        | NA                                        | NA                                                                                                | NA                                        | NA                                                                             | NA                                        | NA                                        |
| LCS/LCSD                                    | √                                         | √                                         | The LCS/LCSD RPD is elevated for dinoseb (46% primary column) in the LCS/LCSD associated with all | √                                         | √                                                                              | √                                         | √                                         |

| Data Reviewed                                           | Analysis                                                                                      |                                                                                                                        |                                                                                                             |                          |                                                                                                                                                                                                                                                                                                                                                                                            |                            |            |
|---------------------------------------------------------|-----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|------------|
|                                                         | VOCS – 8260B                                                                                  | SVOC – 8270D                                                                                                           | Herbicides – 8151A                                                                                          | Pest/ PCB – 8081B/ 8082A | Dioxin – 8290 Mod.                                                                                                                                                                                                                                                                                                                                                                         | Metals- 6010C/6020A /7471B | TOC - 9060 |
|                                                         |                                                                                               |                                                                                                                        | samples. Dinoseb is ND in all samples and not impacted by the imprecision. No qualifications are necessary. |                          |                                                                                                                                                                                                                                                                                                                                                                                            |                            |            |
| Field Duplicates                                        | A field duplicate was not submitted with this SDG.                                            |                                                                                                                        |                                                                                                             |                          |                                                                                                                                                                                                                                                                                                                                                                                            |                            |            |
| Surrogate Recoveries/<br>Internal Standards             | √                                                                                             | √                                                                                                                      | √                                                                                                           | √                        | The recovery of IS OCDD-13C is below acceptance limits in samples Type A - Capping Sand – 020 (34%), Type A - Capping Sand – 021 (38%), Type A - Capping Sand – 022, (37%), Type C - Capping Sand – 014 (37%), Type C - Capping Sand – 017 (38%), and Type C - Capping Sand – 018 (37%). All analytes are ND and not impacted by the potential high bias. No qualifications are necessary. | NA                         | NA         |
| Calibration Issues<br>(Deficiencies noted in Narrative) | The case narrative indicates an elevated CCV %D for 1,4-dioxane (-23%), 2-hexanone (-26%), 4- | The case narrative indicates an elevated CCV %D for azobenzene (-21%), N-nitrosodimethylamine (-30%), pyridine (-22%), | None                                                                                                        | None                     | None                                                                                                                                                                                                                                                                                                                                                                                       | None                       | None       |

| Data Reviewed | Analysis                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                    |                          |                    |                            |            |
|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|--------------------------|--------------------|----------------------------|------------|
|               | VOCS – 8260B                                                                                                                                                                                                                                                     | SVOC – 8270D                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Herbicides – 8151A | Pest/ PCB – 8081B/ 8082A | Dioxin – 8290 Mod. | Metals- 6010C/6020A /7471B | TOC - 9060 |
|               | <p>methyl-2-pentanone (-24%), dichlorodifluoromethane (-25%), naphthalene (-28%), sec-butylbenzene (-28%), and tetrahydrofuran (-33%). It is assumed that all samples are affected. UJ- qualify these analytes in all samples due to the potential low bias.</p> | <p>azobenzene (-21%), N-nitrosodimethylamine (-22%), pyridine (-23%), 2,4-dinitrophenol (-31%), N-nitrosodimethylamine (-50%), pentachlorophenol (-31%), 4-nitrophenol (-22%), and N-nitrosodimethylamine (-31%). It is assumed that all samples are affected. UJ- qualify azobenzene, N-nitrosodimethylamine, pyridine, 2,4-dinitrophenol, pentachlorophenol, and 4-nitrophenol in all samples due to the potential low bias.</p> <p>The continuing calibration standard associated with samples Type A - Capping Sand – 020, Type A - Capping Sand – 021, Type A - Capping Sand – 022, Type A - Capping Sand – 023, and Type A - Capping Sand – 024 did not meet the minimum RRF for 2,4-dinitrotoluene and 2,6-dinitrotoluene. UJ-qualify 2,4-dinitrotoluene and 2,6-dinitrotoluene in the associated samples due to the potential low bias.</p> |                    |                          |                    |                            |            |



| Data Reviewed | Analysis     |              |                                                                                                                                                                                                                                              |                          |                    |                            |            |
|---------------|--------------|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|--------------------|----------------------------|------------|
|               | VOCS – 8260B | SVOC – 8270D | Herbicides – 8151A                                                                                                                                                                                                                           | Pest/ PCB – 8081B/ 8082A | Dioxin – 8290 Mod. | Metals- 6010C/6020A /7471B | TOC - 9060 |
| Other Issues  | None         | None         | A modified result is reported for MCPPE in sample Type C - Capping Sand – 017 due to interferences in the retention time window for MCPPE. UJ-qualify MCPPE in sample Type C - Capping Sand – 017 due to the potential bias and imprecision. | None                     | None               | None                       | None       |

Notes:

NA = Not Applicable

ND = Non- Detect

RPD = Relative Percent Difference

√ = Data Reviewed is to be considered acceptable within method/lab criteria and without qualification

Qualifiers:

J = Estimated

U = Non-detect

UJ = Reporting limit is considered estimated

R = Data is rejected and not suitable for use

Data Reviewer: Elizabeth Penta

Senior Reviewer: Denise King

Date: 06/12/2018

## MCP Presumptive Certainty Data Usability Assessment

Site Name: Wynn Boston Harbor Backfill

Project Number: 3651170065.103. \*\*\*\*

Laboratory Name: ESS Laboratory

SDG Number: 1712347

AMEC Massachusetts, Inc. Sample IDs: Type C - Capping Sand – 019, Type C - Capping Sand – 020, Type C - Capping Sand – 021, Type C - Capping Sand – 022, Type C - Capping Sand – 023, Type C - Capping Sand – 024, Type C - Capping Sand – 025, Type B - Capping Sand – 001, Type B - Capping Sand – 002, Type B - Capping Sand – 003, and Type B - Capping Sand – 004

| Data Reviewed                               | Analysis                                  |                                           |                                           |                                           |                                                                             |                                           |                                                                                                                             |
|---------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-----------------------------------------------------------------------------|-------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|
|                                             | VOCS – 8260B                              | SVOC – 8270D                              | Herbicides – 8151A                        | Pest/ PCB – 8081B/ 8082A                  | Dioxin – 8290 Mod.                                                          | Metals- 6010C/ 6020A/7471B                | TOC - 9060                                                                                                                  |
| Chain of Custody                            | √                                         | √                                         | √                                         | √                                         | √                                                                           | √                                         | √                                                                                                                           |
| Sample Receipt (Preservation & Temperature) | √                                         | √                                         | √                                         | √                                         | √                                                                           | √                                         | √                                                                                                                           |
| Holding Time                                | √                                         | √                                         | √                                         | √                                         | √                                                                           | √                                         | √                                                                                                                           |
| Blanks (Trip or Equipment)                  | √                                         | NA                                        | NA                                        | NA                                        | NA                                                                          | NA                                        | NA                                                                                                                          |
| Method Blanks                               | √                                         | √                                         | √                                         | √                                         | √                                                                           | √                                         | √                                                                                                                           |
| MS/MSD                                      | A MS/MSD was not submitted with this SDG. | A MS/MSD was not submitted with this SDG. | A MS/MSD was not submitted with this SDG. | A MS/MSD was not submitted with this SDG. | Sample Type C - Capping Sand – 019 was used as the source for the MS/MSD. √ | A MS/MSD was not submitted with this SDG. | A MS/MSD was not submitted with this SDG.                                                                                   |
| Lab Duplicate                               | NA                                        | NA                                        | NA                                        | NA                                        | NA                                                                          | NA                                        | The RSD of the replicate analysis of samples Type C - Capping Sand – 021, Type C - Capping Sand – 023, and Type C - Capping |

| Data Reviewed                            | Analysis                                                                                                                                                                                                                                                                                                                                                         |              |                    |                          |                    |                                                                                                                                                    |                                                                                                                                                                            |
|------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|--------------------|--------------------------|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                          | VOCS – 8260B                                                                                                                                                                                                                                                                                                                                                     | SVOC – 8270D | Herbicides – 8151A | Pest/ PCB – 8081B/ 8082A | Dioxin – 8290 Mod. | Metals- 6010C/ 6020A/7471B                                                                                                                         | TOC - 9060                                                                                                                                                                 |
|                                          |                                                                                                                                                                                                                                                                                                                                                                  |              |                    |                          |                    |                                                                                                                                                    | Sand – 025 were > 25%. J- qualify the TOC result for samples Type C - Capping Sand – 021, Type C - Capping Sand – 023, and Type C - Capping Sand – 025 due to imprecision. |
| LCS/LCSD                                 | The LCS recovery of bromomethane (134%) is above the acceptance criteria in the LCS associated with all sample Type B - Capping Sand - 001, Type B - Capping Sand – 002, Type B - Capping Sand – 003 and Type B - Capping Sand - 004. Bromomethane is ND in the associated samples and not impacted by the potential high bias. No qualifications are necessary. | √            | √                  | √                        | √                  | The LCS/LCSD RPD is elevated for barium (21%) in the LCS/LCSD associated with all samples. J-qualify barium in all samples due to the imprecision. | √                                                                                                                                                                          |
| Field Duplicates                         | A field duplicate was not submitted with this SDG.                                                                                                                                                                                                                                                                                                               |              |                    |                          |                    |                                                                                                                                                    |                                                                                                                                                                            |
| Surrogate Recoveries/ Internal Standards | The recovery of 1,2-dichloroethane-d4 is above acceptance limits in samples Type B - Capping Sand – 002, Type B - Capping Sand – 003, and Type B - Capping Sand – 004. All analytes are ND in samples Type B - Capping Sand – 002, Type B - Capping Sand – 003, and                                                                                              | √            | √                  | √                        | √                  | NA                                                                                                                                                 | NA                                                                                                                                                                         |

| Data Reviewed                                        | Analysis                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                    |                          |                    |                            |            |
|------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|--------------------------|--------------------|----------------------------|------------|
|                                                      | VOCS – 8260B                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | SVOC – 8270D                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Herbicides – 8151A | Pest/ PCB – 8081B/ 8082A | Dioxin – 8290 Mod. | Metals- 6010C/ 6020A/7471B | TOC - 9060 |
|                                                      | Type B - Capping Sand – 004 and not impacted by the potential high bias. No qualifications are necessary.                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                    |                          |                    |                            |            |
| Calibration Issues (Deficiencies noted in Narrative) | <p>The case narrative indicates an elevated CCV %D for 1,1,1-trichloroethane (21%), 2,2-dichloropropane (21%), bromodichloromethane (26%), 2,2-dichloropropane (21%), naphthalene (-22%), tetrahydrofuran (-24%), 1,4-dioxane (-23%), and tetrahydrofuran (-23%). It is assumed that all samples are affected. 1,1,1-Trichloroethane, 2,2-dichloropropane, bromodichloromethane, and 2,2-dichloropropane were ND in all samples and not impacted by the potential high bias. UJ-qualify naphthalene, tetrahydrofuran, and 1,4-dioxane in all samples due to the potential low bias.</p> | <p>The case narrative indicates an elevated CCV %D for N-nitrosodimethylamine (-30%), N-nitrosodimethylamine (-32%), 2,4-dinitrophenol (42%), bis(2-chloroethyl)ether (-24%), N-nitrosodimethylamine (21%), phenol-d6 (-21%), azobenzene (-22%), and N-nitrosodimethylamine (-21%). It is assumed that all samples are affected. 2,4-Dinitrophenol is ND in all samples and not impacted by the potential high bias. No qualifications are necessary. The recovery of phenol-d6 was within acceptance limits for all samples. No qualifications are necessary. UJ-qualify N-nitrosodimethylamine, bis(2-chloroethyl)ether, and azobenzene in all samples due to the potential low bias.</p> <p>The continuing calibration standard associated with all samples did not meet the</p> | None               | None                     | None               | None                       | None       |

| Data Reviewed | Analysis     |                                                                                                                                                |                                                                                                                                                                                                                                           |                          |                    |                            |            |
|---------------|--------------|------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|--------------------|----------------------------|------------|
|               | VOCS – 8260B | SVOC – 8270D                                                                                                                                   | Herbicides – 8151A                                                                                                                                                                                                                        | Pest/ PCB – 8081B/ 8082A | Dioxin – 8290 Mod. | Metals- 6010C/ 6020A/7471B | TOC - 9060 |
|               |              | minimum RRF for 2,4-dinitrotoluene and 2,6-dinitrotoluene. UJ-qualify 2,4-dinitrotoluene and 2,6-dinitrotoluene due to the potential low bias. |                                                                                                                                                                                                                                           |                          |                    |                            |            |
| Other Issues  | None         | None                                                                                                                                           | A modified result is reported for MCPP in sample Type B - Capping Sand – 001 due to interferences in the retention time window for MCPP. UJ-qualify MCPP in sample Type B - Capping Sand – 001 due to the potential bias and imprecision. | None                     | None               | None                       | None       |

Notes:

NA = Not Applicable

ND = Non- Detect

RPD = Relative Percent Difference

√ = Data Reviewed is to be considered acceptable within method/lab criteria and without qualification

Qualifiers:

J = Estimated

U = Non-detect

UJ = Reporting limit is considered estimated

R = Data is rejected and not suitable for use

Data Reviewer: Elizabeth Penta

Senior Reviewer: Denise King

Date: 06/12/2018

## MCP Presumptive Certainty Data Usability Assessment

Site Name: Wynn Boston Harbor Backfill

Project Number: 3651170065.103. \*\*\*\*

Laboratory Name: ESS Laboratory

SDG Number: 1801261

AMEC Massachusetts, Inc. Sample IDs: Type A Blend - Capping Sand – 001, Type A Blend - Capping Sand – 002, Type A Blend - Capping Sand – 003, Type A Blend - Capping Sand – 004, and Trip Blank

| Data Reviewed                               | Analysis                                  |                                           |                                           |                                           |                                                                                   |                                           |                                                                                                   |
|---------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------|---------------------------------------------------------------------------------------------------|
|                                             | VOCS – 8260B                              | SVOC – 8270D                              | Herbicides – 8151A                        | Pest/ PCB – 8081B/ 8082A                  | Dioxin – 8290 Mod.                                                                | Metals- 6010C/ 6020A/7471 B               | TOC - 9060                                                                                        |
| Chain of Custody                            | √                                         | √                                         | √                                         | √                                         | √                                                                                 | √                                         | √                                                                                                 |
| Sample Receipt (Preservation & Temperature) | √                                         | √                                         | √                                         | √                                         | √                                                                                 | √                                         | √                                                                                                 |
| Holding Time                                | √                                         | √                                         | √                                         | √                                         | √                                                                                 | √                                         | √                                                                                                 |
| Blanks (Trip or Equipment)                  | √                                         | NA                                        | NA                                        | NA                                        | NA                                                                                | NA                                        | NA                                                                                                |
| Method Blanks                               | √                                         | √                                         | √                                         | √                                         | √                                                                                 | √                                         | √                                                                                                 |
| MS/MSD                                      | A MS/MSD was not submitted with this SDG. | A MS/MSD was not submitted with this SDG. | A MS/MSD was not submitted with this SDG. | A MS/MSD was not submitted with this SDG. | Sample Type A Blend - Capping Sand – 003 was used as the source for the MS/MSD. √ | A MS/MSD was not submitted with this SDG. | A MS/MSD was not submitted with this SDG.                                                         |
| Lab Duplicate                               | NA                                        | NA                                        | NA                                        | NA                                        | NA                                                                                | NA                                        | The RSD of the replicate analyses of samples Type A Blend - Capping Sand – 001 and Type A Blend - |

| Data Reviewed | Analysis                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |              |                                                                                                                                                                                                                                                                                                                                                                                         |                          |                    |                             |                                                                                                                                                                 |
|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|--------------------|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
|               | VOCS – 8260B                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | SVOC – 8270D | Herbicides – 8151A                                                                                                                                                                                                                                                                                                                                                                      | Pest/ PCB – 8081B/ 8082A | Dioxin – 8290 Mod. | Metals- 6010C/ 6020A/7471 B | TOC - 9060                                                                                                                                                      |
|               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |              |                                                                                                                                                                                                                                                                                                                                                                                         |                          |                    |                             | Capping Sand – 004 were > 25%. J-qualify the TOC result for samples Type A Blend - Capping Sand – 001 and Type A Blend - Capping Sand – 004 due to imprecision. |
| LCS/LCSD      | The LCS and/or LCSD recoveries of 1,2-dichloroethane (131%/134%), acetone (144% LCS), bromomethane (140%/146%), bromoform (64% LCS), 1,1-dichloropropene (134% LCSD), benzene (131% LCSD) and diethyl ether (134% LCSD) are outside of the acceptance criteria in the LCS/LCSD associated with all samples. The LCS/LCSD RPD is elevated for bromoform (21%) in the LCS/LCSD associated with all samples. 1,2-Dichloroethane, acetone, bromomethane, bromoform, 1,1-dichloropropene, benzene and diethyl | √            | The LCSD recovery of 2,4-DB is below acceptance criteria on the primary (10%) and secondary column (6%). UJ- qualify 2,4-DB in all samples due to the potential low bias. The LCS/LCSD RPD is elevated on the primary and/or secondary columns for 2,4,5-T (51%/41%), 2,4-D (52%/50%), 2,4-DB (151%/172%), Dichlorprop (35% secondary), MCPA (65%/59%), MCPP (45%/ 39%) in the LCS/LCSD | √                        | √                  | √                           | √                                                                                                                                                               |

| Data Reviewed                                        | Analysis                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                    |                    |                             |            |
|------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-----------------------------|------------|
|                                                      | VOCS – 8260B                                                                                                                                                                                                                                                                                                                                                | SVOC – 8270D                                                                                                                                                                                                                                                                                                                         | Herbicides – 8151A                                                                                                                                                                                                                                         | Pest/ PCB – 8081B/ 8082A                                                                                                                                                                                                                           | Dioxin – 8290 Mod. | Metals- 6010C/ 6020A/7471 B | TOC - 9060 |
|                                                      | ether are ND in associated samples and not impacted by the potential high bias. No Qualifications are necessary. Bromoform is ND in all samples and not impacted by the imprecision. UJ-qualify bromoform in the associated samples due to the potential low bias.                                                                                          |                                                                                                                                                                                                                                                                                                                                      | associated with all samples. 2,4,5-T, 2,4-D, 2,4-DB, Dichlorprop, MCPA, and MCPP are ND in associated samples and not impacted by the imprecision.                                                                                                         |                                                                                                                                                                                                                                                    |                    |                             |            |
| Field Duplicates                                     | A field duplicate was not submitted with this SDG.                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                    |                    |                             |            |
| Surrogate Recoveries/ Internal Standards             | √                                                                                                                                                                                                                                                                                                                                                           | √                                                                                                                                                                                                                                                                                                                                    | √                                                                                                                                                                                                                                                          | √                                                                                                                                                                                                                                                  | √                  | NA                          | NA         |
| Calibration Issues (Deficiencies noted in Narrative) | The case narrative indicates an elevated CCV %D for 1,2-dichloroethane (25%), bromomethane (32%), 1,2-dibromo-3-chloropropane (-27%), and bromoform (-29%). It is assumed that all samples are affected. 1,2-Dichloroethane and bromomethane were ND in all samples and not impacted by the potential high bias. UJ-qualify 1,2-dibromo-3-chloropropane and | The case narrative indicates an elevated CCV %D for 4-nitrophenol (-26%), N-nitrosodimethylamine (-28%) and N-nitrosodimethylamine (-29%). It is assumed that all samples are affected. UJ-qualify 4-nitrophenol and N-nitrosodimethylamine in all samples due to the potential low bias.<br><br>The continuing calibration standard | The case narrative indicates an elevated CCV %D for dalapon (19% secondary column) and dicamba (16% secondary column). It is assumed that all samples are affected. Dalapon and dicamba are ND in all samples and not impacted by the potential high bias. | The case narrative indicates an elevated CCV %D for methoxychlor (37%) on the secondary column. It is assumed that all samples are affected. Methoxychlor was ND in all samples and not impacted by the potential high bias. No qualifications are | None               | None                        | None       |



| Data Reviewed | Analysis                                                |                                                                                                                                               |                    |                          |                    |                             |            |
|---------------|---------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|--------------------|--------------------------|--------------------|-----------------------------|------------|
|               | VOCS – 8260B                                            | SVOC – 8270D                                                                                                                                  | Herbicides – 8151A | Pest/ PCB – 8081B/ 8082A | Dioxin – 8290 Mod. | Metals- 6010C/ 6020A/7471 B | TOC - 9060 |
|               | bromoform in all samples due to the potential low bias. | associated with all samples did not meet the minimum RRF for 2,6-dinitrotoluene. UJ-qualify 2,6-dinitrotoluene due to the potential low bias. |                    | necessary.               |                    |                             |            |
| Other Issues  | None                                                    | None                                                                                                                                          | None               | None                     | None               | None                        | None       |

Notes:

NA = Not Applicable

ND = Non- Detect

RPD = Relative Percent Difference

√ = Data Reviewed is to be considered acceptable within method/lab criteria and without qualification

Qualifiers:

J = Estimated

U = Non-detect

UJ = Reporting limit is considered estimated

R = Data is rejected and not suitable for use

Data Reviewer: Elizabeth Penta

Senior Reviewer: Denise King

Date: 06/12/2018

## MCP Presumptive Certainty Data Usability Assessment

Site Name: Wynn Everett Sediments

Project Number: 3651170065.103. \*\*\*\*

Laboratory Name: Alpha Analytical Laboratory

SDG Number: L0515324

Menzie-Cura & Associates Inc. Sample IDs: SED-1-ST, SED-2-ST, SED-3-ST, SED-4-ST, SED-5-ST, SED-6-ST, SED-7-IT, SED-8-IT, SED-9-IT, SED-10-IT, SED-11-IT, and SED-12-IT

| Data Reviewed                                        | Analysis                                                                                                                                                                                                                                                                                                                                                                                            |                                           |
|------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|
|                                                      | EPH                                                                                                                                                                                                                                                                                                                                                                                                 | Metals- 6010B/7471A                       |
| Chain of Custody                                     | √                                                                                                                                                                                                                                                                                                                                                                                                   | √                                         |
| Sample Receipt (Preservation & Temperature)          | √                                                                                                                                                                                                                                                                                                                                                                                                   | √                                         |
| Holding Time                                         | √                                                                                                                                                                                                                                                                                                                                                                                                   | √                                         |
| Blanks (Trip or Equipment)                           | NA                                                                                                                                                                                                                                                                                                                                                                                                  | NA                                        |
| Method Blanks                                        | √                                                                                                                                                                                                                                                                                                                                                                                                   | √                                         |
| MS/MSD                                               | A MS/MSD was not submitted with this SDG.                                                                                                                                                                                                                                                                                                                                                           | A MS/MSD was not submitted with this SDG. |
| Lab Duplicate                                        | NA                                                                                                                                                                                                                                                                                                                                                                                                  | NA                                        |
| LCS/LCSD                                             | √                                                                                                                                                                                                                                                                                                                                                                                                   | √                                         |
| Field Duplicates                                     | A field duplicate was not submitted with this SDG.                                                                                                                                                                                                                                                                                                                                                  |                                           |
| Surrogate Recoveries/ Internal Standards             | The surrogates chloro-octadecane (8%) and o-terphenyl (14%) recovered low in the initial analysis of sample SED-1-ST. The sample was re-extracted and the recovery of chloro-octadecane (22%) was below acceptance criteria. The results from the re-extraction and re-analysis were reported to be conservative. J-qualify C9-C18 Aliphatics and C19-C36 Aliphatics due to the potential low bias. | NA                                        |
| Calibration Issues (Deficiencies noted in Narrative) | None                                                                                                                                                                                                                                                                                                                                                                                                | None                                      |

| Data Reviewed | Analysis                                                                                                                                             |                     |
|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|
|               | EPH                                                                                                                                                  | Metals- 6010B/7471A |
| Other Issues  | Samples SED-3-ST, SED-6-ST and SED-10-IT have elevated reporting limits due to dilutions required by elevated concentrations of non-target analytes. | None                |

Notes:

NA = Not Applicable

ND = Non- Detect

RPD = Relative Percent Difference

√ = Data Reviewed is to be considered acceptable within method/lab criteria and without qualification

Qualifiers:

J = Estimated

U = Non-detect

UJ = Reporting limit is considered estimated

R = Data is rejected and not suitable for use

Data Reviewer: Elizabeth Penta

Senior Reviewer: Denise King

Date: 08/21/2018

## MCP Presumptive Certainty Data Usability Assessment

Site Name: Wynn Everett Water Quality

Project Number: 3651160042

Laboratory Name: Alpha Analytical

SDG Number: L1709188

Sample IDs WQC-15, WQC-16, WQC-07, and Trip Blank 3-27-17

| Data Reviewed                               | Analysis                                                                                                                                                                                                            |                                              |                                              |                                                                                         |                                              |
|---------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|----------------------------------------------|-----------------------------------------------------------------------------------------|----------------------------------------------|
|                                             | VOCs (8260)                                                                                                                                                                                                         | PAHs/PCB Congeners                           | EPH                                          | Metals (6020A and 7471B)                                                                | TOC-LK and Reactive Sulfide                  |
| Chain of Custody                            | √                                                                                                                                                                                                                   | √                                            | √                                            | √                                                                                       | √                                            |
| Sample Receipt (Preservation & Temperature) | √                                                                                                                                                                                                                   | √                                            | √                                            | √                                                                                       | √                                            |
| Holding Time                                | √                                                                                                                                                                                                                   | √                                            | √                                            | √                                                                                       | √                                            |
| Method Blanks                               | √                                                                                                                                                                                                                   | √                                            | √                                            | √                                                                                       | √                                            |
| MS/MSD                                      | A MS/MSD was not submitted with this SDG.                                                                                                                                                                           | A MS/MSD was not submitted with this SDG.    | A MS/MSD was not submitted with this SDG.    | The lab selected sample WQC-15 as the source for the MS of TCLP chromium and lead.<br>√ | A MS/MSD was not submitted with this SDG.    |
| Lab Duplicate                               | Not performed                                                                                                                                                                                                       | Not performed                                | Not performed                                | The lab selected sample WQC-15 as the source for the lab duplicate of TCLP lead.<br>√   | Not performed                                |
| Blanks (Trip or Equipment)                  | √                                                                                                                                                                                                                   | Blanks were not submitted for this analysis. | Blanks were not submitted for this analysis. | Blanks were not submitted for this analysis.                                            | Blanks were not submitted for this analysis. |
| LCS/LCSD                                    | The LCS and/or LCSD recoveries were below the acceptance criteria for acetone (LCSD 64%), 2-butanone (63%/55%), and 2-hexanone (57%/54%). UJ/J-qualify these analytes in all samples due to the potential low bias. | √                                            | √                                            | √                                                                                       | √                                            |

| Data Reviewed                                                                         | Analysis                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                |                                                    |                                                    |                                                    |
|---------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
|                                                                                       | VOCs (8260)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | PAHs/PCB Congeners                                                                                                                                             | EPH                                                | Metals (6020A and 7471B)                           | TOC-LK and Reactive Sulfide                        |
| Naphthalene and 2-Methylnaphthalene breakthrough in Aliphatic Fraction <5% (EPH Only) | NA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | NA                                                                                                                                                             | √                                                  | NA                                                 | NA                                                 |
| Field Duplicates                                                                      | A field duplicate was not submitted with this SDG.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | A field duplicate was not submitted with this SDG.                                                                                                             | A field duplicate was not submitted with this SDG. | A field duplicate was not submitted with this SDG. | A field duplicate was not submitted with this SDG. |
| Surrogate Recoveries                                                                  | √                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | √                                                                                                                                                              | √                                                  | NA                                                 | NA                                                 |
| Calibration Issues (Deficiencies noted in Narrative)                                  | <p>The initial calibration, associated with all samples did not meet the method required minimum response factor (RRF) for the lowest calibration standard for acetone (0.0788), 2-butanone (0.0798), 4-methyl-2-pentanone (0.0579), and 1,4-dioxane (0.0021), as well as the average response factor for acetone (0.056), 2-butanone (0.09), 4-methyl-2-pentanone (0.089), and 1,4-dioxane (0.00229). UJ/J-qualify these analytes in all samples. The continuing calibration did not meet the %D method criteria for acetone (30.4%), 2,2-dichloropropane (-21.7%), 2-butanone (36.7%), 1,4-dioxane (21.8%), 4-methyl-2-pentanone (25.8%), tetrachloroethene (-21.5%), and 2-hexanone (42.7%). The continuing calibration standard also did not meet the minimum RRF for acetone (0.039), 2-butanone (0.057), 1,4-dioxane (0.00179), and 4-methyl-2-pentanone (0.066). UJ/J-qualify these analytes in all samples.</p> |                                                                                                                                                                |                                                    |                                                    |                                                    |
| Other Issues                                                                          | None                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | A number of PAHs exceeded the range of calibration in the initial analysis of samples WQC-15 and WQC-16. The samples were re-analyzed on dilution. Results for | None                                               | None                                               | None                                               |

| Data Reviewed | Analysis    |                                                  |     |                          |                             |
|---------------|-------------|--------------------------------------------------|-----|--------------------------|-----------------------------|
|               | VOCs (8260) | PAHs/PCB Congeners                               | EPH | Metals (6020A and 7471B) | TOC-LK and Reactive Sulfide |
|               |             | these PAHs should be reported from the dilution. |     |                          |                             |

Notes:

NA = Not Applicable

ND = Non Detect

RPD = Relative Percent Difference

√ = Data Reviewed is to be considered acceptable within MCP criteria and without qualification

Qualifiers:

J = Estimated

R = Data is rejected and not suitable for use

UJ = Reporting limit is considered estimated

U = Non-detect

Data Reviewer: Denise King

Date: 04/13/2017

## MCP Presumptive Certainty Data Usability Assessment

Site Name: Wynn Everett Water Quality

Project Number: 3651160042

Laboratory Name: Alpha Analytical

SDG Number: L1709353

Sample IDs WQC-06, WQC-14, WQC-13, and Trip Blank 3-28-17

| Data Reviewed                               | Analysis                                                                                                                                                                                 |                                                                                                                                               |                                              |                                                                                          |                                              |
|---------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|------------------------------------------------------------------------------------------|----------------------------------------------|
|                                             | VOCs (8260)                                                                                                                                                                              | PAHs/PCB Congeners                                                                                                                            | EPH                                          | Metals (6020A and 7471B)                                                                 | TOC-LK and Reactive Sulfide                  |
| Chain of Custody                            | √                                                                                                                                                                                        | √                                                                                                                                             | √                                            | √                                                                                        | √                                            |
| Sample Receipt (Preservation & Temperature) | √                                                                                                                                                                                        | √                                                                                                                                             | √                                            | √                                                                                        | √                                            |
| Holding Time                                | √                                                                                                                                                                                        | √                                                                                                                                             | √                                            | √                                                                                        | √                                            |
| Method Blanks                               | √                                                                                                                                                                                        | √                                                                                                                                             | √                                            | √                                                                                        | √                                            |
| MS/MSD                                      | A MS/MSD was not submitted with this SDG.                                                                                                                                                | A MS/MSD was not submitted with this SDG.                                                                                                     | A MS/MSD was not submitted with this SDG.    | The lab selected sample WQC-13 as the source for the MS of TCLP mercury.<br>√            | A MS/MSD was not submitted with this SDG.    |
| Lab Duplicate                               | Not performed                                                                                                                                                                            | Not performed                                                                                                                                 | Not performed                                | The lab selected sample WQC-13 as the source for the lab duplicate of TCLP mercury.<br>√ | Not performed                                |
| Blanks (Trip or Equipment)                  | √                                                                                                                                                                                        | Blanks were not submitted for this analysis.                                                                                                  | Blanks were not submitted for this analysis. | Blanks were not submitted for this analysis.                                             | Blanks were not submitted for this analysis. |
| LCS/LCSD                                    | The LCS/LCSD recoveries were below the acceptance criteria for 2-butanone (58%/62%), and 2-hexanone (52%/55%). UJ/J-qualify these analytes in all samples due to the potential low bias. | The LCS and/or LCSD recoveries were below the acceptance criteria for naphthalene (39%/36%) and acenaphthylene (LCSD 39%). UJ/J-qualify these | √                                            | √                                                                                        | √                                            |

| Data Reviewed                                                                         | Analysis                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                   |                                                    |                                                    |                                                    |
|---------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
|                                                                                       | VOCs (8260)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | PAHs/PCB Congeners                                                                                                                                                                                | EPH                                                | Metals (6020A and 7471B)                           | TOC-LK and Reactive Sulfide                        |
|                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | analytes in all samples due to the potential low bias.                                                                                                                                            |                                                    |                                                    |                                                    |
| Naphthalene and 2-Methylnaphthalene breakthrough in Aliphatic Fraction <5% (EPH Only) | NA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | NA                                                                                                                                                                                                | √                                                  | NA                                                 | NA                                                 |
| Field Duplicates                                                                      | A field duplicate was not submitted with this SDG.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | A field duplicate was not submitted with this SDG.                                                                                                                                                | A field duplicate was not submitted with this SDG. | A field duplicate was not submitted with this SDG. | A field duplicate was not submitted with this SDG. |
| Surrogate Recoveries                                                                  | √                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 2-Methylnaphthalene-d10 recovered below the acceptance criteria, at 29%, in sample WQC-13. UJ/J-qualify all reported PAHs in the initial analysis of sample WQC-13 due to the potential low bias. | √                                                  | NA                                                 | NA                                                 |
| Calibration Issues (Deficiencies noted in Narrative)                                  | The initial calibration, associated with all samples did not meet the method required minimum response factor (RRF) for the lowest calibration standard for acetone (0.0788), 2-butanone (0.0798), 4-methyl-2-pentanone (0.0579), and 1,4-dioxane (0.0021), as well as the average response factor for acetone (0.056), 2-butanone (0.09), 4-methyl-2-pentanone (0.089), and 1,4-dioxane (0.00229). UJ/J- qualify these analytes in all samples. The continuing calibration did not meet the %D method criteria for chloroethane (23.2%), 2,2-dichloropropane (-21.7%), 2-butanone (42.2%), 4-methyl-2-pentanone (29.2%), and 2-hexanone (47.8%). The continuing calibration standard also did not meet the | None                                                                                                                                                                                              | None                                               | None                                               | None                                               |



| Data Reviewed | Analysis                                                                                                                                                  |                                                                                                                                                                                                                 |      |                          |                             |
|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|--------------------------|-----------------------------|
|               | VOCs (8260)                                                                                                                                               | PAHs/PCB Congeners                                                                                                                                                                                              | EPH  | Metals (6020A and 7471B) | TOC-LK and Reactive Sulfide |
|               | minimum RRF for acetone (0.047), 2-butanone (0.052), 1,4-dioxane (0.00197), and 4-methyl-2-pentanone (0.063). UJ/J-qualify these analytes in all samples. |                                                                                                                                                                                                                 |      |                          |                             |
| Other Issues  | Sample WQC-06 has elevated detection limits due to the dilution required by the elevated concentrations of non-target analytes.                           | A number of PAHs exceeded the range of calibration in the initial analysis of samples WQC-14 and WQC-13. The samples were re-analyzed on dilution. Results for these PAHs should be reported from the dilution. | None | None                     | None                        |

Notes:

NA = Not Applicable

ND = Non Detect

RPD = Relative Percent Difference

√ = Data Reviewed is to be considered acceptable within MCP criteria and without qualification

Qualifiers:

J = Estimated

R = Data is rejected and not suitable for use

UJ = Reporting limit is considered estimated

U = Non-detect

Data Reviewer: Denise King

Date: 04/13/2017

## MCP Presumptive Certainty Data Usability Assessment

Site Name: Wynn Everett Water Quality

Project Number: 3651160042

Laboratory Name: Alpha Analytical

SDG Number: L1709528

Sample IDs WQC-03, WQC-04, WQC-12, and Trip Blank 3-29-17

| Data Reviewed                               | Analysis                                  |                                              |                                              |                                                                                                    |                                              |
|---------------------------------------------|-------------------------------------------|----------------------------------------------|----------------------------------------------|----------------------------------------------------------------------------------------------------|----------------------------------------------|
|                                             | VOCs (8260)                               | PAHs/PCB Congeners                           | EPH                                          | Metals (6020A and 7471B)                                                                           | TOC-LK and Reactive Sulfide                  |
| Chain of Custody                            | √                                         | √                                            | √                                            | √                                                                                                  | √                                            |
| Sample Receipt (Preservation & Temperature) | √                                         | √                                            | √                                            | √                                                                                                  | √                                            |
| Holding Time                                | √                                         | √                                            | √                                            | √                                                                                                  | √                                            |
| Method Blanks                               | √                                         | √                                            | √                                            | √                                                                                                  | √                                            |
| MS/MSD                                      | A MS/MSD was not submitted with this SDG. | A MS/MSD was not submitted with this SDG.    | A MS/MSD was not submitted with this SDG.    | The lab selected sample WQC-03 as the source for the MS of TCLP arsenic, chromium, and lead.<br>√  | A MS/MSD was not submitted with this SDG.    |
| Lab Duplicate                               | Not performed                             | Not performed                                | Not performed                                | The lab selected sample WQC-03 as the source for the lab duplicate of TCLP chromium and lead.<br>√ | Not performed                                |
| Blanks (Trip or Equipment)                  | √                                         | Blanks were not submitted for this analysis. | Blanks were not submitted for this analysis. | Blanks were not submitted for this analysis.                                                       | Blanks were not submitted for this analysis. |

| Data Reviewed                                                                         | Analysis                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                   |                                                    |                                                    |                                                    |
|---------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
|                                                                                       | VOCs (8260)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | PAHs/PCB Congeners                                                                                                                                                                                                                                                                                                                                                                | EPH                                                | Metals (6020A and 7471B)                           | TOC-LK and Reactive Sulfide                        |
| LCS/LCSD                                                                              | <p>The LCS and/or LCSD recoveries were below the acceptance criteria for 2-butanone (LCSD 68%), and 2-hexanone (65%/65%). UJ-qualify these analytes in all samples due to the potential low bias.</p> <p>The LCS/LCSD recoveries were above the acceptance criteria for carbon disulfide (132%/179%), and 2,2-dichloropropane (52%/55%). The LCS/LCSD RPD for carbon disulfide is above the acceptance criteria at 30%. Both analytes are ND and not impacted by the potential high and/or non-directional bias.</p> | <p>The LCS and/or LCSD recoveries were below the acceptance criteria for naphthalene (39%/36%) and acenaphthylene (LCSD 39%). J-qualify these analytes in all samples due to the potential low bias.</p>                                                                                                                                                                          | √                                                  | √                                                  | √                                                  |
| Naphthalene and 2-Methylnaphthalene breakthrough in Aliphatic Fraction <5% (EPH Only) | NA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | NA                                                                                                                                                                                                                                                                                                                                                                                | √                                                  | NA                                                 | NA                                                 |
| Field Duplicates                                                                      | A field duplicate was not submitted with this SDG.                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | A field duplicate was not submitted with this SDG.                                                                                                                                                                                                                                                                                                                                | A field duplicate was not submitted with this SDG. | A field duplicate was not submitted with this SDG. | A field duplicate was not submitted with this SDG. |
| Surrogate Recoveries                                                                  | √                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <p>2,2',3,3',4,5,5',6-Octachlorobiphenyl (BZ 198) recovered above the acceptance criteria, at 152%, in sample WQC-04. J-qualify all detected congeners in sample WQC-04 due to the potential high bias.</p> <p>Benzo(b)fluoranthene-d12 recovered below the acceptance criteria, at 29%, in sample WQC-12. J-qualify all PAHs in sample WQC-12 due to the potential low bias.</p> | √                                                  | NA                                                 | NA                                                 |

| Data Reviewed                                        | Analysis                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                    |      |                          |                             |
|------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|------|--------------------------|-----------------------------|
|                                                      | VOCs (8260)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | PAHs/PCB Congeners | EPH  | Metals (6020A and 7471B) | TOC-LK and Reactive Sulfide |
| Calibration Issues (Deficiencies noted in Narrative) | The initial calibration, associated with all samples did not meet the method required minimum response factor (RRF) for the lowest calibration standard for acetone (0.0788), 2-butanone (0.0798), 4-methyl-2-pentanone (0.0579), and 1,4-dioxane (0.0021), as well as the average response factor for acetone (0.056), 2-butanone (0.09), 4-methyl-2-pentanone (0.089), and 1,4-dioxane (0.00229). UJ-qualify these analytes in all samples. The continuing calibration did not meet the %D method criteria for carbon disulfide (-32.1%), 2,2-dichloropropane (-32.3%), carbon tetrachloride (-26.6%), 1,1,1-trichloroethane (-22.6%), 2-butanone (30%), 4-methyl-2-pentanone (20.2%), tetrachloroethene (-27%), and 2-hexanone (35.3%). The continuing calibration standard also did not meet the minimum RRF for acetone (0.053), 2-butanone (0.063), 1,4-dioxane (0.00225), and 4-methyl-2-pentanone (0.071). UJ/J-qualify these analytes in all samples. | None               | None | None                     | None                        |
| Other Issues                                         | Low level analysis could not be performed on sample WQC-12 due to the elevated concentrations of target analytes.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | None               | None | None                     | None                        |

Notes:

NA = Not Applicable

ND = Non Detect

RPD = Relative Percent Difference

√ = Data Reviewed is to be considered acceptable within MCP criteria and without qualification

Qualifiers:

J = Estimated

R = Data is rejected and not suitable for use

UJ = Reporting limit is considered estimated

U = Non-detect

Data Reviewer: Denise King

Date: 04/13/2017

## MCP Presumptive Certainty Data Usability Assessment

Site Name: Wynn Everett Water Quality

Project Number: 3651160042

Laboratory Name: Alpha Analytical

SDG Number: L1709735

Sample IDs WQC-10, WQC-11, WQC-01, and Trip Blank 3-30-17

| Data Reviewed                               | Analysis                                  |                                              |                                              |                                                                                                              |                                           |
|---------------------------------------------|-------------------------------------------|----------------------------------------------|----------------------------------------------|--------------------------------------------------------------------------------------------------------------|-------------------------------------------|
|                                             | VOCs (8260)                               | PAHs/PCB Congeners                           | EPH                                          | Metals (6020A and 7471B)                                                                                     | TOC-LK and Reactive Sulfide               |
| Chain of Custody                            | √                                         | √                                            | √                                            | √                                                                                                            | √                                         |
| Sample Receipt (Preservation & Temperature) | √                                         | √                                            | √                                            | √                                                                                                            | √                                         |
| Holding Time                                | √                                         | √                                            | √                                            | √                                                                                                            | √                                         |
| Method Blanks                               | √                                         | √                                            | √                                            | √                                                                                                            | √                                         |
| MS/MSD                                      | A MS/MSD was not submitted with this SDG. | A MS/MSD was not submitted with this SDG.    | A MS/MSD was not submitted with this SDG.    | The lab selected sample WQC-10 as the source for the MS of TCLP arsenic, chromium, and lead.<br>√            | A MS/MSD was not submitted with this SDG. |
| Lab Duplicate                               | Not performed                             | Not performed                                | Not performed                                | The lab selected sample WQC-10 as the source for the lab duplicate of TCLP arsenic, chromium, and lead.<br>√ | Not performed                             |
| Blanks (Trip or Equipment)                  | √                                         | Blanks were not submitted for this analysis. | Blanks were not submitted for this analysis. | Blanks were not submitted for this analysis.                                                                 | Blanks were not submitted                 |

| Data Reviewed                                                                         | Analysis                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                               |                                                    |                                                    |                                                    |
|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
|                                                                                       | VOCs (8260)                                                                                                                                                                                                                                                         | PAHs/PCB Congeners                                                                                                                                                                                                                                                                                                                                                            | EPH                                                | Metals (6020A and 7471B)                           | TOC-LK and Reactive Sulfide                        |
|                                                                                       |                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                               |                                                    |                                                    | for this analysis.                                 |
| LCS/LCSD                                                                              | The LCS and/or LCSD recoveries were below the acceptance criteria for 2-butanone (66%/65%) and 2-hexanone (59%/53%). UJ-qualify these analytes in samples due to the potential low bias.                                                                            | The LCS and/or LCSD recoveries were below the acceptance criteria for naphthalene (39%/36%) and acenaphthylene (LCSD 39%). UJ/J-qualify these analytes in all samples due to the potential low bias.                                                                                                                                                                          | √                                                  | √                                                  | √                                                  |
| Naphthalene and 2-Methylnaphthalene breakthrough in Aliphatic Fraction <5% (EPH Only) | NA                                                                                                                                                                                                                                                                  | NA                                                                                                                                                                                                                                                                                                                                                                            | √                                                  | NA                                                 | NA                                                 |
| Field Duplicates                                                                      | A field duplicate was not submitted with this SDG.                                                                                                                                                                                                                  | A field duplicate was not submitted with this SDG.                                                                                                                                                                                                                                                                                                                            | A field duplicate was not submitted with this SDG. | A field duplicate was not submitted with this SDG. | A field duplicate was not submitted with this SDG. |
| Surrogate Recoveries                                                                  | √                                                                                                                                                                                                                                                                   | 2,2',3,3',4,5,5',6-Octachlorobiphenyl (BZ 198) recovered above the acceptance criteria, at 141%, in sample WQC-10. J-qualify all detected congeners in sample WQC-10 due to the potential high bias.<br><br>Benzo(b)fluoranthene-d12 recovered below the acceptance criteria, at 27%, in sample WQC-11. UJ/J-qualify all PAHs in sample WQC-11 due to the potential low bias. | √                                                  | NA                                                 | NA                                                 |
| Calibration Issues (Deficiencies noted in Narrative)                                  | The initial calibration, associated with all samples did not meet the method required minimum response factor (RRF) for the lowest calibration standard for acetone (0.0788), 2-butanone (0.0798), 4-methyl-2-pentanone (0.0579), and 1,4-dioxane (0.0021), as well | None                                                                                                                                                                                                                                                                                                                                                                          | None                                               | None                                               | None                                               |

| Data Reviewed | Analysis                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                    |      |                          |                             |
|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|------|--------------------------|-----------------------------|
|               | VOCs (8260)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | PAHs/PCB Congeners | EPH  | Metals (6020A and 7471B) | TOC-LK and Reactive Sulfide |
|               | as the average response factor for acetone (0.056), 2-butanone (0.09), 4-methyl-2-pentanone (0.089), and 1,4-dioxane (0.00229). UJ-qualify these analytes in all samples. The continuing calibration did not meet the %D method criteria for vinyl chloride (21%), chloroethane (30.4%), carbon disulfide (23.1%), methylene chloride (20.1%), 2-butanone (34.4%), 4-methyl-2-pentanone (30.3%), 2-hexanone (40.9%), and naphthalene (21.8%). The continuing calibration standard also did not meet the minimum RRF for acetone (0.047), 2-butanone (0.059), 1,4-dioxane (0.00209), and 4-methyl-2-pentanone (0.062). UJ/J-qualify these analytes in all samples. |                    |      |                          |                             |
| Other Issues  | <p>Low level analysis could not be performed on sample WQC-10 due to the elevated concentrations of target analytes.</p> <p>Chlorobenzene exceeded the range of calibration in the initial analysis of sample WQC-10. The sample was re-analyzed on dilution. The chlorobenzene result should be reported from the dilution.</p>                                                                                                                                                                                                                                                                                                                                  | None               | None | None                     | None                        |

Notes:

NA = Not Applicable

ND = Non Detect

RPD = Relative Percent Difference

√ = Data Reviewed is to be considered acceptable within MCP criteria and without qualification

Qualifiers:

J = Estimated

R = Data is rejected and not suitable for use

UJ = Reporting limit is considered estimated

U = Non-detect

Data Reviewer: Denise King

Date: 04/18/2017

## MCP Presumptive Certainty Data Usability Assessment

Site Name: Wynn Everett Water Quality

Project Number: 3651160042

Laboratory Name: Alpha Analytical

SDG Number: L1709942

Sample IDs WQC-05, WQC-09, WQC-08, WQC-02, and Trip Blank 3-31-17

| Data Reviewed                               | Analysis                                  |                                              |                                              |                                              |                                                                                                                                                                                                             |
|---------------------------------------------|-------------------------------------------|----------------------------------------------|----------------------------------------------|----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                             | VOCs (8260)                               | PAHs/PCB Congeners                           | EPH                                          | Metals (6020A and 7471B)                     | TOC-LK and Reactive Sulfide                                                                                                                                                                                 |
| Chain of Custody                            | √                                         | √                                            | √                                            | √                                            | √                                                                                                                                                                                                           |
| Sample Receipt (Preservation & Temperature) | √                                         | √                                            | √                                            | √                                            | √                                                                                                                                                                                                           |
| Holding Time                                | √                                         | √                                            | √                                            | √                                            | √                                                                                                                                                                                                           |
| Method Blanks                               | √                                         | √                                            | √                                            | √                                            | √                                                                                                                                                                                                           |
| MS/MSD                                      | A MS/MSD was not submitted with this SDG. | A MS/MSD was not submitted with this SDG.    | A MS/MSD was not submitted with this SDG.    | A MS/MSD was not submitted with this SDG.    | The lab selected sample WQC-05 as the source for the TOC MS/MSD. The MS/MSD recoveries 64%/27% do not apply because the sample concentrations are > 4X the spike amount added. Data could not be evaluated. |
| Lab Duplicate                               | Not performed                             | Not performed                                | Not performed                                | Not performed                                | The lab selected sample WQC-05 as the source for the TOC lab duplicate.<br>√                                                                                                                                |
| Blanks (Trip or Equipment)                  | √                                         | Blanks were not submitted for this analysis. | Blanks were not submitted for this analysis. | Blanks were not submitted for this analysis. | Blanks were not submitted for this analysis.                                                                                                                                                                |



| Data Reviewed                                                                         | Analysis                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                   |                                                    |                                                    |                                                    |
|---------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
|                                                                                       | VOCs (8260)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | PAHs/PCB Congeners                                                                                                                                                                                | EPH                                                | Metals (6020A and 7471B)                           | TOC-LK and Reactive Sulfide                        |
| LCS/LCSD                                                                              | <p>The LCSD recovery was above the acceptance criteria for carbon disulfide at 135%. The LCS/LCSD RPD was elevated for carbon disulfide at 26%. Carbon disulfide is ND in the associated sample WQC-05 and not impacted by the potential high and non-directional bias.</p> <p>The LCS/LCSD RPD was elevated for carbon disulfide at 23%. Carbon disulfide is ND in the associated sample WQC-09 and not impacted by the non-directional bias.</p>                                                                                                                                                                                                                                                                          | The LCS and/or LCSD recoveries were below the acceptance criteria for naphthalene (39%/36%) and acenaphthylene (LCSD 39%). J-qualify these analytes in all samples due to the potential low bias. | √                                                  | √                                                  | √                                                  |
| Naphthalene and 2-Methylnaphthalene breakthrough in Aliphatic Fraction <5% (EPH Only) | NA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | NA                                                                                                                                                                                                | √                                                  | NA                                                 | NA                                                 |
| Field Duplicates                                                                      | A field duplicate was not submitted with this SDG.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | A field duplicate was not submitted with this SDG.                                                                                                                                                | A field duplicate was not submitted with this SDG. | A field duplicate was not submitted with this SDG. | A field duplicate was not submitted with this SDG. |
| Surrogate Recoveries                                                                  | √                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | √                                                                                                                                                                                                 | √                                                  | NA                                                 | NA                                                 |
| Calibration Issues (Deficiencies noted in Narrative)                                  | <p>The initial calibration, associated with samples WQC-08 and WQC-02 did not meet the method required minimum response factor (RRF) for the lowest calibration standard for 1,4-dioxane (0.0032), as well as the average response factor for 1,4-dioxane (0.00495). UJ-qualify this analyte in above listed samples. The continuing calibration did not meet the %D method criteria for carbon disulfide (-26.9%), acetone (-22.7%), tetrahydrofuran (-26.2%), 1,4-dioxane (-30.3%), 4-methyl-2-pentanone (-24.5%), and 1,1,2,2-tetrachloroethane (-20.8%). The continuing calibration standard also did not meet the minimum RRF for 1,4-dioxane (0.00645). UJ/J-qualify these analytes in samples WQC-08 and WQC-02.</p> | None                                                                                                                                                                                              | None                                               | None                                               | None                                               |

| Data Reviewed | Analysis                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                    |      |                          |                             |
|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|------|--------------------------|-----------------------------|
|               | VOCs (8260)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | PAHs/PCB Congeners | EPH  | Metals (6020A and 7471B) | TOC-LK and Reactive Sulfide |
|               | The initial calibration, associated with samples WQC-05 and WQC-09 did not meet the method required minimum RRF for the lowest calibration standard for acetone (0.0849) and 1,4-dioxane (0.0025), as well as the average response factor for acetone (0.068) and 1,4-dioxane (0.00261). UJ/J-qualify these analytes in above listed samples. The continuing calibration standards associated with samples WQC-05 and WQC-09 did not meet the minimum RRF for acetone (0.062 and 0.069) and 1,4-dioxane (0.0025 and 0.00276), respectively. UJ/J-qualify these analytes in above listed samples. |                    |      |                          |                             |
| Other Issues  | Low level analysis could not be performed on sample WQC-05 due to the elevated concentrations of non-target analytes.                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | None               | None | None                     | None                        |

Notes:

NA = Not Applicable

ND = Non Detect

RPD = Relative Percent Difference

√ = Data Reviewed is to be considered acceptable within MCP criteria and without qualification

Qualifiers:

J = Estimated

R = Data is rejected and not suitable for use

UJ = Reporting limit is considered estimated

U = Non-detect

Data Reviewer: Denise King

Date: 04/19/2017